

**TRANSITION AND WELLBEING RESEARCH PROGRAMME**

**MENTAL HEALTH AND WELLBEING TRANSITION STUDY**

# Physical Health Status

## Summary Report



**2018**

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## Context

In Australia military service is held in high regard. It is recognised that it places high demands on those who serve and that as a result of their service some personnel experience physical and psychological injuries (Tanielian & Jaycox, 2008) that can subsequently affect their longer term health and wellbeing (Ikin et al., 2007; Ikin et al., 2009). About 5000 serving men and women (9% of those serving) transition out of the Regular ADF each year (Department of Defence, 2016) and are faced with the challenge of re-integrating into civilian life. Some make the transition with relative ease, but others, particularly those who have developed mental and/or physical health conditions, can struggle with the adjustment (Kukla et al., 2015; Pease et al., 2016).

Despite the concerns expressed by the ex-serving community and the widespread acknowledgment that transitioning from the defence force and returning to civilian life are significant stressors (Forces in Mind Trust, 2013; Pease et al., 2016), there has been very little systematic research examining the physical health and wellbeing of transitioned military personnel after they leave the Australian Defence Force. Rather, much of the current literature in the field looks at the health impacts on deployed personnel, on veterans compared with non-deployed populations, or on specific deployment cohorts in Australia (Gwini et al., 2015; Gwini et al., 2016a; Gwini et al., 2016b; Ikin et al., 2007; Kelsall et al., 2004a; Kelsall et al., 2004b; McGuire et al., 2012; McKenzie et al., 2004; McKenzie et al., 2006; Zheng et al., 2016) and internationally (Fear et al., 2010; Hoge et al., 2004; Kang et al., 2009).

There is, however, a growing body of research showing that the first few years after separation from the military are crucial to the overall wellbeing of transitioned personnel (Pedlar & Thompson, 2016; Sheilds et al., 2016). It might also be that those who have left the military have poorer health and so exhibit higher estimated rates of injury and illness compared with those who remain in the ADF. Furthermore, although research has shown that deployment can have longer term impacts on health and wellbeing (Ikin et al., 2007; Ikin et al., 2009; Ikin et al., 2017), the importance of the transition period in relation to this, and the longer term impacts of military service more generally, are not well researched or understood.

### The present report

To date, most information about physical health among military personnel has come from studies of specific deployed populations from Australia or internationally (Ikin et al., 2017; Kelsall et al., 2004a; Kelsall et al., 2004b; Kang et al., 2000). Little is known about the physical health status of ADF members overall, as well as that of currently serving and recently transitioned members. Increasing our knowledge and evidence base in relation to this and mapping where the gaps in the research lie are central to developing and refining systems of care and health promotion and further developing policies and programs that will enhance physical health and support the military workforce and transitioned personnel in the future.

The *Physical Health Status Report* provides a comprehensive, high-level overview of the physical health and wellbeing of ADF personnel who transitioned between January 2010 and December 2014 and members of the 2015 Regular ADF in connection with several key health outcomes previously found to be of importance among deployed and non-deployed military and veteran populations in Australia and internationally. The five-year 'window' immediately after transition was chosen because this is a critical period to target for early intervention. The report assesses key service and transition factors that could be associated with better or poorer physical health in the Transitioned ADF, transition status (Ex-Serving, Active Reservist or Inactive Reservist), DVA client status (DVA client or non-DVA client) and medical discharge status (medical discharge or non-medical discharge). An assessment of Transitioned ADF members who are now in the Active and Inactive (or Standby) Reserves compared with members who have discharged completely into the community (Ex-Serving members) provides critical information on the health status of these groups with differing transition

status. Although protective factors such as the ‘healthy worker’ or ‘healthy warrior’ effect have been seen for full-time regular serving ADF members, they could lose strength as members transition out of the ADF. Furthermore, the Department of Veterans’ Affairs is the primary conduit for care in the current eligible Transitioned ADF population, so it might be the case that Transitioned ADF members who have become DVA clients have poorer physical health compared with their non-DVA client counterparts. Similarly, members who are medically discharged from the military as a result of some type of physical or mental health condition are likely to exhibit poorer health compared with individuals who discharged on other grounds.

The report also compares the physical health profile of Transitioned ADF members with a matched Australian Community sample in relation to selected risk factors and key health indicators – smoking status, self-reported asthma and quality of life. An understanding of how Transitioned ADF members compare with the Australian community in this context offers a more thorough understanding of the role military service plays in physical health status.

## **Aims and objectives of this report**

The primary aims of the *Physical Health Status Report* within the Mental Health and Wellbeing Transition Study, which itself is part of the Transition and Wellbeing Research Programme, were as follows:

- Examine the physical health status of ADF members who transitioned out of full-time regular service in the five-year period between January 2010 and December 2014 compared with that of Regular ADF members in 2015.
- Explore a range of potential demographic, service-related and transition-related predictors of physical health outcomes among Transitioned ADF members.
- Compare the physical health and wellbeing of Transitioned ADF with that of a comparable Australian Community sample on several health indicators.
- Compare the physical health and wellbeing of Transitioned ADF according to transition status (Ex-Serving, Active Reservist or Inactive Reservist), DVA client status (DVA client or non-DVA client) and medical discharge status (medical discharge or non-medical discharge).

This report assesses the physical health of current serving members (regular ADF members in 2015) and Transitioned ADF members (transitioned from regular ADF service between 2010 and 2014) in the following areas: self-reported health symptoms, self-reported doctor-diagnosed medical conditions, respiratory health, injuries, pain, sleep problems, lifestyle risk factors (body mass index, physical activity and smoking), self-perceived health and quality of life, and health service use.

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## Summary of key findings

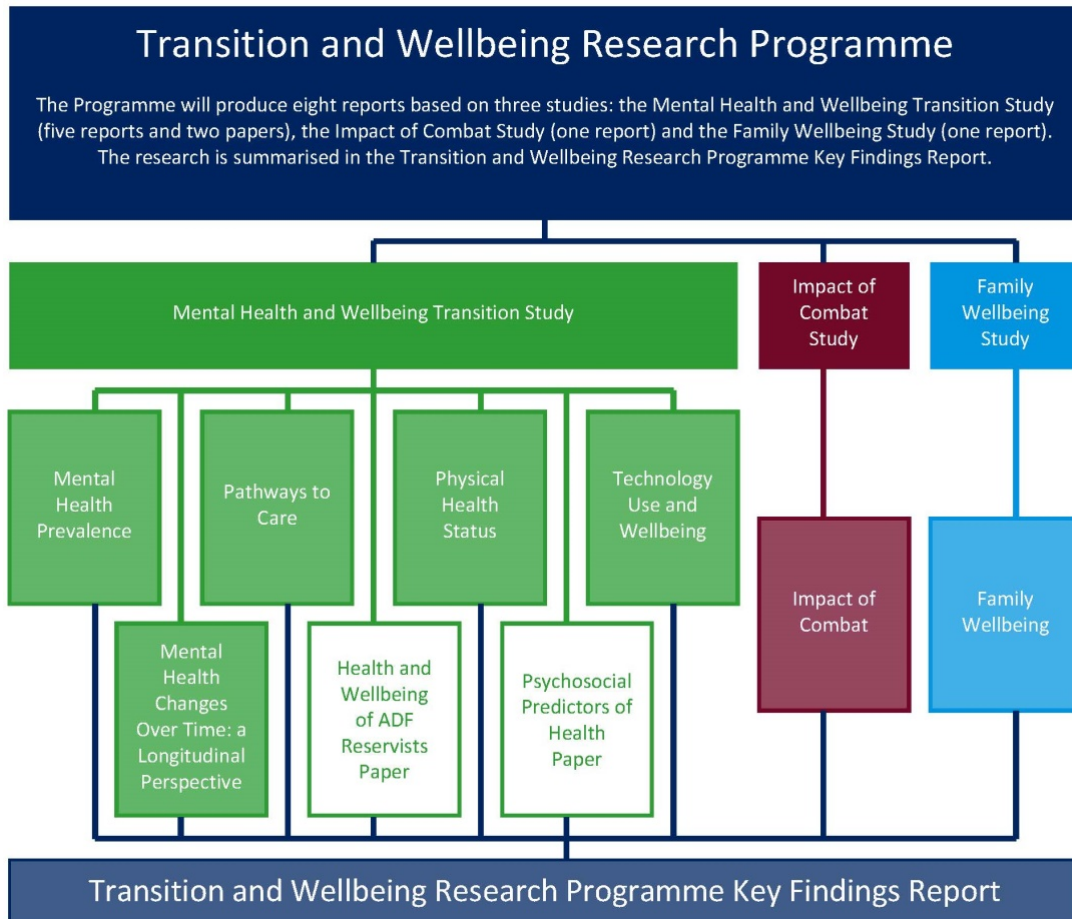
The Transition and Wellbeing Research Programme addresses key research priorities of both the Department of Veterans' Affairs and the Department of Defence with three studies – the Mental Health and Wellbeing Transition Study, the Impact of Combat Study and the Family Wellbeing Study. The *Physical Health Status Report* is the third in an initial series of eight reports and two research papers to be produced under the Programme. As one of the first studies internationally to investigate a comprehensive range of physical health indicators in recently transitioned military personnel, it provides a comprehensive dataset and framework for further detailed analysis of the physical health of both current and transitioned ADF members now and into the future and identifies several important implications for practice and future research.

This Physical Health Status Study compared the self-reported physical health of Transitioned ADF members who had transitioned out of full-time regular service in the five years between January 2010 and December 2014 with that of Regular ADF members in 2015, using general health indicators as well as indicators relevant to several body systems. Overall, Transitioned ADF members were more likely to report poorer physical health, to have increased lifestyle risk factors, and to report poorer self-perceived health, satisfaction and quality of life than 2015 Regular ADF. Among the Transitioned ADF, poorer physical health outcomes overall were reported for DVA clients compared with those who were not DVA clients, for Ex-Serving members compared with Active Reservists or Inactive Reservists, and for those who had been medically discharged compared with those who had been discharged for other reasons.

Physical comorbidities and their relationship with psychological health are an important consideration. Physical health status in the transitioning phase can have implications – for example, for general health and wellbeing, for psychological health, for re-integration and employment after transition, and in the longer term for later onset of chronic health conditions. The findings of the study can help with the development and refining of preventive health programs and individual and population-based health management programs. This is a relatively young cohort, and longitudinal follow-up to assess and monitor members' physical health over time and the development of chronic conditions with a longer latency period before onset will be important.



# 1 Background



The Transition and Wellbeing Research Programme is the most comprehensive study undertaken in Australia that examines the impact of military service on the mental, physical and social health of:

- serving and ex-serving Australian Defence Force members (including those who have been deployed in contemporary conflicts), and
- their families.

The work extends and builds on the findings of the world-leading research conducted with current serving members of the ADF in the 2010 Military Health Outcomes Program, or MilHOP.

This current research, conducted in 2015, arises from the collaborative partnership between the Department of Veterans' Affairs and the Department of Defence. It aims to implement the Government's goal of ensuring that current and future policy, programs and services are responsive to the current and emerging health and wellbeing needs of serving and ex-serving ADF members and their families before, during and after transition from military life.

Ten objectives were developed to guide the Programme. The objectives are being realised through three studies comprising eight reports: the Mental Health and Wellbeing Transition Study (five reports and two papers), the Impact of Combat Study (one report), the Family Wellbeing Study (one report) and the *Transition*

and *Wellbeing Research Programme Key Findings Report*, which summarises the research, as the diagram above shows. The table below shows which reports deliver on the objectives. This present report, the *Physical Health Status Summary Report*, addresses the fourth objective, which is to examine the physical health status of Transitioned ADF members and 2015 Regular ADF members.

| Programme objectives  | Corresponding reports and papers  |
|---|---|
| 1. Determine the prevalence of mental disorders among ADF members who have transitioned from Regular ADF service between 2010 and 2014.   | <i>Mental Health Prevalence Report</i>                                    |
| 2. Examine self-reported mental health status of Transitioned ADF and the 2015 Regular ADF.   |   |
| 3. Assess pathways to care for Transitioned ADF and the 2015 Regular ADF, including those with a probable 30-day mental disorder.   | <i>Pathways to Care Report</i>  |
| 4. Examine the physical health status of Transitioned ADF and the 2015 Regular ADF.   | <i>Physical Health Status Report</i>                                      |
| 5. Investigate technology and its utility for health and mental health programmes including implications for future health service delivery.                                      | <i>Technology Use and Wellbeing Report</i>                                |
| 6. Conduct predictive modelling of the trajectory of mental health symptoms/disorders of Transitioned ADF and the 2015 Regular ADF, removing the need to rely on estimated rates. | <i>Mental Health Changes Over Time: a Longitudinal Perspective Report</i> |
| 7. Investigate the mental health and wellbeing of currently serving 2015 Ab initio Reservists.  | <i>The Health and Wellbeing of ADF Reservists Paper</i>                   |
| 8. Examine the factors that contribute to the wellbeing of Transitioned ADF and the 2015 Regular ADF.   | <i>Psychosocial Predictors of Health Paper</i>                            |
| 9. Follow up on the mental, physical and neurocognitive health and wellbeing of participants who deployed to the Middle East Area of Operations between 2010 and 2012.            | <i>Impact of Combat Report</i>  |
| 10. Investigate the impact of ADF service on the health and wellbeing of the families of Transitioned ADF and the 2015 Regular ADF.   | <i>Family Wellbeing Study</i>   |
| All objectives  | <i>Transition and Wellbeing Research Programme Key Findings Report</i>    |

Two eminent Australian research institutions, one specialising in trauma and the other in families, have led the research programme. The Centre for Traumatic Stress Studies at the University of Adelaide is conducting the Mental Health and Wellbeing Transition Study and the Impact of Combat Study, and the Australian Institute of Family Studies is conducting the Family Wellbeing Study.

Their research expertise is enhanced through partner institutions from Monash University, the University of New South Wales, Phoenix Australia Centre for Posttraumatic Mental Health and, until June 2016, the Young and Well Cooperative Research Centre, the work of which is continued through the University of Sydney.

Through surveys and interviews, the researchers engaged with a range of DVA clients and ADF members including:

- ADF members who transitioned from the Regular ADF between 2010 and 2014 (including Ex-Serving, Active and Inactive Reservists)
- a random sample of Regular ADF members serving in 2015
- a sample of Ab initio Reservists serving in 2015 (who have never been full-time ADF members)
- 2015 Regular ADF and Transitioned ADF members who participated in MilHOP
- family members nominated by the above.

The Departments of Defence and Veterans' Affairs thank current and ex-serving ADF members and their families who participated in this research for sharing your experiences and insights. Your efforts will help inform and assist the ways you, your colleagues, friends and families, as well as those who come after you, can best be supported during and after a military career.

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## 2 Methodology

### 2.1 Study design

Although prevalence estimates were obtained using a two-phase design, only the first phase is relevant to this report.

In phase 1 of the Mental Health and Wellbeing Transition Study, Transitioned ADF members and 2015 Regular ADF members were assessed for mental health problems, psychological distress, physical health problems, wellbeing factors, pathways to care and occupational exposures. This was done by using a 60-minute self-reporting questionnaire that participants completed either online or in hard copy. Each participating sample received a slightly different questionnaire relevant to their current ADF status – Transitioned ADF member, 2015 Regular ADF member or Ab-initio Reservist – and in relation to demographics, Service and deployment history. The core validated measures of psychological and physical health remained the same, however, and replicated where possible the measures previously administered as part of the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011).

Because the demographic and service characteristics of the Transitioned ADF members and 2015 Regular ADF members were known – that is, sex, Service branch, rank and medical fitness (a dichotomous variable derived from the Medical Employment Classification Status) – it was possible to compare members who responded to the survey with members who did not. This allowed weighting of the data to provide estimates of self-reported physical health symptoms and other health indicators, which are more representative of each of the study populations: Transitioned ADF and 2015 Regular ADF. However, there are likely to be several other factors that could not be accounted for in the weighting but that would affect representativeness, especially for groups (such as the Transitioned ADF group) for which the participation rate was very low.

### 2.2 Study population

This report uses two of the Transition and Wellbeing Research Programme's six overlapping samples – Transitioned ADF members and 2015 Regular ADF members. 'Transitioned ADF' refers to the population of ADF members who transitioned from full-time ADF service between 2010 and 2014; that is, those who transitioned into the Active and Inactive Reserves and those who discharged completely (Ex-Serving). '2015 Regular ADF' refers to ADF members who were serving full time in the ADF in 2015.

The 2015 Regular ADF population consisted of three separate groups of Regular ADF members in 2015 who were invited to participate in the study – those who participated in the 2010 Mental Health Prevalence and Wellbeing Study and remained a Regular ADF member in 2015; those who participated in the MEAO Prospective Health Study between 2010 and 2012 and remained a Regular ADF member in 2015; and a stratified random sample of Regular ADF members from 2015 who were not part of the 2010 MHPWS or the MEAO Prospective Health Study. Combined results from these three groups were weighted to represent the entire Regular ADF in 2015.

Of the Transitioned ADF population of 24,932, 96% (23,974) were invited to participate; those not invited were individuals who opted out of the study or did not have any useful contact information. Thirty-eight per cent (20,031) of the total 2015 Regular ADF population of 52,500 were invited to participate; this included a stratified random sample of 5040 regular ADF members in 2015 as well as those who had participated in MilHOP between 2010 and 2012 and who were still serving in 2015.

## 2.3 Response rates

### 2.3.1 Phase 1 responders

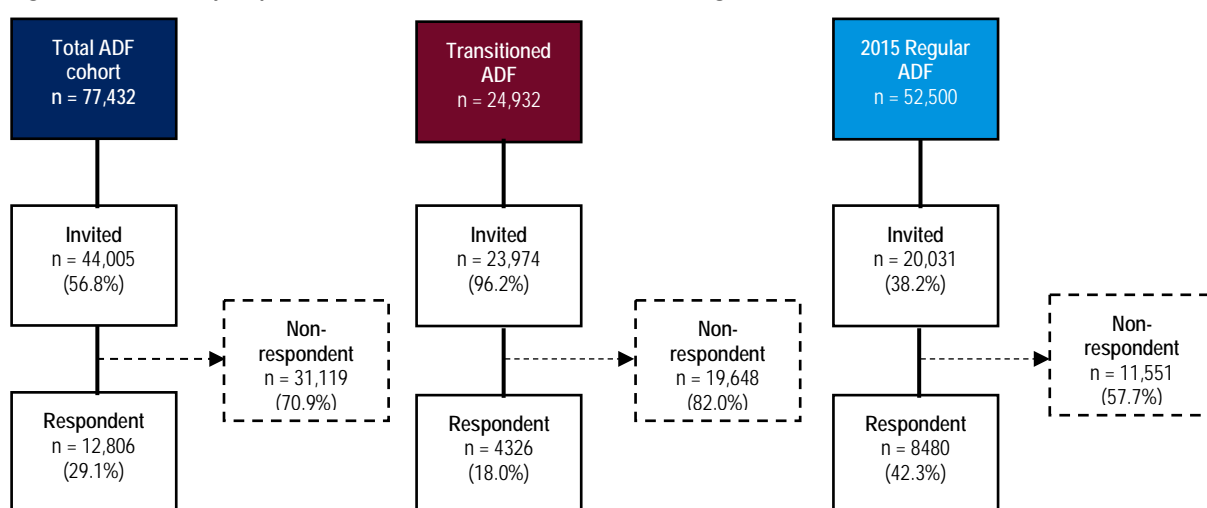
Of the individuals invited to participate, 18% (n = 4326) of the Transitioned ADF population and 42.3% (n = 8480) of the 2015 Regular ADF population completed the phase 1 survey. Figure 1 shows the response rates for each sample.

Phase 1 respondents in both the Transitioned and 2015 Regular ADF groups were predominantly Army (followed by Air Force and Navy), male, and higher in rank (see Table 2), the mean age of responders in both groups being approximately 41 years. Transitioned females were more likely to respond than Transitioned males, while 2015 Regular ADF females were less likely to respond than their male counterparts. Transitioned ADF were more likely to be medically unfit on transition from the Regular ADF (31.1%) compared with the 2015 Regular ADF population (16.1%).

In addition to the substantially lower response rates overall for Transitioned ADF members compared with 2015 Regular ADF members, there were a number of subgroup differences. As noted, female Transitioned ADF members were significantly more likely to respond to the survey than male Transitioned ADF members, and in the 2015 Regular ADF population female members were less likely to respond than male members. The Transitioned ADF population had significantly lower response rates for Officers and Non-Commissioned Officers but significantly higher response rates for Other Ranks compared with the 2015 Regular ADF. In both groups the lower ranks were the poorest responders. When response rates in the different Services were compared, Transitioned Air Force members were most likely to respond, whereas Transitioned Navy and Transitioned Army members were least likely. Among the 2015 Regular ADF, Army had the highest response rate, at 41.3%. Finally, Transitioned ADF members who were classified as medically unfit had a response rate of only 20.9%; this compares with a response rate of 46.5% in the 2015 Regular ADF population.

Figure 1 shows the breakdown of Transitioned ADF and 2015 Regular ADF members who provided enough data to be included in the survey. Table 1 shows the unweighted demographic characteristics of Transitioned ADF and 2015 Regular ADF survey respondents.

**Figure 1** Survey response rates for Transitioned ADF and 2015 Regular ADF



**Table 1 Unweighted demographic characteristics of respondents in Transitioned ADF and 2015 Regular ADF**

|                 | Transitioned ADF<br>n = 4326 |      |              | 2015 Regular ADF<br>n = 8480 |      |              |
|-----------------|------------------------------|------|--------------|------------------------------|------|--------------|
|                 | n                            | %    | 95% CI       | n                            | %    | 95% CI       |
| Age (M, SE)     | 41.9                         | 0.2  |              | 41.1                         | 0.1  |              |
| Age group       |                              |      |              |                              |      |              |
| 18–27           | 471                          | 10.9 | (10.0, 11.9) | 602                          | 7.1  | (6.6, 7.7)   |
| 28–37           | 1262                         | 29.2 | (27.8, 30.5) | 2484                         | 29.3 | (28.3, 30.3) |
| 38–47           | 1119                         | 25.9 | (24.6, 27.2) | 2976                         | 35.1 | (34.1, 36.1) |
| 48–57           | 871                          | 20.1 | (19.0, 21.4) | 2069                         | 24.4 | (23.5, 25.3) |
| 58+             | 548                          | 12.7 | (11.7, 13.7) | 201                          | 2.4  | (2.1, 2.7)   |
| Sex             |                              |      |              |                              |      |              |
| Male            | 3646                         | 84.3 | (83.2, 85.3) | 6693                         | 78.9 | (78.0, 79.8) |
| Female          | 680                          | 15.7 | (14.7, 16.8) | 1787                         | 21.1 | (20.2, 22.0) |
| Rank            |                              |      |              |                              |      |              |
| OFFR            | 1259                         | 29.1 | (27.8, 30.5) | 3538                         | 41.7 | (40.7, 42.8) |
| NCO             | 2097                         | 48.5 | (47.0, 50.0) | 4336                         | 51.1 | (50.1, 52.2) |
| Other Ranks     | 970                          | 22.4 | (21.2, 23.7) | 606                          | 7.2  | (6.6, 7.7)   |
| Service         |                              |      |              |                              |      |              |
| Navy            | 863                          | 19.9 | (18.8, 21.2) | 2940                         | 34.7 | (33.7, 35.7) |
| Army            | 2463                         | 56.9 | (55.5, 58.4) | 3500                         | 41.3 | (40.2, 42.3) |
| Air Force       | 1000                         | 23.1 | (21.9, 24.4) | 2040                         | 24.1 | (23.2, 25.0) |
| Medical fitness |                              |      |              |                              |      |              |
| Fit             | 2981                         | 68.9 | (67.5, 70.3) | 7116                         | 83.9 | (83.1, 84.7) |
| Unfit           | 1345                         | 31.1 | (29.7, 32.5) | 1364                         | 16.1 | (15.3, 16.9) |

## 2.4 Ethics

The study protocol was approved by the DVA Human Research Ethics Committee (E014/018) and was recognised under expedited review processes by Defence and the University of Adelaide Human Research Ethics Committee. The study protocol was also submitted to the Australian Institute of Health and Welfare Ethics Committee, which granted approval (EO 2015/1/163). The study was conducted in accordance with the Australian Code for the Responsible Conduct of Research (<https://www.nhmrc.gov.au/guidelines-publications/r39>).

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## 3 How to interpret and discuss the findings in this report

### 3.1 Weighted prevalence estimates

- Where the report refers to prevalence estimates, this refers to the *estimated* prevalence of a particular outcome within the entire population or subpopulation. It is important to understand that these are estimates. These estimates represent the proportion of cases we would predict to observe in the total population, based on the proportion of actual cases detected in the subpopulation who completed the outcome measure.
- When considering prevalence, estimated proportions are more informative than estimated numbers.
- The results presented in this report were weighted to represent the total population, and this weighting was performed on the basis of four variables – sex, rank, Service (Navy, Army or Air Force) and medical fitness. This assumes a general consistency among individuals with each combination of these characteristics (strata) and does not account for individual differences or other factors that might influence the outcomes of interest.
- The relatively low response rates observed in the study mean that the weighted estimates shown might have a lower level of accuracy, the estimates being more highly dependent on the characteristics used for weighting.
- Estimates for subpopulations (strata) with higher response rates more accurately represent those subpopulations than do those for subpopulations with lower response rates.
- The low response rates also mean that the numbers of cases for some health outcomes of interest were small. The analyses therefore had limited statistical power to investigate differences between groups in the health outcomes of interest, and in the study populations directly, than might have been achieved with a higher participation rate and consequent higher numbers.
- The subpopulations (strata) used for weighting are shown in Tables C.1, C.2 and C.3 of the technical report. The tables show how many individuals in the population each respondent represents for each stratum. The higher this number, the more caution should be applied when interpreting the associated estimates.
- When an outcome is relatively rare and is detected at a high prevalence in individuals who share characteristics with a large proportion of the population (such as Other Ranks), the estimated proportion of the entire population predicted to have achieved that outcome should be higher than the proportion of cases detected.
- When an outcome is relatively common and is detected at high prevalence rate in individuals who share characteristics with a small proportion of the population, the estimated proportion of the total population predicted to have achieved that outcome should be lower than the proportion of cases detected.

To interpret the precision or imprecision of a given estimate, readers might consider additional information supplied with the estimates, such as confidence intervals.

- *Confidence intervals.* These represent the possible range of values within which the presented estimate falls. Where the value of interest is a prevalence estimate, confidence intervals show the range of error in the estimate. In general, confidence intervals that are very close to the estimate value indicate that the

estimate is more precise, while very wide confidence intervals suggest that the estimate is imprecise. When the confidence intervals are wide, the associated estimates should be interpreted cautiously.

- *Standard errors.* Like confidence intervals, standard errors indicate the range of error in an average score.
- *Between-group comparisons.* When comparing prevalence estimates between groups, the overlap in confidence intervals provides an indication of between-group differences. Where there is significant overlap, any apparent difference in estimates is more likely to reflect an error in measurement or estimation. In general, the smaller the subpopulation of interest the greater the error, so when a stratification variable has a very small number in some categories the estimates are likely to have large associated confidence intervals or standard errors.
- *Odds ratios.* When estimating the prevalence of a particular health outcome, there could be differences in the prevalence rates between two groups – for example, between 2015 Regular ADF members and Transitioned ADF members. This could be a result of differences in extraneous factors other than transition status (such as sex, age, Service or rank) across the comparison groups, particularly if these other factors are associated with the health outcome. If this is the case, these factors might inadvertently influence the results, resulting in a spurious association between the comparison group (that is, transition status) and the outcome. One way to address this is to use a logistic regression model that controls for (adjusts for) these factors. The statistical output from a logistic regression model is an odds ratio, or OR, which denotes the odds of a particular group (such as Transitioned ADF) having a particular health outcome compared with a reference group (such as 2015 Regular ADF).

An OR greater than 1 suggests increased odds of having the particular health outcome compared with the reference group, whereas an OR less than 1 suggests less likelihood of having the outcome compared with the reference group. For example, an OR of 1.7 for the Transitioned ADF (compared with the 2015 Regular ADF) suggests that the Transitioned ADF members have 70% increased odds of having that particular health outcome. Conversely, an OR of 0.7 suggests that the Transitioned ADF members are 30% less likely to have the particular health outcome compared with the 2015 Regular ADF. When an OR is greater than 2, we can then say that the Transitioned ADF members are twice as likely to have the particular health outcome compared with the 2015 Regular ADF member. Similarly, if the OR is greater than 3 they would be three times as likely to have the particular health outcome, and so forth.

**Last 12 months:** Where reference is made in the text to the ‘last 12 months’, this refers to the 12 months preceding the date of participation in the study, all data collection having been done between 1 June 2015 and 15 December 2015.

**Significance:** When the text describes a between-group difference as significant, this means the difference between groups was statistically tested then adjusted for sex, age and Service, and there was no overlap in the associated confidence intervals between groups.

There are a number of further caveats to be considered when reading and discussing the findings from this study:

- The overall response rate for the study was moderate, at 29.1%. Among Transitioned ADF members the response rate was low, at 18% (n = 4326). This was largely due to the limited contact information available for this group which may not have been updated for several years. While data on respondents were able to be statistically weighted up to the total population, the lower the number of respondents, the less accurate the resulting weighted population estimates are likely to be.
- Response rate data show that some subpopulations had substantially lower response rates, and this affects the accuracy of the associated estimates. In particular, among the ranks, Officers and Non-Commissioned Officers were over-represented among respondents, while Other Ranks were highly under-

represented despite accounting for the largest proportion of the total population in question. Any estimates stratified by rank should therefore be interpreted with a degree of caution.

- A large proportion of this study relates to self-reported measures, which are subject to potential biases, among them recall bias and other response biases (systematic error caused by differences in the accuracy of the recollections retrieved by study participants in relation to experiences from the past).
- Overall, the weighted demographic and service characteristics of Transitioned ADF members compared with 2015 Regular ADF members showed between-groups differences, some of which were statistically significant. Many of the differences were small (for example, proportion of females 13.1% vs 9.2% or university qualification 20.4% vs 22.9%); other differences were of relatively greater absolute magnitude (lower rank 52.2% vs 41.1%, having served in the Army 60.3% vs 49.1%, or having been classified as medically unfit 26.7% vs 12.3%).
- Statistical adjustment for possible confounding factors was made during regression analyses for age, sex, Service and rank, and for smoking in analyses related to respiratory health.
- Many analyses were performed in order to prepare this report, so there is also the potential problem of multiple comparisons and statistically significant findings occurring due to chance.
- Cell sizes of equal to or less than 5 are suppressed in tables in order to preserve the anonymity of participants.

**Glossary:** Refer to the glossary for definitions of key terms.

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## 4 Socio-demographic characteristics

In order to fully understand how Transitioned ADF members are functioning in their civilian lives, it is important to consider their current socio-demographic profile and the circumstances associated with their transition. The literature discusses risk factors for social disadvantage that can contribute to mental health problems (Australian Bureau of Statistics, 2010), among them unemployment, incarceration, housing instability (including homelessness) and being in receipt of disability payments. Understanding the extent to which Transitioned ADF members are exposed to these factors can provide valuable insights into the overall mental, physical and social health of this population.

Overall, at the time of the survey an estimated 84% (based on weighted prevalence estimates) of Transitioned ADF members were either working or engaged in some purposeful activity (62.8% of them employed), the most commonly reported areas of employment being government administration and Defence (16.8%), mining (9.9%), construction (8.8%), and transport and storage (8.6%). Just over 5.5% of Transitioned ADF had retired.

Like the 2015 Regular ADF members, the majority of Transitioned ADF members were aged 28–47 years (56.2%), were male (86.9%), were in a significant relationship (74.7%), were of lower rank (52.2%) and were Army personnel (60.3%). Just over one-third of them had served four to 7.9 years in the Regular ADF (36.2%); this was followed by 23.2% who had served for 20+ years. Compared with 2015 Regular ADF, Transitioned ADF were *more likely* to be aged over 58 years, female, lower in rank and from the Army, to be classified as medically unfit, and to have had less than eight years of service with the ADF. In contrast, Transitioned ADF were *less likely* than 2015 Regular ADF to be in a relationship where they did not live with their partner.

Just under half (43.3%) of Transitioned ADF were Ex-Serving (discharged) at the time of survey completion and therefore no longer remained engaged with Defence in a Reservist role. A quarter of Transitioned ADF had remained in an Active Reservist role (25.7%) and therefore continued to be engaged in service for a specified number of days a year; 30.1% were Inactive Reservists, so their contact with Defence would have been variable or, for some, there would be no ongoing contact.

The most common type of discharge or resignation reported was ‘own request’ (53.7%), and over 60% of these individuals voluntarily discharged or did so because they came to the end of a fixed period of service. Just over 20% of Transitioned ADF were estimated to have been medically discharged, their employment being terminated by the Australian Defence Force on the grounds of being permanently unfit, or at least in the long-term unfit, to serve or being unfit for deployment to operational (warlike) service. The most common reasons for transition were ‘impact of service life on family’ (10.2%), ‘better employment prospects in civilian life’ (7.2%), ‘mental health problems’ (6.5%) and ‘physical health problems’ (4.3%).

Among those Transitioned ADF members potentially at increased risk were a small subset (5.2%) who reported being unemployed at the time of the survey. In addition, just under half of Transitioned ADF members reported being unemployed for three months or more after transitioning from Regular ADF service. There was also a very small proportion (an estimated 5.1%) who reported having been arrested, convicted or incarcerated since transition, and approximately 3.4% reported that they had not been living in stable housing in the two months before completing the survey.

One final group of particular interest – and who could be at increased risk because they reported they had a known or diagnosed physical or mental health condition – were the 9.8% who were on some form of disability support pension, as well as those discharged from the ADF on medical grounds but who had not yet had contact with DVA. Although over 43% of Transitioned ADF members reported currently accessing DVA-funded treatment, there is likely a proportion of those who had been medically discharged who were not.

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## 5 Definition of key terms used in this report

- *2015 Regular ADF.* ADF members who were serving full time in the ADF in 2015.
- *Active Reservists.* Individuals who were Regular ADF members before 2010 but who had transitioned into an Active Reservist position. Active Reservists are required to complete a minimum number of service days each year.
- *DVA client.* These include individuals receiving a fortnightly payment, treatment card holders, and individuals who have had their illness or injury liability claim accepted as service-related.
- *Ex-Serving members.* Individuals who had been a Regular (full-time) ADF member before 2010, who transitioned from the Regular ADF between 2010 and 2014, and who no longer remain engaged with Defence in a Reservist role. These individuals are classified as discharged from Defence. The discharge can have occurred for medical or administrative reasons or because the person reached compulsory retirement age.
- *Inactive Reservists.* Individuals who were Regular ADF members before 2010 but who had transitioned into the Inactive Reserves. They represent a latent capability that Service Chiefs can call on as required to provide voluntary service. Defence can call on them to perform a specific task.
- *Medical discharge.* This refers to involuntary termination of a person's employment by the ADF on the grounds of permanent or at least long-term unfitness to serve or unfitness for deployment to operational (warlike) service or non-medical discharge.
- *Transitioned ADF members.* The population of ADF members who transitioned from full-time ADF service between January 2010 and December 2014, including those who transitioned into the Active and Inactive Reserves and those who had discharged completely (Ex-Serving members).

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## 6 Key findings

### Demographics

- More than half of Transitioned ADF members remained in the ADF as Reservists (55.8%). Of Transitioned ADF, 25.7% were Active Reservists.
- Approximately 84% of Transitioned ADF members were either working or engaged in some purposeful activity, 62.8% of them being employed. Just over 5.5% of the Transitioned ADF had retired.
- More than 43% of Transitioned ADF members reported accessing DVA-funded treatment through either a DVA White Card (39.4%) or a DVA Gold Card (4.2%).
- Just over one-fifth of Transitioned ADF were estimated to have been medically discharged.
- The most commonly reported reasons for transition were 'impact of service life on family' (10.2%), 'better employment prospects in civilian life' (7.2%), 'mental health problems' (6.5%) and 'physical health problems' (4.3%).
- There were no significant differences in housing stability between Transitioned ADF members and 2015 Regular ADF members. More than 93% were estimated to have been in stable housing in the previous two months.
- Just over 40% of Transitioned ADF members and 36% of 2015 Regular ADF members reported having a diploma or university qualification.
- Twice as many members of the Transitioned ADF were classified as medically unfit compared with 2015 Regular ADF members.

### Physical health outcomes in Transitioned ADF members compared with 2015 Regular ADF members

#### Health symptoms

- Transitioned ADF members reported a higher mean number of symptoms ( $M = 16.4$ ) compared with 2015 Regular ADF members ( $M = 11.8$ ).
- Transitioned ADF were more likely to report the majority of health symptoms compared with 2015 Regular ADF.
- The 10 most common symptoms reported by both groups were fatigue, sleeping difficulties, headaches, feeling unrefreshed after sleep, muscle aches or pains, low back pain, irritable outbursts, joint stiffness, difficulty finding the right word, and ringing in the ears.

#### Self-reported lifetime doctor-diagnosed conditions

- Overall, Transitioned ADF members ( $M = 1.9$ ) and 2015 Regular ADF members ( $M = 1.5$ ) reported similar numbers of lifetime doctor-diagnosed conditions.
- The five most commonly reported doctor-diagnosed conditions among Transitioned ADF were chronic low back pain (18.5%), hearing loss (15.7%), high cholesterol (12.8%), other musculoskeletal condition (12.2%) and high blood pressure (12.0%).
- The five most commonly reported doctor-diagnosed conditions among 2015 Regular ADF were chronic low back pain (11.7%), other musculoskeletal condition (11.1%), high cholesterol (11.0%), hearing loss (9.1%) and sinus problems (8.2%).

- Compared with 2015 Regular ADF members, Transitioned ADF members were significantly more likely to report a circulatory condition, high blood pressure, a musculoskeletal or connective tissue condition, chronic low back pain, a nervous system condition, and hearing loss.
- The estimated proportions reporting traumatic brain injury among Transitioned ADF members and 2015 Regular ADF members were low, at 1.2% in both groups, and there were no differences in weighted prevalence between the groups.

### **Respiratory health**

- Compared with 2015 Regular ADF members, Transitioned ADF members were significantly more likely to report many respiratory symptoms – for example, shortness of breath and phlegm from the chest during winter.
- Although there was no difference between Transitioned ADF members and 2015 Regular ADF members in the rates of self-reported asthma ever, among those who reported asthma ever Transitioned ADF were more likely to have had treatment in the preceding year and to have taken asthma medication in the preceding month when compared with the 2015 Regular ADF.

### **Service-related injuries**

- Transitioned ADF members were slightly more likely to have reported any service-related injury compared with 2015 Regular ADF members. Approximately three-quarters of Transitioned ADF and two-thirds of 2015 Regular ADF reported having had a service-related injury.
- Transitioned ADF reported slightly more service-related injury types compared with 2015 Regular ADF.
- The two most common service-related injury types reported by Transitioned ADF and 2015 Regular ADF were musculoskeletal injury (64.3% and 58.6%) and fracture/broken bone (30.0% and 27.9%).
- The most common musculoskeletal injury location for both groups was the knee.
- Overall, the pattern of service-related injury types in Transitioned ADF members and 2015 Regular ADF members was similar. Transitioned ADF were, however, significantly more likely to have reported heat stress, exhaustion or dehydration, or a burn injury compared with the 2015 Regular ADF.
- In general, service-related injuries were more likely to have been sustained during training than on deployment in both Transitioned ADF and 2015 Regular ADF.

### **Pain intensity and disability**

- The majority of Transitioned ADF members and 2015 Regular ADF members reported experiencing some pain intensity and disability. Only 11.8% of Transitioned ADF and 10.1% of 2015 Regular ADF reported being free of pain.
- Low pain intensity was experienced by 53.2% of Transitioned ADF and 60.9% of 2015 Regular ADF and high pain intensity by 19.7% of Transitioned ADF and 14.1% of 2015 Regular ADF. Transitioned ADF and 2015 Regular ADF were not significantly different in relation to pain intensity and disability groupings.

### **Insomnia severity**

- Approximately half of Transitioned ADF members (47.3%) and nearly 60% of 2015 Regular ADF members (58.0%) reported no clinically significant insomnia in the preceding two weeks.
- Transitioned ADF were more likely than 2015 Regular ADF to report moderate (16.2% vs 7.9%) and severe (5.6% vs 1.6%) insomnia.

### **Lifestyle risk factors**

- Nearly half of Transitioned ADF members (45.5%) and 2015 Regular ADF members (49.1%) reported a body mass index in the pre-obese range and around one-quarter of Transitioned ADF (26.8%) and 2015 Regular ADF (27.5%) reported a BMI in the obese range.

- Transitioned ADF were significantly less likely to be physically active at a health-enhancing level compared with 2015 Regular ADF.
- Similar proportions of Transitioned ADF (15.2%) and 2015 Regular ADF (14.1%) were current smokers.

#### **Self-perceived health and quality of life**

- Nearly half of Transitioned ADF (48.7%) and 58.2% of 2015 Regular ADF reported their physical health as 'good–excellent'.
- Transitioned ADF were significantly more likely to perceive their health as fair–poor compared to 2015 Regular ADF (35% and 23.7% respectively).
- Transitioned ADF were significantly more likely to report dissatisfaction with their health (40.1%) than 2015 Regular ADF (30.1%).
- Approximately two thirds of Transitioned ADF rated their quality of life as good–very good (62.8%), compared to 72.0% of 2015 Regular ADF. Transitioned ADF were significantly more likely to perceive their quality of life as poor compared to 2015 Regular ADF.
- Transitioned ADF and 2015 Regular ADF showed no differences on self-perceived satisfaction with life.

#### **Health service use**

- In total, 87.1% of Transitioned ADF members reported visiting any health service in the preceding 12 months compared with 90.7% of 2015 Regular ADF members. This difference persisted after controlling for sex, age, rank and Service.
- Transitioned ADF were significantly less likely to report seeing a dentist or dental professional, a dietician/nutritionist, or a specialist doctor in the preceding 12 months compared with 2015 Regular ADF and were significantly more likely to have seen a chiropractor, diabetes educator or osteopath in the preceding 12 months compared with 2015 Regular ADF.
- Transitioned ADF members were significantly less likely to have seen a general practitioner or specialist doctor in the preceding two weeks compared with 2015 Regular ADF.
- The most commonly consulted health professionals or services for both Transitioned ADF and 2015 Regular ADF in the preceding 12 months were GPs (78.9% and 72.4% respectively), dentists or dental professionals (41.6% and 70.2%) and specialist doctors (38% and 47.4%).

### **Physical health outcomes in Transitioned ADF by transition factors (DVA client status, transition status, medical discharge status)**

#### **DVA client status**

- Compared with Transitioned ADF members who were non-DVA clients, Transitioned ADF members who were DVA clients were more likely to report all types of health symptoms, most doctor-diagnosed conditions, high levels of pain intensity and disability compared with no pain, clinical insomnia, all types of respiratory symptoms with the exception of wheeze, nasal allergies and asthma, and a service-related injury.
- In terms of health professionals sought, DVA clients were significantly more likely than non-DVA clients to report having seen a GP, a psychologist, a specialist doctor, an alcohol/drug worker, an audiologist or a dietician/nutritionist in the preceding 12 months and were significantly more likely to report having seen a GP or specialist doctor in the preceding two weeks.
- In relation to lifestyle risk factors, DVA clients were more likely to be categorised as obese compared with non-DVA clients.

- DVA clients were more likely than non-DVA clients to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poor–fair physical health and lower quality of life.

#### **Transition status**

- Transitioned ADF members who were Ex-Serving at the time of the survey consistently reported poorer health outcomes compared with Transitioned ADF members who were Active or Inactive Reservists.
- Similar patterns of physical health were observed for Inactive and Active Reservists.
- In relation to doctor-diagnosed conditions, Ex-Serving Transitioned ADF were more likely to report circulatory, musculoskeletal and nervous system conditions compared with Active Reservists and were more likely to report digestive, musculoskeletal and nervous system conditions compared with Inactive Reservists.
- Ex-serving Transitioned ADF were more likely to report a service-related injury compared with Active Reservists and were more likely to report three injury types compared with Inactive Reservists.
- Ex-Serving Transitioned ADF members were more likely to report the majority of respiratory symptoms (but not asthma), high pain intensity and disability, and clinical insomnia compared with Active and Inactive Reservists.
- In terms of lifestyle risk factors, Ex-Serving Transitioned ADF members were more likely to be physically inactive and obese compared with Active Reservists. Furthermore, Ex-Serving ADF were more likely than Active Reservists to be current smokers.
- Ex-Serving Transitioned ADF were more likely to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poorer physical health and lower quality of life compared with Active Reservists and Inactive Reservists.
- In relation to health service use, the proportions of Ex-Serving ADF, Active Reservists and Inactive Reservists who reported visiting any health service in the preceding 12 months were similar.
- Ex-Serving ADF were more likely than both Active Reservists and Inactive Reservists to have visited most types of health professionals or services in the preceding 12 months and to have visited GPs or specialists in the preceding two weeks.

#### **Medical discharge status**

- Transitioned ADF who had been medically discharged were significantly more likely to report all health symptoms (with the exception of skin ulcers) and most doctor-diagnosed conditions, respiratory symptoms (except nasal allergies and asthma), most injury types (except burn injuries), higher pain levels and insomnia than those not medically discharged.
- In terms of lifestyle risk factors, Transitioned ADF who had been medically discharged were more likely to be inactive or minimally active, more likely to be categorised as obese, and more likely to currently smoke than Transitioned ADF who had been discharged on other grounds.
- Transitioned ADF who had been medically discharged were more likely to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poorer physical health and lower quality of life compared with personnel who had been non-medically discharged.
- In relation to health service use, Transitioned ADF who had been medically discharged were significantly more likely to consult a range of health professionals and services in the preceding 12 months compared with Transitioned ADF discharged on non-medical grounds.
- Transitioned ADF who had been medically discharged were significantly more likely to have consulted a GP or specialist doctor in the preceding two weeks compared with Transitioned ADF who had not been medically discharged.

### **Smoking, quality of life and doctor-diagnosed asthma in Transitioned ADF and the Australian Community sample**

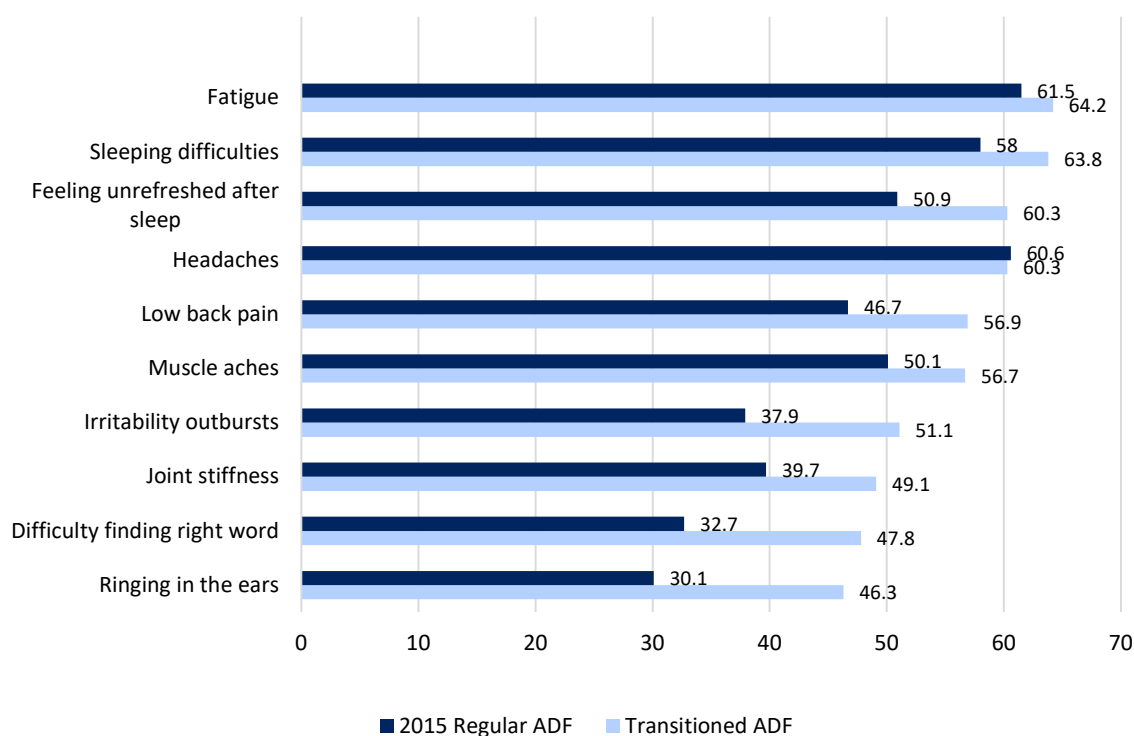
- Compared with the Australian Community sample, the proportion of Transitioned ADF members reporting 'current smoking' was significantly lower (21.9% vs 15.2%), reporting being 'former smokers' was significantly higher (28.8% vs 53.9%), and reporting having 'never smoked' was significantly lower (49.2% vs 29.5%).
- Compared with the Australian Community sample, the proportion of Transitioned ADF members who rated their self-perceived health as excellent (19.2% vs 8.9%) or very good (37.5% vs 26.4%) was significantly lower and who rated their self-perceived health as fair (10.1% vs 23.9%) or poor (3.1% vs 11.1%) was significantly higher.
- The proportion of Transitioned ADF who reported doctor-diagnosed asthma was significantly lower compared with the Australian Community sample (Transitioned ADF, 15.3%; Australian Community, 21.9%).

## 7 Estimated prevalence of physical health symptoms and conditions among Transitioned ADF members and 2015 Regular ADF members

### 7.1 Health symptoms in the preceding month

General health symptoms in the preceding month were measured using a 67-item adapted version of the self-report symptom questionnaire used in the Australian Gulf War Follow up Health Study (Ikin et al., 2016; Sim et al., 2015). Transitioned ADF members reported a higher mean number of symptoms ( $M = 16.4$ ,  $SE = 0.3$ ) compared with 2015 Regular ADF members ( $M = 11.8$ ,  $SE = 0.5$ ) and were significantly more likely to report most types of health symptoms compared with 2015 Regular ADF. The 10 most commonly reported health symptoms were the same for both groups; the prevalence estimates are shown in Figure 2.

**Figure 2** Prevalence estimates for the 10 most commonly reported health symptoms in Transitioned ADF members and 2015 Regular ADF members



### 7.2 Self-reported lifetime doctor-diagnosed conditions

Self-reported doctor-diagnosed conditions were assessed using a 43-item self-report questionnaire derived from the measure used in the 2011–12 Australian Gulf War Veterans' Health Study Follow Up (Ikin et al., 2017; Sim et al., 2015), which asked participants about medical problems or conditions they had been diagnosed with or treated for by a medical doctor during their lifetime.

The mean number of lifetime doctor-diagnosed conditions was similar in Transitioned ADF members ( $M = 1.9$ ,  $SE = 0.1$ ) and 2015 Regular ADF members ( $M = 1.5$ ,  $SE = 0.3$ ). Table 2 shows the prevalence of the doctor-diagnosed conditions, categorised by body system. Compared with 2015 Regular ADF members, Transitioned

ADF members were significantly more likely to report a circulatory condition (19.2% vs 15.1%; OR 1.4, 95% CI 1.1, 1.8); this was largely due to a 60% increase in the likelihood of high blood pressure, a musculoskeletal and connective tissue condition (34.2% vs 24.8%; OR 1.5, 95% CI 1.1, 2.0) and a nervous system condition (10.4% vs 7.1% (OR 1.5, 95% CI 1.0, 2.2).

The six most commonly reported doctor-diagnosed conditions in Transitioned ADF members and 2015 Regular ADF members are shown in Table 3. In Transitioned ADF the most commonly reported doctor-diagnosed conditions were generally chronic medical conditions. The pattern of increased reporting for some doctor-diagnosed conditions was not as consistent as it was for increased reporting of symptoms by Transitioned ADF. This is similar to findings in the Australian Gulf War Veterans' Health Studies (Kelsall et al., 2004a; Sim et al., 2015) and in international studies of US and UK veterans (Kang et al., 2009; Unwin et al., 1999).

**Table 2 Estimated proportions of lifetime doctor diagnosed health conditions in Transitioned ADF and 2015 Regular ADF**

| Condition type (any)  | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|---|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|   | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Circulatory conditions <sup>a</sup>                           | 968                              | 4782       | 19.2 (18.0, 20.5) | 1610                             | 7916       | 15.1 (13.1, 17.3) |
| Musculoskeletal and connective tissue conditions <sup>a</sup> | 1443                             | 8513       | 34.2 (32.4, 35.9) | 2150                             | 13,046     | 24.9 (21.5, 28.5) |
| Digestive conditions  | 547                              | 3001       | 12.0 (10.9, 13.3) | 875                              | 5327       | 10.2 (7.9, 12.9)  |
| Nervous system conditions <sup>a</sup>                        | 449                              | 2602       | 10.4 (9.4, 11.6)  | 699                              | 3718       | 7.1 (5.4, 9.3)    |
| Respiratory system conditions                                 | 423                              | 2404       | 9.6 (8.6, 10.8)   | 778                              | 5014       | 9.6 (7.3, 12.4)   |
| Skin cancers including melanoma                               | 450                              | 2244       | 9.0 (8.1, 10.0)   | 760                              | 4928       | 9.4 (7.3, 12.1)   |
| Skin and subcutaneous tissue conditions                       | 334                              | 2007       | 8.1 (7.1, 9.2)    | 670                              | 4550       | 8.7 (6.6, 11.4)   |

a. Estimated prevalence significantly greater in Transitioned ADF compared with the 2015 Regular ADF.

**Table 3 Most common ever reported doctor-diagnosed health conditions in Transitioned ADF and 2015 Regular ADF**

| Condition                       | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                  |
|---------------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|------------------|
|                                 | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)       |
| Chronic low back pain           | 799                              | 4604       | 18.5 (17.1, 19.9) | 963                              | 6153       | 11.7 (9.3, 14.7) |
| Hearing loss                    | 714                              | 3922       | 15.7 (14.5, 17.0) | 839                              | 4799       | 9.1 (7.1, 11.7)  |
| High blood pressure             | 592                              | 2985       | 12.0 (11.0, 13.1) | 826                              | 4123       | 7.9 (6.4, 9.6)   |
| High cholesterol                | 666                              | 3194       | 12.8 (11.8, 13.9) | 1136                             | 5784       | 11.0 (9.1, 13.2) |
| Other musculoskeletal condition | 506                              | 3031       | 12.2 (11.0, 13.4) | 750                              | 5839       | 11.1 (8.4, 14.6) |
| Sinus problems                  | 326                              | 1877       | 7.5 (6.6, 8.5)    | 619                              | 4308       | 8.2 (6.0, 11.1)  |

## 7.3 Respiratory health

The respiratory health questionnaire was based on the questionnaire used in the Australian Gulf War Follow up Health Study (Ikin et al., 2017; Sim et al., 2015) and baseline study (Kelsall et al., 2004b) and included items derived from the European Community Respiratory Health Survey (Burney et al., 1994) and the American Thoracic Society questionnaire (Ferris, 1978). In Transitioned ADF members and 2015 Regular ADF members, asthma ever and whether this had been diagnosed by a doctor were measured using self-report items based on the items from the European Community Respiratory Health Survey (Burney et al., 1994).

Transitioned ADF were significantly more likely to report several individual respiratory symptoms in the preceding 12 months compared with 2015 Regular ADF (see Table 4). Although there was no difference between Transitioned ADF and 2015 Regular ADF in the proportions who reported asthma ever, among those who reported asthma ever Transitioned ADF were more likely to have had asthma in the preceding 12 months (11.5% vs 5.8%; OR 2.5, 95% CI 1.7, 3.5) and to have taken asthma medication in the preceding month when compared with 2015 Regular ADF (21.4% vs 13.4%; OR 1.9, 95% CI 1.2, 3.0).

**Table 4** Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF and 2015 Regular ADF

| Respiratory symptoms  | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|---|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|   | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95%CI)         |
| Wheeze <sup>a</sup>   | 722                              | 5073       | 20.4 (18.7, 22.1) | 1145                             | 8173       | 15.6 (12.6, 19.1) |
| Wheeze with breathlessness  | 392                              | 2748       | 54.2 (49.5, 58.8) | 590                              | 3476       | 42.5 (32.0, 53.8) |
| Wheeze when cold not present  | 462                              | 3208       | 63.2 (58.6, 67.6) | 603                              | 3808       | 46.6 (35.6, 57.9) |
| Woken with tightness in chest   | 574                              | 3812       | 15.3 (13.9, 16.8) | 729                              | 5794       | 11.0 (8.4, 14.4)  |
| Attack of shortness of breath during the day whilst at rest <sup>b</sup>      | 422                              | 2858       | 11.5 (10.2, 12.8) | 432                              | 3623       | 6.9 (4.9, 9.6)    |
| Attack of shortness of breath following strenuous activity                    | 549                              | 3626       | 14.5 (13.2, 16.0) | 826                              | 6281       | 12.0 (9.3, 15.3)  |
| Woken by attack of shortness of breath <sup>b</sup>                           | 318                              | 2111       | 8.5 (7.4, 9.6)    | 321                              | 1966       | 3.8 (2.5, 5.6)    |
| Woken by attack of coughing   | 772                              | 4921       | 19.7 (18.2, 21.4) | 1430                             | 8262       | 15.7 (13.4, 18.4) |
| Cough first thing in the morning  | 389                              | 2688       | 10.8 (9.6, 12.1)  | 560                              | 4274       | 8.1 (5.8, 11.2)   |
| Cough during the day or at night  | 524                              | 3479       | 14.0 (12.6, 15.4) | 782                              | 6714       | 12.8 (9.8, 16.5)  |
| Phlegm from chest in morning during winter <sup>b</sup>                       | 600                              | 4580       | 18.4 (16.8, 20.1) | 994                              | 7082       | 13.5 (11.1, 16.3) |
| Phlegm from chest during day or at night during winter                        | 550                              | 4118       | 16.5 (15.0, 18.2) | 805                              | 5884       | 11.2 (8.9, 14.1)  |
| Phlegm on most days for as much as 3 months of a year for at least 2 years?   | 296                              | 2280       | 55.2 (50.1, 60.6) | 370                              | 2055       | 34.9 (26.3, 44.7) |
| Trouble breathing <sup>a</sup>  | 624                              | 3871       | 15.5 (14.2, 17.0) | 940                              | 6472       | 12.3 (9.7, 15.6)  |
| Continuous trouble breathing  | 81                               | 444        | 11.5 (9.0, 14.5)  | 80                               | 837        | 12.9 (5.3, 28.3)  |
| Repeated trouble breathing, but always gets better                            | 117                              | 842        | 21.7 (17.9, 26.2) | 160                              | 1691       | 26.1 (15.1, 41.3) |
| Rare trouble breathing  | 423                              | 2549       | 65.9 (61.1, 70.3) | 697                              | 3930       | 60.7 (46.7, 73.2) |
| Disabled from walking by condition other than heart/lung disease <sup>b</sup> | 276                              | 1641       | 6.6 (5.8, 7.5)    | 200                              | 1271       | 2.4 (1.4, 4.2)    |
| Shortness of breath <sup>b</sup>  | 403                              | 2427       | 9.7 (8.7, 10.9)   | 401                              | 2656       | 5.1 (3.4, 7.5)    |
| Nasal allergies   | 1135                             | 7520       | 30.2 (28.3, 32.1) | 2417                             | 16,281     | 31.0 (27.3, 35.0) |
| Asthma (ever) <sup>a</sup>  | 553                              | 4247       | 17.0 (15.5, 18.7) | 1045                             | 7359       | 14.0 (11.4, 17.2) |
| Asthma confirmed by doctor  | 502                              | 3815       | 89.8 (86.0, 92.7) | 951                              | 6605       | 89.8 (77.4, 95.7) |
| Asthma in last 12 months  | 80                               | 490        | 11.5 (8.9, 14.8)  | 107                              | 423        | 5.8 (4.3, 7.7)    |
| Asthma medication currently   | 146                              | 911        | 21.4 (17.8, 25.6) | 203                              | 989        | 13.4 (10.1, 17.7) |

a. Subcategories are calculated among those who answer 'yes' to the category.

b. Estimated prevalence significantly greater in Transitioned ADF compared with 2015 Regular ADF.

## 7.4 Service-related injuries

Service-related injuries were measured using items developed by the researchers for the current Programme. They asked about injuries sustained during an individual's military career that required time off work.

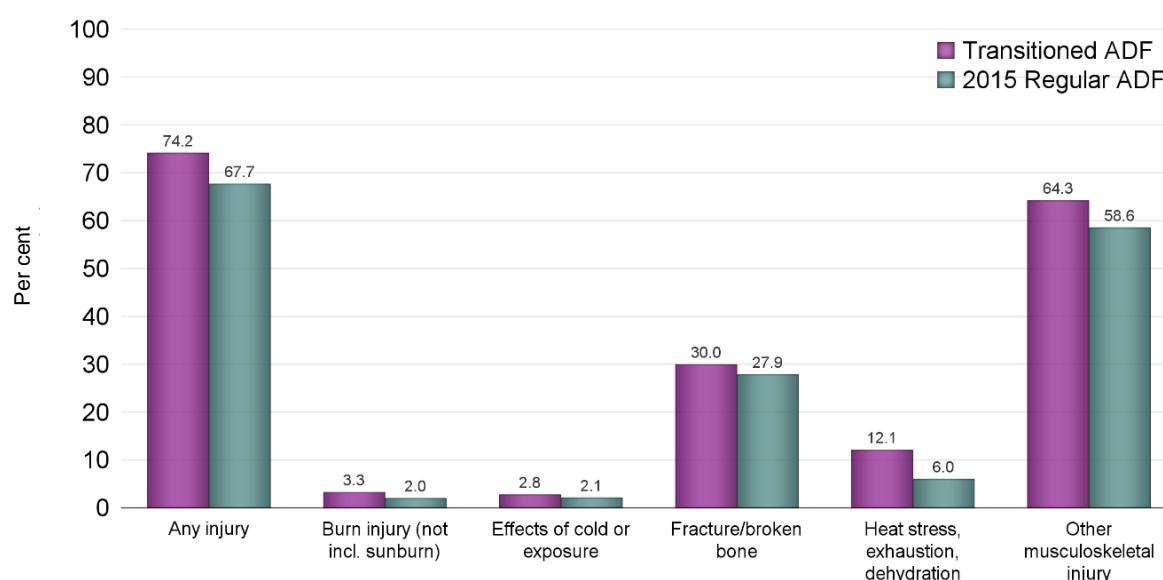
Transitioned ADF members were slightly more likely to have reported a service-related injury and reported slightly more service-related injury types compared with 2015 Regular ADF members (see Figure 3). The two most common injury types reported by both groups were other musculoskeletal injury and fracture/broken bone.

Overall, the pattern of service-related injury types in Transitioned ADF and 2015 Regular ADF was similar. Transitioned ADF were, however, significantly more likely to have reported heat stress, exhaustion or dehydration (12.1% vs 6.1%; OR 2.2, 95% CI 1.5, 3.1) compared with 2015 Regular ADF and were significantly more likely to have reported a burn injury (3.3% vs 2.0%; OR 1.8, 95% CI 1.4, 2.4) (see Figure 3).

The most common fracture site reported (>20%) in Transitioned ADF was the knee: 25.6% reported a fractured knee; this was followed by ankle (23.3%), foot (22.9%), shoulder (16.0%) and spine (12.4%). The most common fracture sites for 2015 Regular ADF were the ankle (22.2%), followed by the foot (21.4%), knee (18.2%), shoulder (16.2%) and spine (13.6%). The most common musculoskeletal injury location for both groups was the knee.

Finally, in general, service-related injuries were more likely to have been sustained during training than on deployment.

**Figure 3** Estimated proportions of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF



## 7.5 Pain intensity and disability

Chronic pain intensity, disability and functional impairment were measured using a seven-item scale and algorithm (Von Korff et al., 1992) categorised into grades (Grades 0 and I–IV) of pain intensity and disability, as used in the Australian Gulf War Follow up Health Study (Sim et al., 2015).

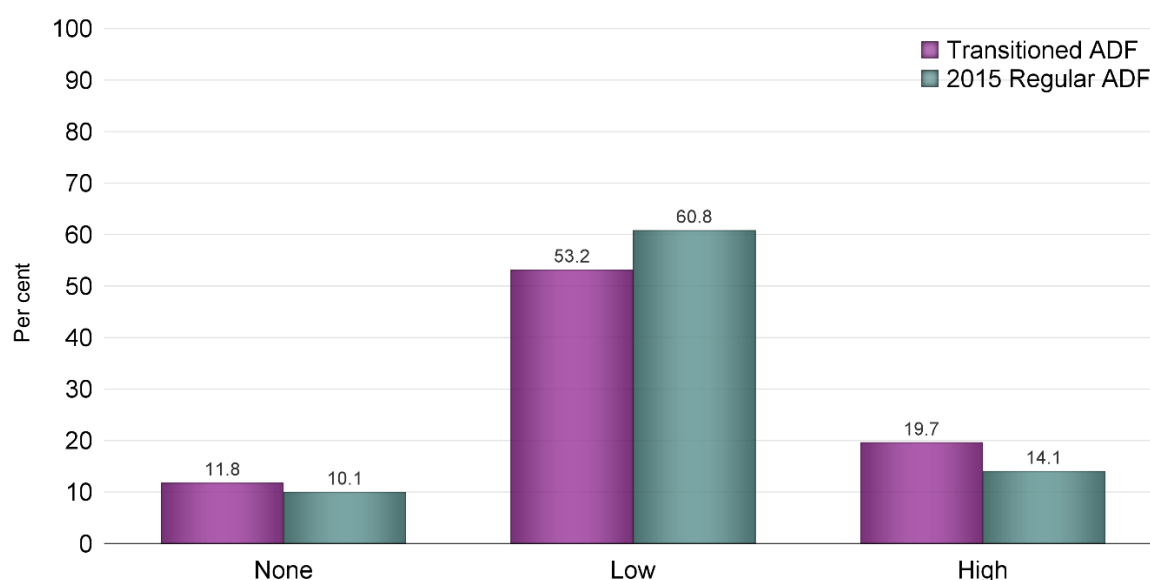
There were no significant differences between Transitioned ADF members and 2015 Regular ADF members in the proportions reporting no pain, low pain intensity and high pain intensity in the preceding six months (see Figure 4).

The majority of both Transitioned ADF and 2015 Regular ADF reported having Grade I low disability – low intensity pain, demonstrating the widespread occurrence of pain. The majority of Transitioned ADF and 2015 Regular ADF reported experiencing some pain intensity and disability: only 11.8% of Transitioned ADF and 10.1% of 2015 Regular ADF reported being free of pain. Low pain intensity was reported by 53.2% of Transitioned ADF and 60.9% of 2015 Regular ADF; high pain intensity was reported by 19.7% of Transitioned ADF and 14.1% of 2015 Regular ADF.

The reasons for increased pain intensity and disability were not canvassed in the Mental Health and Wellbeing Transition Study – for example, whether those who reported injuries, an increased number of injuries or injuries of specific types, who reported doctor-diagnosed musculoskeletal disorders or other types of physical health conditions, especially chronic physical health conditions, or those with comorbid psychological health conditions also reported increased pain intensity and disability. It also needs to be recognised that the causes of pain can be multifactorial and complex.

Pain has been shown to be very prevalent in other military populations. In comparison with the 41.3% of Transitioned ADF in the current study who reported experiencing low-grade pain intensity and disability, a similar proportion (41.0%) of transitioned Canadian veterans experienced constant pain or discomfort and 23% experienced recurrent pain (VanDenKerkhof et al., 2015; Van Til et al., 2017).

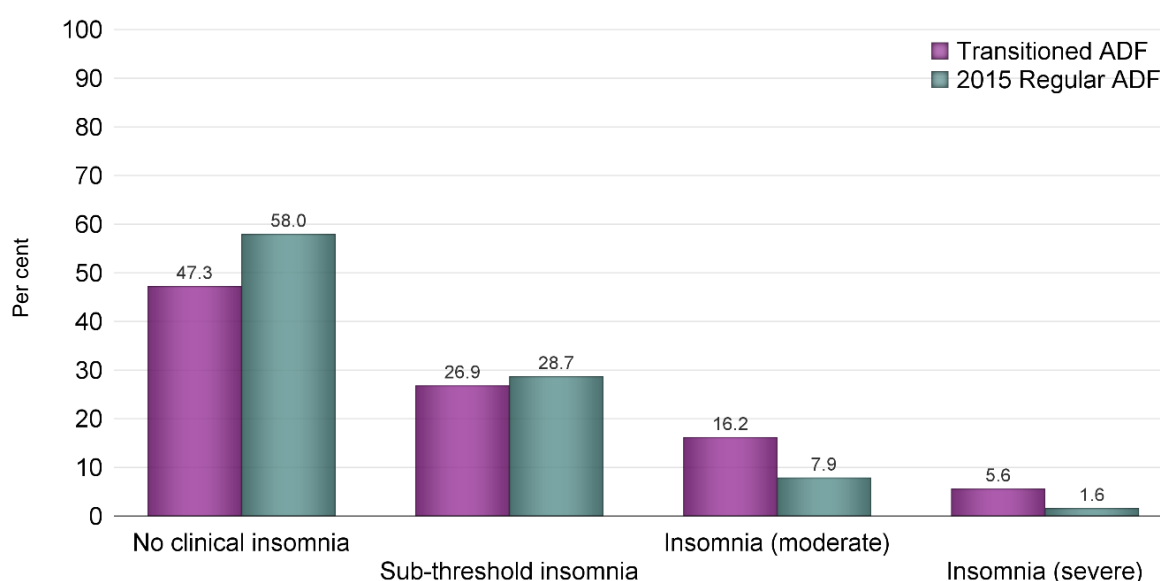
**Figure 4** Estimated proportions of grades of pain intensity and disability in the preceding six months in Transitioned ADF and 2015 Regular ADF



## 7.6 Insomnia severity

Self-reported insomnia in the preceding two weeks was assessed using the Insomnia Severity Index (Bastien et al., 2001). Overall, logistic regressions examining the dichotomised insomnia severity variable showed that Transitioned ADF members were significantly more likely to report having experienced moderate or severe insomnia in the preceding two weeks (21.8% vs 9.5%; OR 2.5, 95% CI 1.8, 3.5) than 2015 Regular ADF members. Approximately half of Transitioned ADF (47.3%) and nearly 60% of 2015 Regular ADF (58.0%) reported no clinically significant insomnia in the preceding two weeks. Transitioned ADF were more likely than 2015 Regular ADF to report moderate (16.2% vs 7.9%) and severe (5.6% vs 1.6%) insomnia (see Figure 5).

**Figure 5** Estimated proportions of insomnia severity in the preceding two weeks in Transitioned ADF and 2015 Regular ADF



Although the analyses were adjusted for factors including age, it could be important to examine whether reported insomnia is greater in different age groups and the relationship with psychological health and risk taking. Sleep disorders have been associated with risk in performance, fatigue and the ability to concentrate, and it is important to consider them in a clinical and organisational context (Filip et al., 2017; Kucharczyk et al., 2012).

## **7.7 Lifestyle risk factors**

In the case of lifestyle risk factors, a greater proportion of Transitioned ADF members reported increased physical inactivity compared with 2015 Regular ADF members. The two groups did not differ in other risk factors – having a body mass index in the pre-obese or obese range and current, former or ever smoking status.

### **7.7.1 Body mass index and physical activity**

BMI was calculated as a function of respondents' self-reported weight and height – that is, weight (kg) / height (m)<sup>2</sup>. The scores were categorised according to guidelines from the Australian Government Department of Health (Department of Health, 2017) and collapsed into normal/underweight, pre-obese or obese (obese classes 1, 2 and 3) categories. Some caution is required in relation to interpretation of BMI in the pre-obese range in particular since BMI does not discriminate between higher muscle mass and fat (Nuttall, 2015).

About one-quarter of Transitioned ADF (26.1%) and 2015 Regular ADF (27.4%) had a BMI within the normal range. Nearly half of Transitioned ADF (45.5%) and 2015 Regular ADF (49.1%) had a BMI in the pre-obese range and about one-quarter of Transitioned ADF (26.2%) and 2015 Regular ADF (21.8%) had a BMI in the obese range. Logistic regression showed that there were no significant differences between Transitioned ADF and 2015 Regular ADF in BMI overall.

In order to assess physical activity, participants were asked to complete the Short Last 7 Days Self-Administered version of the International Physical Activity Questionnaire (IPAQ, 2002).

Transitioned ADF (47.5%) were significantly less likely to be physically active at a health-enhancing level (that is, HEPA active) compared with 2015 Regular ADF (56.4%) (OR 1.6, 95% CI 1.2, 2.3). A greater proportion of Transitioned ADF (19.7%) were inactive than 2015 Regular ADF (15.1%). Similar proportions of Transitioned ADF members (20.9%) and 2015 Regular ADF members (21.6%) were minimally active.

Lifestyle factors such as BMI and physical activity are complex risk factors for many non-communicable diseases (Australian Institute of Health and Welfare, 2012), so some considerations need to be taken into account when interpreting the findings. For example, in relation to physical inactivity and the proportion overweight (BMIs in the pre-obese and obese range) in Transitioned ADF, the reporting of physical conditions that could contribute to greater difficulty for the transitioned group to exercise and maintain body weight is a consideration. Further, a consideration for the finding of reduced physical activity after separation from the Australian Defence Force is that passing a fitness test is no longer a necessity.

### **7.7.2 Smoking status**

Items used for assessing tobacco use were taken from the 2013 National Drug Strategy Survey (Australian Institute of Health and Welfare, 2014) and the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011).

Similar proportions of Transitioned ADF members (15.2%) and 2015 Regular ADF members (14.1%) were current smokers or had tried smoking (23.1% and 24.4%, respectively). A slightly higher proportion of Transitioned ADF compared with 2015 Regular ADF (30.8% vs 27.1%) were former smokers, and 2015 Regular ADF (33.9%) were more likely to be non-smokers than Transitioned ADF (29.5%).

Although smoking rates might be lower than or comparable to those for the US and Canadian military, the association between smoking and military service, particularly in this cohort, and the recognised importance of smoking as a risk factor and predictor for many adverse health outcomes, suggest that during service and before discharge provision of information on smoking cessation is important. National and state campaigns in Australia address smoking cessation and tobacco control – for example, through the Cancer Council Australia (Cancer Council Australia, 2017) and Quit (Quit Victoria, 2018). The influence of these programs on Transitioned ADF and 2015 Regular ADF might differ from that among the general community, however, and smoking cessation knowledge and behaviour were not specifically explored in this study.

## **7.8 Self-perceived health and quality of life**

### **7.8.1 Self-perceived health**

Self-perceived health was assessed with a single survey question taken from the SF-12 (Ware et al., 1996) – ‘In general, how would you say your health is?’ – which was scored on a five-point scale (excellent to poor). More than one-third of Transitioned ADF members (35.0%) and almost one-quarter of 2015 Regular ADF members (23.7%) perceived their health to be fair–poor. Transitioned ADF were significantly more likely to rate their health as fair–poor compared with 2015 Regular ADF.

### **7.8.2 Self-perceived satisfaction with health**

Self-perceived satisfaction with health was assessed by a single item – ‘How satisfied are you with your health?’ – which was scored on a five-point scale ranging from ‘very dissatisfied’ to ‘very satisfied’. Transitioned ADF (40.1%) were significantly more likely to report dissatisfaction with their health (compared with satisfaction) than 2015 Regular ADF (30.1%) (OR 1.4, 95% CI 1.2, 1.8).

### **7.8.3 Self-perceived quality of life**

Self-perceived quality of life was assessed using a single survey item selected from the WHOQOL-Bref (World Health Organization, 1996) – ‘How would you rate your quality of life?’ – which was scored on a five-point scale ranging from ‘very poor’ to ‘very good’. Approximately two-thirds of Transitioned ADF rated their quality of life as good – very good (62.8%) compared with 72.0% of 2015 Regular ADF. Transitioned ADF (16.2%) were significantly more likely to perceive their quality of life as poor – very poor compared with 2015 Regular ADF (6.4%) (OR 2.6, 95% CI 1.7, 3.9).

### **7.8.4 Self-perceived satisfaction with life in the preceding year**

Self-perceived satisfaction with life in the preceding year was assessed by using a single item on a seven-point scale – the ‘Delighted–Terrible Scale’ (Andrews & Crandall, 1976). Respondents were asked ‘How do you feel about your life as a whole, taking into account what has happened last year and what you expect to happen in the future?’ Scaled responses ranged from ‘delighted’ to ‘terrible’. For the purpose of analysis, the seven-point scale was also collapsed into dissatisfied (mixed–terrible) and satisfied (mostly satisfied – delighted). Transitioned ADF members and 2015 Regular ADF members showed no significant differences in self-perceived satisfaction with life: 55.6% of Transitioned ADF and 63.0% of 2015 Regular ADF reported they felt delighted, pleased or mostly satisfied with their life as a whole. About a quarter of both groups reported they felt mixed.

### **7.8.5 Self-perceived physical health in the preceding year**

Self-perceived physical health was assessed by using a single item on a five-point scale. Respondents were asked ‘how their physical health has been over the past year’ and responses ranged from ‘very poor’ to ‘excellent’. For the purpose of logistic regression analysis the five-point scale was also dichotomised into ‘poor–fair’ and ‘good–excellent’. Nearly half of Transitioned ADF (48.7%) and 58.2% of 2015 Regular ADF reported their physical health as good–excellent. The likelihood of reporting poor–fair physical health compared with good–excellent was significantly greater among Transitioned ADF (poor–fair, 51.1%) compared with 2015 Regular ADF (poor–fair, 41.7%) (OR 1.3, 95% CI 1.1, 1.7).

## 7.9 Use of health services

Items assessing health service use were based on the questionnaire used in the Australian Gulf War Follow up Health Study (Ikin et al., 2016; Sim et al., 2015). Respondents were asked whether they had visited any of a list of 18 different types of health professionals in the preceding 12 months, excluding any time spent in hospital. They were also asked whether they had consulted a GP or specialist doctor in the preceding two weeks and how many times they had done so.

Although similar proportions of Transitioned ADF members (87.1%) and 2015 Regular ADF members (90.1%) reported having consulted a health service in the preceding 12 months, the odds were significantly lower in Transitioned ADF (OR 0.6, 95% CI 0.4, 0.8). The most commonly consulted health professionals or services for both Transitioned ADF and 2015 Regular ADF in the preceding 12 months were GPs (78.9% and 72.4% respectively), dentists or dental professionals (41.6% and 70.2%) and specialist doctors (38% and 47.4%). Dentists or dental professionals (OR 0.3, 95% CI 0.2, 0.3), dietitians/nutritionists (OR 0.5, 95% CI 0.4, 0.8) and specialist doctors (OR 0.6, 95% CI 0.5, 0.8) were significantly less likely to have been consulted by Transitioned ADF, whereas chiropractors (13.0% vs 5.7%; OR 2.5, 95% CI 1.7, 3.6), diabetes educators (1.3% vs 0.5%; OR 2.3, 95% CI 1.5, 3.4) and osteopaths (2.9% vs 1.0%; OR 3.1, 95% CI 2.3, 4.3) were significantly more likely to have been consulted by Transitioned ADF compared with 2015 Regular ADF. Transitioned ADF members were significantly less likely to have seen a GP (OR 0.7, 95% CI 0.5, 0.9) or specialist doctor (OR 0.7, 95% CI 0.6, 1.0) in the preceding two weeks compared with 2015 Regular ADF.

The findings relating to lower use of health services among Transitioned ADF members compared with 2015 Regular ADF members need to be viewed in context. The patterns of health service use for 2015 Regular ADF are likely to have, in part, reflected attendance for routine health assessments for administrative reasons, such as pre- and post-deployment health checks. A proportion of health service contacts of 2015 Regular ADF would thus be more likely to be related to regular general health checks or mandated medical examinations, rather than to specific treatment-seeking consultations, and this makes interpretation difficult. Further, Regular ADF have ready access to medical services when serving, whereas Transitioned ADF have access to medical services through the Australian national health care system more broadly, in the public or private health systems, but also need to seek out these services. These factors might well contribute to the finding of a lower proportion of the Transitioned ADF cohort who used any health service as compared with 2015 Regular ADF in this study.

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## **8 Physical health in Transitioned ADF by DVA client status, transition status and medical discharge status**

### **8.1 DVA client status**

Department of Veterans' Affairs officers work with transitioned members who contact them and require assistance and/or are seeking compensation for a condition/injury linked to their service with the military. For the current study, 'DVA clients' included treatment card holders, those receiving a fortnightly payment, and those who have had their physical and/or psychological illness or injury liability claim accepted as being related to military service. Because the DVA clients were more likely to have physical and/or psychological health condition(s) that met the eligibility requirements according to the criteria just listed, it was anticipated that these clients might have poorer physical health outcomes compared with their non-DVA client counterparts. The findings of this study are consistent with DVA being the conduit for care in this population and with DVA clients being more likely to have poorer physical health and engage in greater use of health services compared with non-DVA clients.

This study found that Transitioned ADF members who were DVA clients were more likely to report poorer health for the majority of physical health outcomes compared with those who were not DVA clients. Specifically, when compared with non-DVA clients DVA clients were more likely to report all health symptom types; more doctor-diagnosed conditions overall as well as most individual condition types; high pain intensity and disability compared with no pain; clinical insomnia; all respiratory symptoms or conditions with the exception of wheeze, nasal allergies or asthma ever; and any type of injury.

Transitioned ADF members who were DVA clients were also more likely to report poorer self-perceived health compared with non-DVA clients, which might be a reflection of their poorer physical health overall. In terms of health professionals sought, DVA clients were significantly more likely to report seeing a GP, psychologist, specialist doctor, alcohol/drug worker, audiologist or dietician/nutritionist in the preceding 12 months compared with non-DVA clients. DVA clients were also significantly more likely to report seeing a GP or specialist doctor in the preceding two weeks compared with non-DVA clients. In the case of lifestyle risk factors, DVA clients were more likely to be categorised as obese, yet there were no statistically significant differences in physical activity except for a borderline increase in being inactive (as opposed to being HEPA active) compared with non-DVA clients.

### **8.2 Transition status**

Transitioned ADF members were categorised into three groups – Ex-Serving, Active Reservist and Inactive Reservist – which broadly represented their level of continued association with Defence as well as their potential access to support services provided by Defence. Ex-Serving personnel consisted of individuals who had completely discharged from the ADF; Inactive Reservists were individuals who were classified as a reservists but had no ongoing, regular engagement with the ADF; and Active Reservists were individuals who were still actively engaged with the ADF and thus still performed reserve work and regularly participated in parades.

Poorer health outcomes were consistently observed for Ex-Serving ADF compared with both the other groups. Specifically, Ex-Serving ADF reported the majority of health symptoms more commonly than Active and Inactive Reservists. Similar reporting patterns were observed for Inactive and Active Reservists. In terms of doctor-diagnosed conditions, Ex-Serving ADF were more likely to report circulatory, musculoskeletal and nervous system condition types compared with Active Reservists and were more likely to report digestive, musculoskeletal and nervous system condition types compared with Inactive Reservists.

Compared with Active Reservists, Ex-Serving ADF were more likely to report any service-related injury; compared with Inactive Reservists, they were more likely to report a greater number of injury types. Furthermore, the prevalence of injuries sustained during training was greater than that for injuries sustained on deployment. The comparison of injury types experienced during training or on deployment was based on a comparison of weighted prevalence and their associated confidence intervals, rather than odds ratios, and needs to be interpreted with some caution.

Ex-Serving ADF members were more likely to report the majority of respiratory symptoms (but not 'asthma ever'), high pain intensity and disability and clinical insomnia compared with Active and Inactive Reservists. Both pain and insomnia can be sequelae of musculoskeletal disorders and have also been associated with mental health symptoms and disorders; it is therefore important to consider any increased reporting of mental disorders in the groups in question in the context of the increased reporting of high-intensity pain and insomnia.

In the case of lifestyle risk factors, Ex-Serving ADF were more likely to be physically inactive and obese compared with Active Reservists. Furthermore, Ex-Serving ADF were more likely than Active Reservists to be current smokers. These findings highlight the importance of ensuring that before discharge the Ex-Serving group receives information and education, as well as opportunities to maintain their fitness and a healthy lifestyle.

Ex-Serving ADF were also more likely to report poorer self-perceived health, satisfaction and quality of life on all the indicators compared with both Active Reservists and Inactive Reservists.

In relation to use of health services, the proportions of Ex-Serving ADF members, Active Reservists and Inactive Reservists who reported visiting any health service in the preceding 12 months were similar. Overall, however, Ex-Serving ADF were more likely than both Active Reservists and Inactive Reservists to have visited most types of health professionals or services in the preceding 12 months and to have visited GPs or specialists in the preceding two weeks. This pattern of increased health service use is consistent with the increased self-reporting of most of the medical conditions and other physical health outcomes examined in this study and has important implications for health service planning for transitioned personnel.

It was hypothesised that the Transitioned ADF members who were most disengaged from Defence – in particular, those who had fully discharged at the time of completing this study (that is, Ex-Serving members) – would be in poorer physical health. The reasons for discharge and the health status of ADF personnel on transition are assessed on the basis of an individual's application to the Reserves. It was therefore possible that the Ex-Serving group would include a greater proportion who were medically discharged or had physical or psychological health conditions that would render them ineligible for the Reserves.

### **8.3 Medical discharge status**

As a summary measure for the current study, discharge status was collapsed into two categories – medical discharge or other (non-medical discharge). 'Medical discharge' refers to the involuntary termination of a client's employment by the ADF on the grounds of a permanent or long-term inability (unfitness) to serve or unfitness for deployment to operational (warlike) service.

Transitioned ADF members who had been medically discharged were more likely to report poorer health compared with those who had not been medically discharged. The magnitude of these differences was greater than that for the comparisons of Transitioned ADF in terms of DVA client status and transition status, although this was not tested statistically. Given that the reason for leaving the ADF was medical discharge, such a finding was not unexpected.

Specifically, with the exception of skin ulcers, Transitioned ADF who had been medically discharged were significantly more likely than those non-medically discharged to report all health symptoms and were more

likely to report the majority of doctor-diagnosed condition categories, all respiratory symptoms or conditions with the exception of nasal allergies and asthma ever, every injury type except burn injuries, higher pain levels and insomnia.

In the case of lifestyle risk factors, Transitioned ADF who had been medically discharged were more likely to be inactive or minimally active (as opposed to HEPA active), were more likely to be categorised as obese and were more likely to currently smoke than personnel who were discharged on other grounds. This finding highlights the importance of ensuring that before discharge such individuals receive sufficient information and education and an opportunity to maintain their fitness and lifestyle.

Transitioned ADF who had been medically discharged were also more likely to report poorer self-perceived health, satisfaction and quality of life compared with personnel who were non-medically discharged. The odds were of a greater magnitude than those for comparisons in the other Transitioned ADF subgroups, although the differences were not tested statistically.

In relation to use of health services, Transitioned ADF who had been medically discharged were significantly more likely to consult a range of health professionals and services in the preceding 12 months compared with personnel who had been discharged on other grounds. These professionals and services included alcohol and drug workers, diabetes educators, dietitians/nutritionists, general practitioners, physiotherapists/hydrotherapists, psychologists, social workers/welfare officers and specialist doctors. Transitioned ADF who had been medically discharged were also significantly more likely to have consulted a GP or specialist doctor in the preceding two weeks compared with Transitioned ADF who had not been medically discharged. This pattern of increased health service use is consistent with the increased self-reporting of the majority of medical conditions and other physical health outcomes examined in the current study. This has implications for health service planning specific to transitioned personnel.

Consistent with the definition of 'medical discharge', it was expected that personnel who had been medically discharged would be more likely to exhibit poorer physical health compared with personnel who had been discharged on other grounds. The relationship between the reason(s) for an individual's medical discharge and reported physical health was not, however, explored, and this is an important area of research to be considered in the future, including through data linkage.

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## 9 Smoking, quality of life and doctor-diagnosed asthma in Transitioned ADF compared with the Australian Community

In order to assess the physical health of the Transitioned ADF members in comparison with that of the broader Australian community, contemporaneous data obtained from the 2014–15 ABS National Health Survey (Australian Bureau of Statistics, 2015) were used. Comparisons were, however, limited to variables for which comparable data were available – namely, smoking status, self-perceived health status and doctor-diagnosed asthma. Questions taken from the National Health Survey were used.

To enable comparison of estimates for Transitioned ADF and the Australian Community sample, direct standardisation was applied to the estimates derived from the National Health Survey. The NHS is the most recent in a series of Australia-wide Australian Bureau of Statistics health surveys assessing various aspects of the health of Australians, among them long-term health conditions, health risk factors and health service use. The NHS data were restricted to people aged 18–71 years (consistent with the Transitioned ADF data) and were standardised by sex, employment status (employed or not) and age category (18–27, 28–37, 38–47, 48–57 and 58+ years) and estimates were generated on the outcomes of interest. Standard errors for the NHS data were estimated using the replication weights provided in the NHS data file.

### 9.1 Summary of findings

Transitioned ADF members were less likely than the Australian Community to be current smokers and less likely to have doctor-diagnosed asthma but more likely to report poorer self-perceived health.

The proportion of Transitioned ADF who rated their health as fair or poor was higher compared with the Australian Community. This pattern of poorer self-perceived health among Transitioned ADF compared with the Australian Community was similar in males and females and by age group. The implications of an increased proportion of Transitioned ADF reporting their health as fair or poor are not clear. For instance, comparisons between Transitioned ADF and the Australian Community sample on the number of comorbidities were not made, and this was a single-item question that is not specifically directed towards physical health but instead towards self-perceived health in general.

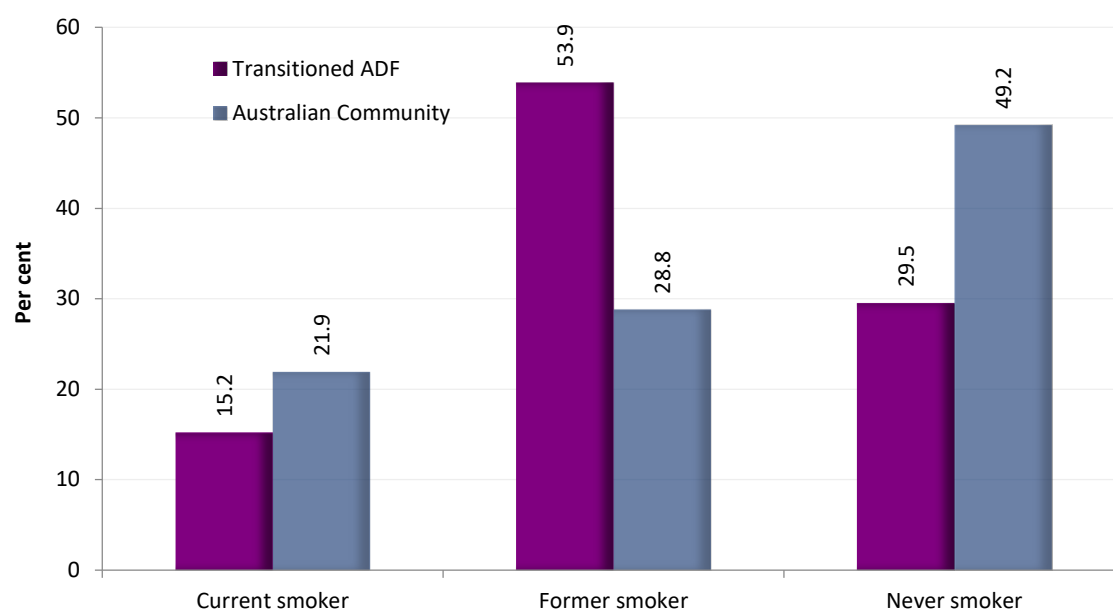
Self-reported doctor-diagnosed asthma in Transitioned ADF and doctor-diagnosed asthma in the Australian Community sample were used to define asthma for comparative purposes. In Transitioned ADF, doctor-diagnosed asthma prevalence was significantly lower (15.3% vs 21.9%) than in the Australian Community. This pattern of lower prevalence was the same in males and females and lower in all age brackets in Transitioned ADF compared with the Australian Community; it is likely to reflect expected medical standards in the Australian Defence Force.

### 9.2 Smoking status

Smoking status was assessed using four items that asked whether the respondent currently smoked, had ever tried smoking cigarettes or other forms of tobacco, had ever smoked a full cigarette, cigar or pipe, or had smoked the equivalent of 100 cigarettes (or the equivalent amount of tobacco) in their lifetime.

The proportion of Transitioned ADF compared with the Australian Community reporting ‘current smoking’ was significantly lower (15.2% vs 21.9%), reporting being ‘former smokers’ was significantly higher (53.9% vs 28.8%) and reporting having ‘never smoked’ was significantly lower (29.5% vs 49.2%) (see Figure 6). The overall smoking patterns observed in the Transitioned ADF and the Australian Community were consistent in males and females and by age groups.

**Figure 6** Estimated prevalence of smoking in Transitioned ADF compared with the Australian Community



### 9.3 Self-perceived health

Self-perceived health was assessed using a single item taken from the Short Form 12 Health Survey (SF-12) – ‘In general would you say your health is?’ – which was scored on a five-point Likert scale with five response options – excellent, very good, good, fair or poor.

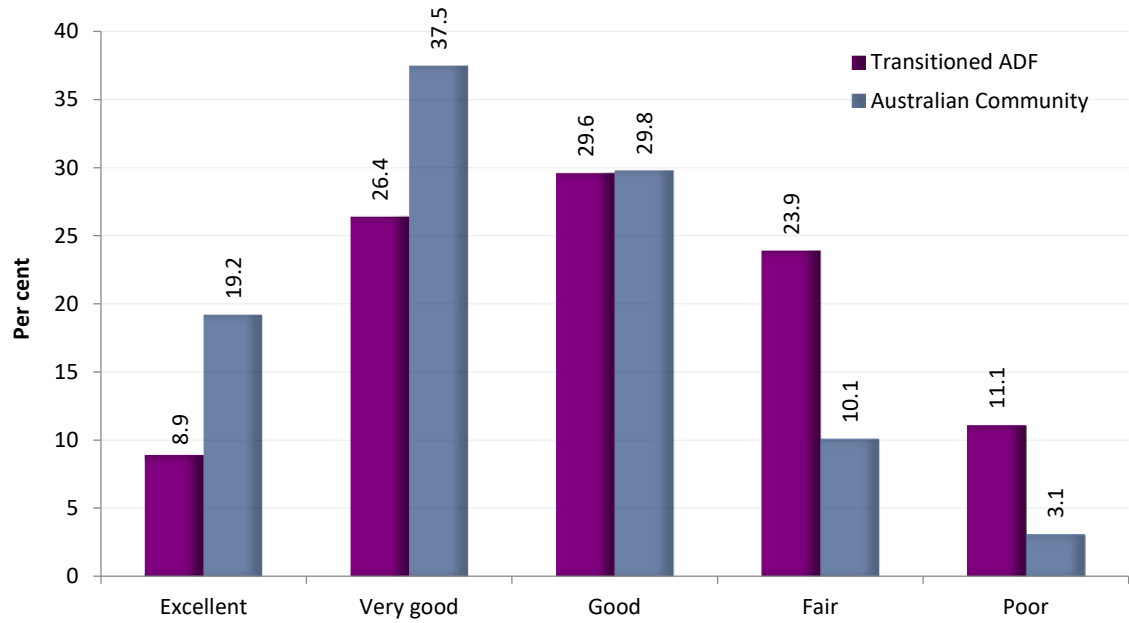
Compared with the Australian Community, the proportion of Transitioned ADF who rated their health as excellent (19.2% vs 8.9%) or very good (37.5% vs 26.4%) was significantly lower; the proportions who rated their health as fair (10.1% vs 23.9%) or poor (3.1% vs 11.1%) were significantly higher (see Figure 7). The overall patterns observed for Transitioned ADF and the Australian Community in relation to self-perceived health were consistent in males and females and by age groups.

### 9.4 Doctor-diagnosed asthma

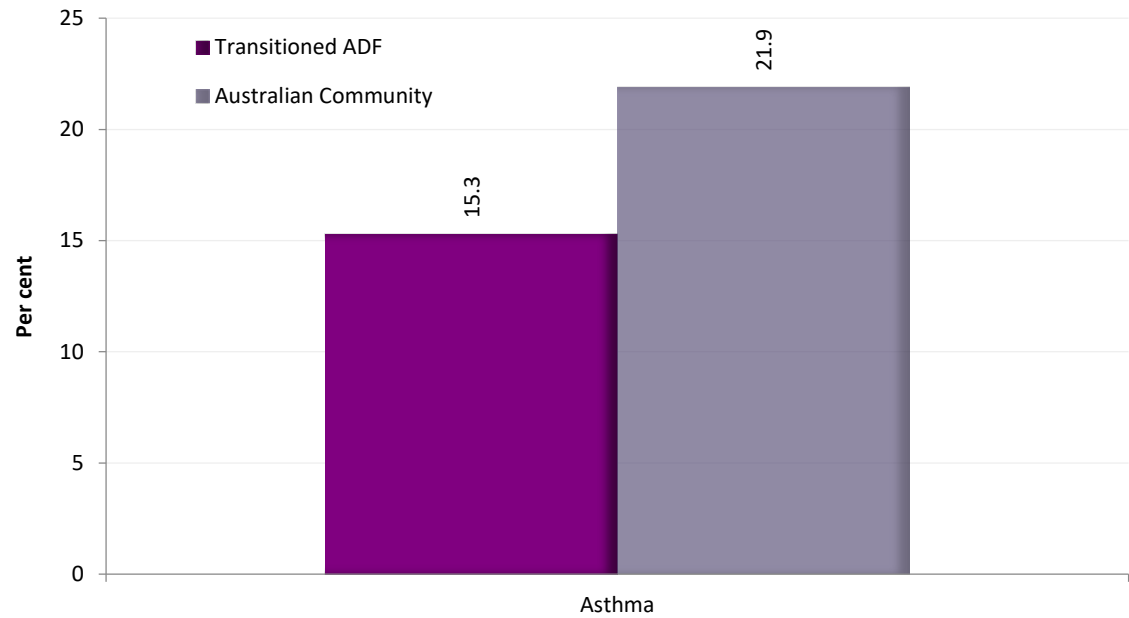
Doctor-diagnosed asthma was assessed in Transitioned ADF using self-reported ‘asthma ever’ that had been confirmed by a doctor; the assessment was based on questions from the European Community Respiratory Health Survey (Burney et al., 1994). In the Australian Community sample self-reported asthma was assessed using a single item in the 2014–15 ABS National Health Survey data – ‘Have you ever been told by a doctor or nurse that you have asthma?’ (Australian Bureau of Statistics, 2015).

The proportion of Transitioned ADF who reported doctor-diagnosed asthma was significantly lower than that for the Australian Community (15.3% vs 21.9%) (see Figure 8). The overall patterns observed in the Transitioned ADF and the Australian Community in relation to doctor-diagnosed asthma were consistent between males and females and by age group.

**Figure 7**      **Estimated prevalence of self-perceived health in Transitioned ADF compared with the Australian Community**



**Figure 8**      **Estimated prevalence of doctor-diagnosed asthma in Transitioned ADF compared with the Australian Community**



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## 10 Implications and future directions

This study provided a comprehensive assessment of physical health among Transitioned ADF members compared with 2015 Regular ADF members based on a range of indicators and among Transitioned ADF members by DVA client status, transition status and discharge status. The study identified groups in which physical health is poorer: Transitioned ADF in comparison with 2015 Regular ADF and, among Transitioned ADF members, the DVA client group, the medically discharged group and the Ex-Serving group.

Among Transitioned ADF the proportions that reported an increased number of doctor-diagnosed conditions decreased, and only a small proportion reported seven to eight conditions or more. This suggests a minority of Transitioned ADF reporting a high level of physical comorbidity. Among Transitioned ADF who were DVA clients, a greater proportion reported an increased number of conditions than did non-DVA clients. Transitioned ADF members who are DVA clients have accepted medical conditions, so these findings are consistent with the pattern of increased reporting of doctor-diagnosed conditions. Reported doctor-diagnosed medical conditions were not analysed on the basis of the year of diagnosis in relation to individuals' transition, or otherwise, from the ADF. It is therefore possible that the onset of reported doctor-diagnosed conditions among Transitioned ADF might have occurred while these people were serving in the ADF or emerged after discharge.

It is also important to acknowledge that in the non-DVA client group there is a significant range of morbidity. This group might not have come into contact with DVA since their discharge from the ADF or might not be entitled to DVA benefits such as health services (for a DVA client as defined in this study). They do, however, have access to the national health care system through Medicare and/or private health insurance.

The study did not examine the point at which Transitioned ADF access DVA or whether the health services provided through DVA or through the national health care system are optimally meeting their needs. The survey questionnaire asked participants about the year of diagnosis for each medical condition they reported, and this could be assessed further in relation to discharge from the ADF and in relation to presentation to DVA currently and in the future.

Physical health outcomes should not be seen in isolation: they can interact with each other (for example, high BMI and diabetes) and with mental health. Although this was not analysed specifically in the study, it is important to recognise the interrelationships and comorbidity of physical health and mental health, and the data collected provide a basis for further analysis. For example, musculoskeletal disorders can predispose or lead to psychological disorders such as depression or an adjustment disorder. As a result, improving physical health for those living with mental illness can lead to improvements in both types of disorder.

Another important aspect of the pattern of reported doctor-diagnosed conditions among Transitioned ADF members – particularly musculoskeletal conditions and risk factors for cardiovascular disease such as high cholesterol and high blood pressure – is that these conditions have known patterns of comorbidity with depression (Kelsall et al., 2014) and with PTSD (Abouzeid et al., 2012; Andersen et al., 2010; Kibler et al., 2014; Rosenbaum et al., 2015; Sareen et al., 2007; Sumner et al., 2016). It was beyond the scope of this report to explore these and other important relationships between physical conditions and mental health. The comorbidities between physical and mental disorders that are most prevalent in military populations – particularly depression and alcohol use disorders (Ikin et al., 2004; Ikin et al., 2016; Sim et al., 2015) – as well as the extensive known physical comorbidities of PTSD, make further investigation of the interrelationship between physical and mental health in transitioned populations an important topic (Sareen et al., 2007).

Increased symptom reporting among Transitioned ADF and in subgroups was a finding of the current study. The symptom questionnaire included a range of general health symptoms across multiple body systems. One

challenge in interpreting the significance of these general health physical and psychological symptoms in a symptom questionnaire is that there can be a high level of comorbidity between these symptoms and psychiatric disorders (McFarlane et al., 2008). For example, some general health symptoms are associated with low-grade inflammation (Tak et al., 2009), a factor that recent research has found to be part of the underpinnings of PTSD (Spitzer et al., 2010).

Health indicators such as sleep, pain and quality of life are also related to both physical health and mental health and their impacts. The higher levels of pain reported by Transitioned ADF need to be interpreted in the context of both the physical and the mental health of this group. Depression and PTSD can contribute to pain symptoms and have shared neurobiological dysregulations (Baune et al., 2008; Moeller-Bertram et al., 2014). The comprehensive physical and psychological health data collected for the Transition and Wellbeing Research Programme provide a basis for further examination to better understand these relationships and inform health promotion and disease prevention strategies.

The Mental Health and Wellbeing Transition Study examined the differences in physical health outcomes among Transitioned ADF members compared with 2015 Regular ADF members. Associations between mental health, traumatic events, demographic factors (such as age) and service-related factors (such as rank or Service) that have previously been shown to be linked to poorer physical health (Kelsall et al., 2004a; Sim et al., 2015) were not investigated further as part of the study. Further examination of such factors or associations with exposures or with other predictors might help explain observed differences between Transitioned ADF and 2015 Regular ADF or between Transitioned ADF subgroups. For example, examination of predictive factors could help explain the observed findings of differences in the reporting of circulatory conditions, digestive conditions and musculoskeletal and connective tissue conditions between groups.

Chronic conditions tend to increase with age (Australian Institute of Health and Welfare, 2016), although previous research in veteran populations has found an increased likelihood of reporting some adverse health outcomes, including increased symptom reporting and some psychological disorders, among younger veterans (Ikin et al., 2004; Kelsall et al., 2009; Sim et al., 2015). The present study adjusted for age in comparisons between groups, but insights could be gained by further examination of the effects of age in relation to health outcomes.

Musculoskeletal injuries were the most common type of injury reported by study participants, and these injuries were more likely to be reported as being sustained in training (as opposed to deployment). There could be a number of reasons for this, but in this study it was not possible to fully explore whether training is riskier than deployment. The findings of this study provide a base for further investigation of associations between injury patterns and military service roles – for example, the number of deployments and differing roles in active ADF service.

Use of health services and reported consultations were treated in this study as a health indicator. In collecting self-reported data on health service use, it is possible to collect information on the use of various allied health services that might not be included in the Medicare databases as well as information from participants who have not agreed to Medicare linkage. Linkage with and collection of recorded Medicare data do, however, allow the assessment of health service and pharmaceutical use across a period back in time without being fully reliant on participants' recall. Combined, the self-reported data and the linked health databases can provide a more complete description of health service and pharmaceutical use and how physical health conditions are being managed compared with what would be achievable with either data source alone. This – as well as linkage with DVA databases – is something that should be built on in further research.

The present study investigated the initial stages of transition (the first five years) and establishes a very important baseline assessment of health in this cohort, rather than relying on efforts to capture health impacts retrospectively when carrying out research into physical health in the future. This is very relevant as some physical disorders with a longer lead time for development – such as cancer, diabetes, chronic obstructive pulmonary disease, musculoskeletal conditions, including joint disease, or chronic physical disorders that could

be related to military service – might not yet have become evident. Equally, delayed-onset PTSD, which has been well documented in veteran populations (Horesh et al., 2011; Marmar et al., 2015) presents a probability of increasing risk of the related physical comorbidities in the future. Furthermore, although this study did not investigate the role of combat exposure itself as a determinant of the premature onset of chronic disease and death that was found in a longitudinal cohort of Second World War veterans (Lee et al., 1996) and in veterans of more recent conflicts, it does provide a baseline for this type of longitudinal research in the future. The previous research findings suggest that the physical health burden described in this report for Transitioned ADF members could be an underestimate of the total health burden that is likely to be experienced by this group over time and in the longer term.

When assessing the physical health of Transitioned ADF members, one important aspect of the study design is the inclusion of a relevant military comparison group. Transitioned ADF members (who had transitioned during the period 2010 to 2014) were compared with Regular ADF members who were in the Services in 2015, the year directly after this period, the data for both populations being collected in 2015. Some comparisons used Australian community data, but this could be done only for a small number of measures and using data obtained from a largely comparable year. It also needs to be acknowledged that comparison with a civilian population has its limitations, among them selection into the military and maintenance of fitness, possible environmental and chemical exposures, and stressful experiences, which can differ from the experience of the general community and affect physical and/or mental health.

The physical health of Transitioned ADF members has not been studied as consistently or comprehensively as has their mental health in epidemiological health studies of military, veteran or transitioning military populations in Australia or internationally in the past two decades, and there are limited data with which to compare physical health status findings. The US Institute of Medicine conducted a two-phase literature review of the physical, psychological, social and economic effects of deployment to Iraq and Afghanistan and of gaps in care, but it concentrated on the deployment-related outcomes of traumatic brain injury, posttraumatic stress disorder, depression, substance use, and suicidal ideation in the comprehensive review phase, while recognising that many other psychiatric and physical conditions could have been included (Institute of Medicine of the National Academies, 2013)

The present study will help build an evidence base in this field. A consideration is whether the population-based models that have been adopted to promote and manage mental health in military, veteran and transitioning personnel, building on the research done in the past two decades, have similar counterparts in relation to physical health.

In the past 20 years mental health in the ADF and DVA has received increased attention. Findings from the Australian Gulf War Veterans' Health Study 2011–12 of increased psychological disorders among Gulf War veterans compared with the military comparison group (Ikin et al., 2004; Ikin et al., 2016; McKenzie et al., 2004) were followed by the development and implementation of the 2011 Australian Defence Force Mental Health and Wellbeing Strategy (Department of Defence, 2011). Since then there have been further reviews and inquiries into mental health and suicide prevention, and the Defence Mental Health and Wellbeing Strategy 2018–2023 (Department of Defence, 2017) has been developed.

Defence also has a number of other programs in relation to mental health – for example, the Suicide Prevention Program, the Periodic Mental Health Screen, the Operational Mental Health Screen, the ADF Rehabilitation Program for traumatic stress (and for physical health), and the mental health and wellbeing RESET program. These incorporate population- and individual-based approaches to mental health promotion and treatment. There are, however, fewer programs aimed at physical health, although Defence does provide operationally focused physical health promotion, prevention and early treatment services for deployed forces (Department of Defence, 2017).

In the context of physical health, assessment and management are generally provided in the primary healthcare setting, in medical assessments of fitness for duty, and in connection with occupational health and

safety. Individuals are referred to healthcare or health promotion programs, including general public programs such as smoking cessation programs, as required.

DVA has programs relating to social health and wellbeing as well as physical health, as is referred to in the DVA Social Health Strategy 2015–2023 for the Veteran and Ex-Service Community. ‘Veteran and ex-service community’ refers broadly to veterans and former serving personnel, as well as their families, carers and organisations that support them (Department of Veterans’ Affairs, 2015). This expanded focus on veterans and the ex-service community is broader than the Transition and Wellbeing Transition Study definition for these groups and recognises the supports that are important for improving the community’s quality of life and identifying ways this might be achieved – through preventing illness where possible, fostering social connectedness and enhancing health and wellbeing (Department of Veterans’ Affairs, 2015).

Several health and wellbeing areas of particular concern to the veteran and ex-service community have been identified previously such as risk of social isolation, employment opportunities post-separation, the risk of weight gain following transition, the high prevalence of mental conditions (including depression and PTSD and alcohol use disorder) and comorbidity with other mental illnesses, and the prevalence of smoking while serving. These issues remain relevant to the current physical health of transitioned personnel (Department of Veterans’ Affairs, 2015). DVA’s strategy for dealing with veterans’ mental health needs is set out in the Veteran Mental Health Strategy 2013–2023 (Department of Veterans’ Affairs, 2013); other matters that are more closely related to physical health are responded to through population-wide measures such as the Australian Government’s smoking reduction initiatives.

Under the DVA Social Health Strategy 2015–2023, the Department invests in a range of programs and initiatives designed to support health and wellbeing in the veteran and ex-serving community, including population-level programs and programs aimed at individuals. The findings in relation to physical health and wellbeing outcomes from this Mental Health and Wellbeing Transition Study could help inform planning and practice in such programs.

Population level programs include:

- *Veterans’ Health Week*. This is an annual event with changing themes that centre on aspects of health and wellbeing that are relevant to the veteran community. It offers an opportunity for veterans to participate, connect and influence their own and their friends’ health and wellbeing.
- *The Men’s Health Peer Education Program*. This aims to improve the health of male veterans, using trained volunteers to encourage them to understand their health and wellbeing and working in partnership with professional service providers in managing any identified concerns.

Programs for individuals include:

- *The Coordinated Veterans’ Care Program*. This is a targeted voluntary program for DVA Gold Card holders with health problems that increase their risk of unplanned hospitalisations. Eligibility for the program is determined by a GP and, once enrolled, a veteran’s ongoing and planned care is based on a personalised care plan developed by the GP and the nurse coordinator. The program is offered in addition to any existing DVA services and entitlements for eligible persons with one or more of the following chronic conditions – congestive heart failure, coronary artery disease, chronic obstructive pulmonary disease, diabetes and pneumonia.
- *The Veterans Heart Health Program, ‘Improving Veterans’ Health’*. This DVA-funded program aims to help improve returned service personnel’s overall physical health, physical fitness and wellbeing through physical exercise, nutrition and healthy lifestyle education. It is a 52-week program that focusses on increasing physical activity and healthy lifestyle choices.

- *The DVA Rehabilitation Appliance Program.* This initiative is designed to help eligible members of the veteran community be independent and self-reliant in their own homes. It offers health care assessments and provides aids and appliances to help to minimise the impact of disabilities, enhance quality of life and maximise independence. In 2017 a prosthetic recreational sports aid category was added.

An analysis of DVA or ADF policies or programs in relation to physical health and socio-demographic factors was beyond the scope of this study. The extent to which programs such as those just mentioned respond to the physical health needs of Transitioned ADF members and the poorer health, and thus probably the increased needs, of Transitioned ADF subgroups (such as the Ex-Serving and the medically discharged) could be considered in the context of the physical health findings detailed in this report.

The purpose of the Physical health Status study was to examine the prevalence and significance of physical health outcomes in Transitioned and Regular ADF members. The study is one of the first internationally to investigate a comprehensive range of physical health indicators in recently transitioned military personnel. It provides a comprehensive dataset and framework for further detailed analyses of the physical health of ADF members both now and in the future and has several important implications for practice and future research.

Overall, the Transitioned ADF members were more likely to report poorer physical health in all domains and to have increased lifestyle risk factors coupled with poorer self-perceived health, satisfaction and quality of life when compared with 2015 Regular ADF members. Within the Transitioned ADF group, those who were further removed from the ADF (that is, Ex-Serving members) and those who were already DVA clients or had received a medical discharge appeared to be particularly at risk. In the context of findings from the *Mental Health Prevalence Report*, physical comorbidities and their relationship with psychological health are important considerations. Furthermore, physical health status during the transitioning phase can have other implications – for example, for general health and wellbeing, for re-integration and employment post-transition and, in the longer term, for the onset of chronic health conditions.

In the process of discharge from the ADF and transition to civilian life, a more formal procedure for discharging members to a primary healthcare provider for physical as well as mental health care if required could be a consideration since it might assist with the early identification of problems and comorbidities.

The finding of poorer physical health among Transitioned ADF members compared with 2015 Regular ADF members and among the Transitioned ADF subgroups might have implications for the services these individuals are eligible to receive or for health service planning. These implications need, however, to be considered in the context of Defence's and DVA's existing programs, something that was beyond the scope of this study.

Further consideration of patterns of injury and risk factors might offer opportunities for building an evidence base around the implications of injuries for performance of duties and for medical discharge, as well as offering greater opportunities for prevention and injury reduction through design of equipment and other strategies. Further analysis should be used to identify subgroups at greater risk of injury and the associated risk factors, injuries during training being of particular interest since such musculoskeletal problems can be risk factors for later chronic conditions such as osteoarthritis.

At present in the ADF women have increasing and changing roles. There is the potential for this to have consequences for their physical health – particularly in terms of musculoskeletal disorders and injuries. Further analyses could look at health outcomes for female members of the ADF, in particular post-transition.

Sleep disorders and fatigue are important factors associated with work performance, especially in safety-critical jobs. The finding of an increased prevalence of sleep disturbance and other lifestyle risk factors among Transitioned ADF members (in particular, DVA clients and those who were medically discharged) highlights the importance of ensuring that this group is given information, education and opportunities to maintain their

fitness and a healthy lifestyle before discharge. Inclusion of sleep measures in regular health or psychological screening might also be of value.

Smoking is an important risk factor, and smoking cessation is a public health measure as relevant to ADF and transitioned ADF personnel as it is to the general population, even though current smoking levels are lower in ADF personnel than in the Australian community. Overweight or obesity and inadequate physical activity are well-documented risk factors for many chronic diseases. These risk factors and their implications need to be considered in the context of existing health programs, in the ADF and DVA and in the general community.

There are implications for monitoring the health of this cohort of Transitioned ADF and 2015 Regular ADF into the future to integrate the findings in relation to physical health with mental health and pathways to care and to monitor changes in physical and mental health status over time. This could be achieved through repeated health surveys or through data linkage with the existing Medicare and PBS databases. Monitoring the health and healthcare needs and use of the non-DVA client group, including whether they subsequently apply for benefits and become clients of DVA, is also important.

Despite its size and breadth, the *Physical Health Status Report* was not able to investigate the causal pathways and correlates of physical health symptoms and disorders among Transitioned ADF members. Nevertheless, the data collected through the study (for example, on demographic and service-related factors), together with other Programme findings (for example, on mental health and pathways to care), have important implications for both transitioned and regular ADF members, for their families, for members' clinical and allied health service providers, and for DVA and Defence in terms of health care and employment.

Taken together, the results from this program of research provide a unique platform for identifying specific subgroups at risk of poor physical, mental and social health outcomes into the future. In particular, they provide the foundation for gaining a more complete understanding of the physical health of transitioned ADF members through the consideration of comorbidities and interrelationships with mental health – for example, the relationship between musculoskeletal disorders, mental disorders, insomnia, pain, disability, and self-perceived health and quality of life. Such knowledge is required for prevention, early intervention and improved integration of the treatment of physical and mental comorbidities in military and transitioned personnel both in Australia and worldwide.

The study cohorts used, as well as the 'nested' groups within each cohort, and the comprehensive database the study provides can be used in further research into priority areas as they emerge in national or international military and veteran communities and the scientific literature. Examples include increasing comorbidity of conditions, physical and psychological, and the challenges this presents for the individual, their families and coordinated multidisciplinary care; service-related exposures and risk factors for poorer physical health outcomes in transitioned personnel; development of data systems to monitor physical health and assess treatment outcomes and barriers to care; and use of evidence-based treatment.

In conclusion, this study compares the physical health status of Transitioned ADF members with that of 2015 Regular ADF members using general health indicators as well as indicators relevant to several body systems. Despite some limitations, such as low participation rates, the study represents the first comprehensive Australian study of the physical health of transitioned personnel and one of the few international studies in this field. It is a very important baseline study of health in this cohort and provides a solid evidence base for the future.

Overall, Transitioned ADF members were more likely to report poorer physical health, to have increased lifestyle risk factors, and to report poorer self-perceived health, satisfaction and quality of life compared with 2015 Regular ADF members. Among the Transitioned ADF, poorer physical health outcomes overall were reported by DVA clients compared with those who were not DVA clients, by Ex-Serving members compared with Active Reservists and Inactive Reservists, and by those who had been medically discharged compared with those who had been discharged for another reason.

Physical comorbidities and the relationship with psychological health are an important element. Physical health status during the transitioning phase is likely to have important implications – for example, for general health and wellbeing, for re-integration and employment post-transition and, in the longer term, for later onset of chronic health conditions. The study findings can help in the development and refining of preventive health programs and in health management relating to chronic diseases. This is a relatively young cohort, and longitudinal follow-up to assess and monitor chronic conditions that emerge will be important.

## 10.1 Areas for future research

There is considerably less research and data available on the physical health of transitioning ADF members or transitioning personnel internationally than there is on the mental health of these personnel. This study provides a comprehensive data set from which more important findings can be extracted. The data are, however, yet to be fully analysed in order to answer further questions of interest and relevance to DVA and Defence practice and programs.

It is important that the value of existing data and their potential as an evidence-base for further analyses to answer questions of interest are understood and appreciated and that strategies are developed for further analyses in the light of further discussion of the findings and their implications and the relationship with other findings from the Transition and Wellbeing Research Programme overall.

A number of areas for further examination of the data that emerge from the findings of this report are suggested below. These could be informed further by discussion with Defence and DVA on particular questions of interest:

- Examine the effects of risk factors for physical symptoms or conditions that are increased in Transitioned ADF members or subgroups thereof (for example, for age, Service, rank, sex, deployment history and combat exposure). Additionally, examine predictors for particular conditions such as injuries and musculoskeletal disorders (for example, in relation to training and deployment).
- Examine the timing of the reported onset of doctor-diagnosed medical conditions in relation to discharge and presentation to DVA.
- Examine the impact of physical health on help seeking and treatment in relation to DVA.
- Examine the interrelationships and comorbidity of physical health outcomes and the comorbidity of physical health and mental health conditions.
- Examine the impact of physical health on presentation in relation to psychological health and engagement with mental health services and treatment effectiveness for mental disorders.
- Complete linkages with Medicare and PBS health data and develop health service use indicators in order to analyse and report on Medicare and PBS data. Use of such data will complement self-reported health service use data and so provide a more complete picture of health service use.
- Investigate the relationships between outcomes such as insomnia, pain, musculoskeletal disorders, disability, psychological and physical disorders and self-perceived health and quality of life and between socio-demographic and socio-economic factors such as employment and social wellbeing.
- Further examine health outcomes and risk factors among female 2015 Regular ADF members and female transitioned ADF members.
- Monitor changes in the present cohort's physical and mental health status over time. This could be done through repeated health surveys or through data linkage with existing Medicare and PBS databases. Monitoring the health and healthcare needs and use of the non-DVA client group, including whether they subsequently apply for benefits and become clients of DVA, is also important.

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## Glossary of terms

**Australian Bureau of Statistics (ABS).** Australia's national statistical agency, providing trusted official statistics on a wide range of economic, social, population and environmental matters of importance to Australia. To enable comparison of estimates for Transitioned ADF members with an Australian Community population, direct standardisation was applied to estimates in the 2014–15 ABS National Health Survey data. The NHS is the most recent in a series of Australia-wide ABS health surveys, assessing various aspects of the health of Australians, including long-term health conditions, health risk factors and health service use.

**Australian Defence Force (ADF).** The ADF, or Defence, is constituted under the *Defence Act 1903* (Cth). Its mission is to defend Australia and its national interests. In fulfilling this mission, Defence serves the government of the day and is accountable to the Commonwealth Parliament, which represents the Australian people to efficiently and effectively carry out the government's defence policy. The current Programme of research aims to examine the mental, physical and social health of serving and Ex-Serving ADF members and their families. It builds on previous research to support effective and evidence-based health service provision for contemporary service members and veterans.

**Australian Institute of Family Studies (AIFS).** The Australian Government's key research body in the area of family wellbeing. AIFS conducts original research to increase understanding of Australian families and the factors that affect them. The current research was conducted by a consortium of Australia's leading research institutions, led by the Centre for Traumatic Stress Studies at the University of Adelaide, and AIFS.

**Australian Institute of Health and Welfare (AIHW).** Australia's national agency for health and welfare statistics and information. For this Programme it developed a Study Roll by integrating contact information from various sources and databases.

**Centre for Traumatic Stress Studies (CTSS).** This centre, at the University of Adelaide, seeks to improve evidence-based practice by developing and applying scientific knowledge in the field of trauma, mental disorder and wellbeing in at-risk populations. The Programme was conducted by a consortium of Australia's leading research institutions, led by the CTSS and the Australian Institute of Family Studies.

**Comorbidity.** The occurrence of more than one disorder at the same time.

**Composite International Diagnostic Interview (CIDI).** The World Mental Health Survey Initiative version of the World Health Organization's Composite International Diagnostic Interview, version 3 (WMH-CIDI 3.0) (Kessler & Ustun, 2004) provides an assessment of mental disorders based on the definitions and criteria of two classification systems – the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) and the World Health Organization International Classification of Diseases, 10th Revision (ICD-10) (World Health Organization, 1994). This instrument was used in phase 2 of the current research Programme.

**Confidence interval (CI).** This measurement gives an estimated range of values that is likely to include an unknown population parameter, the estimated range being calculated from a given set of sample data.

**Department of Veterans' Affairs (DVA).** The department delivers government programs for war veterans and members of the ADF and the Australian Federal Police and their dependants. In 2014 DVA, in collaboration with the Department of Defence, commissioned the Transition and Wellbeing Research Programme, one of the largest and most comprehensive military research projects undertaken in Australia.

**DVA client.** A term used when referring to clients of the Department of Veterans' Affairs for the purpose of analysis. In the construction of the DVA dataset for the Military and Veteran Research Study Roll, DVA created

an indicator of confidence against each veteran with respect to the level of interaction DVA had with them for assessing how confident DVA was about the accuracy of their address. Members of each of the following groups were considered DVA clients:

- *High.* Where a veteran is in receipt of a fortnightly payment (such as income support or a compensation pension) from DVA it was a sign of regular ongoing contact with the client and therefore DVA would have a high level of confidence that their address would be up to date and correct.
- *Medium.* Where a veteran only holds a treatment card (that is, does not also receive an ongoing payment) there is a lower level of ongoing contact with the department and therefore the level of confidence that DVA can assign to the accuracy of the client's address is lower.
- *Low.* Not all veterans who have their illness/injury liability claim accepted as service related by DVA automatically receive a treatment card or pension payment, yet they would still be considered DVA clients. For the purposes of this report, any individual in the study population who met these criteria was flagged as a 'DVA client'. Those with this flag were compared against those without it.

**Ex-service organisation (ESO).** An organisation that provides assistance to current and former ADF members. Services can include welfare support, help with DVA claims, and employment programs and social support.

**Gold Card.** A DVA health card for all conditions. Gold Card holders are entitled to DVA funding for services for all clinically necessary healthcare needs and all health conditions, whether or not they are related to war service. The card holder can be a veteran or the widow/widower or dependant of a veteran. Only the person named on the card is covered.

**Medical Employment Classification (MEC).** An administrative process designed to monitor physical fitness and medical standards in the ADF. MEC was divided into four levels (either current or on discharge from Regular ADF service):

- *MEC 1.* Members who are medically fit for employment in a deployed or seagoing environment without restriction.
- *MEC 2.* Members with medical conditions that require access to various levels of medical support or employment restrictions but who remain medically fit for duty in their occupation in a deployed or seagoing environment. In allocating the sub classification of MEC 2, access to the level of medical support will always take precedence over specified employment restrictions.
- *MEC 3.* Members who are medically unfit for duty in their occupation in a deployed or seagoing environment. A member so classified should be medically managed towards recovery and should be receiving active medical management with the intention of regaining MEC 1 or MEC 2 within 12 months of allocation of MEC 3. After a maximum of 12 months their MEC is reviewed. If still medically unfit for military duties in any operational environment, they are downgraded to MEC 4 or, if appropriate, referred to a MEC Review Board for consideration of an extension to remain MEC 3.
- *MEC 4.* Members who are medically unfit for deployment or seagoing service in the long term but who are classified as MEC 4 for their military occupation will be subject to review and confirmation of their classification by a MEC Review Board.

**Medical fitness.** A status defined as follows:

- *Fit.* Those who are categorised as fully employable and deployable or deployable with restrictions. Participants are classified as 'fit' if they fall into MEC 1 or 2, as just described, or are assigned a perturbed MEC value of 'fit'.

- **Unfit.** Those not fit for deployment in their original occupation and/or further service. This can include those undergoing rehabilitation or transitioning to alternative return-to-work arrangements or in the process of medically separating from the ADF. Participants were classified as 'unfit' if they fell into MEC 3 or 4, as just described, or were assigned a perturbed MEC value of unfit.

**Medical discharge.** The involuntary termination of a client's employment by the ADF on the grounds of permanent or at least long-term unfitness to serve or unfitness for deployment to operational (warlike) service.

**Mental Health Prevalence and Wellbeing Study (MHPWS).** The 2010 MHPWS is part of the Military Health Outcomes Program, the first comprehensive investigation of the mental health of serving ADF members.

**Middle East Area of Operations (MEAO).** Australia's military involvement in Afghanistan and Iraq is often referred to as the Middle East Area of Operations, or MEAO. Thousands of members have deployed to the MEAO since 2001, many of them completing multiple tours of duty. The Transition and Wellbeing Research Programme will seek to build on the Military Health Outcomes Program

**Military Health Outcomes Program (MilHOP).** MilHOP detailed the prevalence of mental disorders among serving ADF members in 2010 as well as deployment-related health factors for those deployed to the Middle East Area of Operations. The Transition and Wellbeing Research Programme aims to redress a number of gaps identified following MilHOP, including the mental health of Reservists, Ex-Serving members and ADF members in high-risk roles, along with the trajectory of disorder and pathways to care for individuals identified with a mental disorder in 2010.

**National Death Index (NDI).** A Commonwealth database that contains records of deaths registered in Australia since 1980. Data come from the Registry of Births, Deaths and Marriages in each jurisdiction, the National Coronial Information System and the Australian Bureau of Statistics. Before participants were contacted, the Study Roll was cross-checked against the NDI to ensure that no approaches to deceased members were made.

**National Health and Medical Research Council (NHMRC).** Australia's peak funding body for medical research. The NHMRC has funded previous investigations carried out by the Centre for Traumatic Stress Studies.

**National Health Survey (NHS).** The 2014–15 National Health Survey is the most recent in a series of Australia-wide ABS health surveys, assessing various aspects of the health of Australians, including long-term health conditions, health risk factors and health service use.

**Pharmaceutical Benefits Scheme (PBS).** The PBS began as a limited scheme in 1948, offering free medicines for pensioners and a list of 139 'life-saving and disease-preventing' medicines free to other members of the community. Today the PBS provides timely, reliable and affordable access to necessary medicines for many Australians. The PBS is part of the Australian Government's broader National Medicines Policy. Data on healthcare use and costs, as well as Pharmaceutical Benefit Scheme and Repatriation Pharmaceutical Benefits Scheme data, were obtained for consenting Serving and Ex-Serving ADF members as part of the current program of research.

**Rank status.** Three levels of rank were used in the Mental Health and Wellbeing Transition Study:

- **Commissioned Officer (OFFR).** Senior Commissioned Officers (Commander (CMDR), Lieutenant Colonel (LTCOL), Wing Commander (WGCDR) and above) and Commissioned Officers (Lieutenant Commander (LCDR), Major (MAJ), Squadron Leader (SQNLDR) and more junior ranks).
- **Non-Commissioned Officer (NCO).** Senior Non-Commissioned Officers (Petty Officer (PO), Sergeant (SGT) and more senior ranks), and Junior Non-Commissioned Officers (Leading Seaman (LS), Corporal (CPL) and more junior ranks).

- *Other Ranks.* Able Seaman (AB), Seaman (SMN), Private (PTE), Leading Aircraftman (LAC), Aircraftman (AC) or equivalent.

**Reason for discharge.** The reason for transitioning out of the ADF. In the Programme, the reason for discharge was derived from responses to the self-report survey and classified accordingly:

- *Medical discharge.* Involuntary termination of the client's employment by the ADF on the grounds of permanent or at least long-term unfitness to serve or unfitness for deployment to operational (warlike) service.
- *Other.* All other types of discharge, including compulsory age retirement, resignation at own request, assessed as unsuitable for further training, end of fixed-period engagement, end of initial enlistment period or return of service obligation, end of limited-tenure appointment, not offered re-engagement, accepted voluntary redundancy, compassionate grounds, and non-voluntary administrative discharge.

**Repatriation Pharmaceutical Benefits Scheme (RPBS).** The benefits listed in the RPBS can be prescribed only for Department of Veterans' Affairs beneficiaries who hold a Gold, White or Orange Card. Data on healthcare use and costs, as well as Pharmaceutical Benefit Scheme and Repatriation Pharmaceutical Benefits Scheme data, were obtained for consenting Serving and Ex-Serving ADF members as part of the current program of research.

**Service status.** The ADF consists of three forces:

- *Royal Australian Navy.* A maritime force that contributes to regional security, supports global interests, shapes the strategic environment and protects national interests.
- *Australian Army.* The military land force, a potent, versatile and modern army that contributes to the security of Australia, protecting its interests and people.
- *Royal Australian Air Force.* An air force that provides immediate and responsive military options across the spectrum of operations as part of a whole-of-government joint or coalition response, either from Australia or in deployment overseas. It does this through its key air power roles – control of the air; precision strikes; intelligence, surveillance and responses; and air mobility – enabled by combat and operational support.

**Military and Veteran Research Study Roll.** Participants' contact details and other demographic information were obtained via the creation of a Military and Veteran Research Study Roll by the Australian Institute of Health and Welfare. This process involved integrating contact information from the following sources:

- Defence Personnel Management Key Solution database
- DVA client databases
- National Death Index
- ComSuper member database
- Military Health Outcomes Program dataset.

**Transitioned ADF/ADF members.** ADF members who have left military service. For the purpose of the current study, this included all ADF members who transitioned from the Regular ADF between January 2010 and December 2014, including those who transitioned into the Active Reserve and the Inactive Reserve.

**Transitioned status.** Transitioned ADF members were categorised into one of three groups, which broadly represented their level of continued association and contact with Defence and their potential access to support services provided by Defence:

- *Ex-Serving.* A person who was a Regular ADF member before 2010, has since transitioned out of the ADF and is no longer engaged with Defence in a Reservist role. The individual is classified as discharged from Defence.
- *Inactive Reservist.* A person who was a Regular ADF member before 2010 but has since transitioned into an Inactive Reservist role.
- *Active Reservist.* A person who was a Regular ADF member before 2010 but has since transitioned to an Active Reservist role.

**Two-phase design.** A well-accepted epidemiological approach to investigating the prevalence of mental disorders. In the first phase, participants completed a screening questionnaire, which was generally economical in terms of time and resources. Based on the results of this screening and the demographic information provided, certain participants were selected for a more accurate but costly formal diagnostic interview.

**Veterans health cards.** DVA, on behalf of the Australian Government, uses health cards as a convenient method for veterans, war widows and their eligible dependants to gain access to health and other care services. Arrangements are based on providing access to clinically appropriate treatment that is evidence based. There are Gold, White and Orange health cards.

**Weighting.** Allowing for the inference of results for an entire population. Weighting involved allocating a representative value, or 'weight', to the data for each respondent, based on key variables. The weight indicated how many individuals in the entire population were represented by each respondent. Weighting was applied to:

- correct for differential non-response
- adjust for any systematic biases in the respondents – for example, oversampling of high scorers for the CIDI.

**White Card.** A DVA health card for specific conditions. A White Card entitles the holder to care and treatment for the following:

- injuries or conditions that are accepted as being caused by war or as service related
- malignant cancer, pulmonary tuberculosis, posttraumatic stress disorder, anxiety and/or depression, whether or not caused by war
- symptoms of unidentifiable conditions that arise within 15 years of service (other than peacetime service). Services covered by a White Card are the same as those covered by a Gold Card but must be for treatment of conditions that are accepted as being caused by war or as service related.

**World Mental Health Survey Initiative Version of the World Health Organization Composite International Diagnostic Interview – version 3 (CIDI).** The CIDI (Kessler & Ustun, 2004) provides an assessment of mental disorders based on the definitions and criteria of two classification systems: the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) and the *International Statistical Classification of Diseases and Related Health Problems, 10th Revision* (ICD-10) (World Health Organization, 1994). This instrument was used in phase 2 of the Programme.

**Years since transition.** To ascertain the number of years since transition from Regular Service, participants were asked to indicate what year they transitioned to Active Reserves, Inactive Reserves or were discharged out of the Service (Ex-Serving). Options included zero, one, two, three, four or five years.

**Years of Regular Service.** The following categories were used in the Mental Health and Wellbeing Transition Study to define the number of years of Regular Service: 3 months – 3.9 years, 4–7.9 years, 8–11.9 years, 12–15.9 years, 16–19.9 years and 20+ years.

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**TRANSITION AND WELLBEING RESEARCH PROGRAMME**

**MENTAL HEALTH AND WELLBEING TRANSITION STUDY**

# Physical Health Status



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## Key findings

This *Physical Health Status Report* is one of the first studies world-wide to investigate a comprehensive range of physical health indicators in recently transitioned military personnel. This report is the third of eight reports and two papers that comprise the Transition and Wellbeing Research Programme (the Programme). The Programme is the most comprehensive study undertaken in Australia on the impact of military service on the mental, physical and social health of serving and ex-serving Australian Defence Force (ADF) members, and their families.

The *Physical Health Status Report*:

- examines the physical health status of Transitioned ADF and 2015 Regular ADF
- provides a comprehensive, high level overview of the physical health and wellbeing of recently Transitioned ADF, as well as a comparison of the Transitioned ADF with 2015 Regular ADF and with the Australian Community
- identifies the key demographic, service- and transition-related factors that may be associated with physical health in Transitioned ADF.

The study samples are the:

- **Transitioned ADF**, comprising all ADF members who transitioned from full-time Regular ADF service between January 2010 and December 2014 and include those who transitioned into the Active Reserves and Inactive Reserves as well as those who had discharged completely from the Regular ADF (Ex-Serving).
- **2015 Regular ADF**, comprising three groups of Regular ADF members who were serving full-time in the ADF in 2015 and who were invited to participate in the study:
  - those who participated in the 2010 Mental Health Prevalence and Wellbeing Study (MHPWS) and remained a Regular ADF member in 2015
  - those who participated in the Middle East Area of Operation (MEAO) Prospective Health Study between 2010 and 2012, and remained a Regular ADF member in 2015, and
  - a stratified random sample of Regular ADF members from 2015 who were not part of the 2010 MHPWS or the MEAO Prospective Health Study. Combined results from these three groups were weighted to represent the entire Regular ADF in 2015.

In addition to comparing the Transitioned ADF and the 2015 Regular ADF, results are also reported according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), Department of Veterans' Affairs (DVA) client status (DVA client, non-DVA client), and medical discharge status (medical discharge, non-medical discharge).

Furthermore, Transitioned ADF are compared with an Australian Community sample, matched by age, sex and employment on three indicators of health: smoking status, doctor-diagnosed asthma and self-perceived health.

Data were collected between 1 June and 31 December 2015. In reading the findings below, references to the '... preceding 12 months ...' refer to the 12 months before the date of participation in the study.

The results from the *Physical Health Status Report* found that, overall, Transitioned ADF were more likely to report poorer physical health, to have increased lifestyle risk factors and report poorer self-perceived health, satisfaction and quality of life than 2015 Regular ADF.

In the Transitioned ADF, poorer physical health outcomes, overall, were reported in DVA clients compared with those who were not DVA clients, in Ex-Serving compared with Active Reservists or Inactive Reservists, and in those who had been medically discharged compared with those who had been discharged for other reasons.

The research found that physical comorbidities and the relationship with psychological health were an important consideration. Physical health status in the transitioning phase may have implications; for example, for general health and wellbeing, reintegration and employment post transition, and in the longer term for later onset of chronic health conditions.

When reading the key findings below, please refer to the glossary for definitions of key terms.

## Demographics

- More than half of Transitioned ADF members remained in the ADF as Reservists (55.8%). Of Transitioned ADF, 25.7% were Active Reservists.
- Approximately 84% of Transitioned ADF members were either working or engaged in some purposeful activity, 62.8% of them being employed. Just over 5.5% of the Transitioned ADF had retired.
- More than 43% of Transitioned ADF members reported accessing DVA-funded treatment through either a DVA White Card (39.4%) or a DVA Gold Card (4.2%).

- Just over one-fifth of Transitioned ADF were estimated to have been medically discharged.
- The most commonly reported reasons for transition were 'impact of service life on family' (10.2%), 'better employment prospects in civilian life' (7.2%), 'mental health problems' (6.5%) and 'physical health problems' (4.3%).
- There were no significant differences in housing stability between Transitioned ADF members and 2015 Regular ADF members. More than 93% were estimated to have been in stable housing in the previous two months.
- Just over 40% of Transitioned ADF members and 36% of 2015 Regular ADF members reported having a diploma or university qualification.
- Twice as many members of the Transitioned ADF were classified as medically unfit compared with 2015 Regular ADF members.

## **Physical health outcomes in Transitioned ADF members compared with 2015 Regular ADF members**

### **Health symptoms**

- Transitioned ADF members reported a higher mean number of symptoms ( $M = 16.4$ ) compared with 2015 Regular ADF members ( $M = 11.8$ ).
- Transitioned ADF were more likely to report the majority of health symptoms compared with 2015 Regular ADF.
- The 10 most common symptoms reported by both groups were fatigue, sleeping difficulties, headaches, feeling unrefreshed after sleep, muscle aches or pains, low back pain, irritable outbursts, joint stiffness, difficulty finding the right word, and ringing in the ears.

### **Self-reported lifetime doctor-diagnosed conditions**

- Overall, Transitioned ADF members ( $M = 1.9$ ) and 2015 Regular ADF members ( $M = 1.5$ ) reported similar numbers of lifetime doctor-diagnosed conditions.
- The five most commonly reported doctor-diagnosed conditions among Transitioned ADF were chronic low back pain (18.5%), hearing loss (15.7%), high cholesterol (12.8%), other musculoskeletal condition (12.2%) and high blood pressure (12.0%).

- The five most commonly reported doctor-diagnosed conditions among 2015 Regular ADF were chronic low back pain (11.7%), other musculoskeletal condition (11.1%), high cholesterol (11.0%), hearing loss (9.1%) and sinus problems (8.2%).
- Compared with 2015 Regular ADF members, Transitioned ADF members were significantly more likely to report a circulatory condition, high blood pressure, a musculoskeletal or connective tissue condition, chronic low back pain, a nervous system condition, and hearing loss.
- The estimated proportions reporting traumatic brain injury among Transitioned ADF members and 2015 Regular ADF members were low, at 1.2% in both groups, and there were no differences in weighted prevalence between the groups.

### **Respiratory health**

- Compared with 2015 Regular ADF members, Transitioned ADF members were significantly more likely to report many respiratory symptoms – for example, shortness of breath and phlegm from the chest during winter.
- Although there was no difference between Transitioned ADF members and 2015 Regular ADF members in the rates of self-reported asthma ever, among those who reported asthma ever, Transitioned ADF were more likely to have had treatment in the preceding year and to have taken asthma medication in the preceding month when compared with the 2015 Regular ADF.

### **Service-related injuries**

- Transitioned ADF members were slightly more likely to have reported any service-related injury compared with 2015 Regular ADF members. Approximately three-quarters of Transitioned ADF and two-thirds of 2015 Regular ADF reported having had a service-related injury.
- Transitioned ADF reported slightly more service-related injury types compared with 2015 Regular ADF.
- The two most common service-related injury types reported by Transitioned ADF and 2015 Regular ADF were musculoskeletal injury (64.3% and 58.6%) and fracture/broken bone (30.0% and 27.9%).
- The most common musculoskeletal injury location for both groups was the knee.
- Overall, the pattern of service-related injury types in Transitioned ADF members and 2015 Regular ADF members was similar. Transitioned ADF were, however, significantly more likely to have reported heat stress, exhaustion or dehydration, or a burn injury compared with the 2015 Regular ADF.

- In general, service-related injuries were more likely to have been sustained during training than on deployment in both Transitioned ADF and 2015 Regular ADF.

#### **Pain intensity and disability**

- The majority of Transitioned ADF members and 2015 Regular ADF members reported experiencing some pain intensity and disability. Only 11.8% of Transitioned ADF and 10.1% of 2015 Regular ADF reported being free of pain.
- Low pain intensity was experienced by 53.2% of Transitioned ADF and 60.9% of 2015 Regular ADF and high pain intensity by 19.7% of Transitioned ADF and 14.1% of 2015 Regular ADF. Transitioned ADF and 2015 Regular ADF were not significantly different in relation to pain intensity and disability groupings.

#### **Insomnia severity**

- Approximately half of Transitioned ADF members (47.3%) and nearly 60% of 2015 Regular ADF members (58.0%) reported no clinically significant insomnia in the preceding two weeks.
- Transitioned ADF were more likely than 2015 Regular ADF to report moderate (16.2% vs 7.9%) and severe (5.6% vs 1.6%) insomnia.

#### **Lifestyle risk factors**

- Nearly half of Transitioned ADF members (45.5%) and 2015 Regular ADF members (49.1%) reported a body mass index in the pre-obese range and around one-quarter of Transitioned ADF (26.8%) and 2015 Regular ADF (27.5%) reported a BMI in the obese range.
- Transitioned ADF were significantly less likely to be physically active at a health-enhancing level compared with 2015 Regular ADF.
- Similar proportions of Transitioned ADF (15.2%) and 2015 Regular ADF (14.1%) were current smokers.

#### **Self-perceived health and quality of life**

- Nearly half of Transitioned ADF (48.7%) and 58.2% of 2015 Regular ADF reported their physical health as good-excellent.
- Transitioned ADF were significantly more likely to perceive their health as fair-poor compared to 2015 Regular ADF (35.0% and 23.7% respectively).
- Transitioned ADF were significantly more likely to report dissatisfaction with their health (40.1%) than 2015 Regular ADF (30.1%).

- Approximately two thirds of Transitioned ADF rated their quality of life as good-very good (62.8%), compared to 72.0% of 2015 Regular ADF. Transitioned ADF were significantly more likely to perceive their quality of life as poor compared to 2015 Regular ADF.
- Transitioned ADF and 2015 Regular ADF showed no differences on self-perceived satisfaction with life.

#### **Health service use**

- In total, 87.1% of Transitioned ADF members reported visiting any health service in the preceding 12 months compared with 90.7% of 2015 Regular ADF members. This difference persisted after controlling for sex, age, rank and Service.
- Transitioned ADF were significantly less likely to report seeing a dentist or dental professional, a dietician/nutritionist, or a specialist doctor in the preceding 12 months compared with 2015 Regular ADF and were significantly more likely to have seen a chiropractor, diabetes educator or osteopath in the preceding 12 months compared with 2015 Regular ADF.
- Transitioned ADF members were significantly less likely to have seen a general practitioner or specialist doctor in the preceding two weeks compared with 2015 Regular ADF.
- The most commonly consulted health professionals or services for both Transitioned ADF and 2015 Regular ADF in the preceding 12 months were GPs (78.9% and 72.4% respectively), dentists or dental professionals (41.6% and 70.2%) and specialist doctors (38% and 47.4%).

### **Physical health outcomes in Transitioned ADF by transition factors (DVA client status, transition status, medical discharge status)**

#### **DVA client status**

- Compared with Transitioned ADF members who were non-DVA clients, Transitioned ADF members who were DVA clients were more likely to report all types of health symptoms, most doctor-diagnosed conditions, high levels of pain intensity and disability compared with no pain, clinical insomnia, all types of respiratory symptoms with the exception of wheeze, nasal allergies and asthma, and a service-related injury.

- In terms of health professionals sought, DVA clients were significantly more likely than non-DVA clients to report having seen a GP, a psychologist, a specialist doctor, an alcohol/drug worker, an audiologist or a dietician/nutritionist in the preceding 12 months and were significantly more likely to report having seen a GP or specialist doctor in the preceding two weeks.
- In relation to lifestyle risk factors, DVA clients were more likely to be categorised as obese compared with non-DVA clients.
- DVA clients were more likely than non-DVA clients to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poor–fair physical health and lower quality of life.

### **Transition status**

- Transitioned ADF members who were Ex-Serving at the time of the survey consistently reported poorer health outcomes compared with Transitioned ADF members who were Active or Inactive Reservists.
- Similar patterns of physical health were observed for Inactive and Active Reservists.
- In relation to doctor-diagnosed conditions, Ex-Serving Transitioned ADF were more likely to report circulatory, musculoskeletal and nervous system conditions compared with Active Reservists and were more likely to report digestive, musculoskeletal and nervous system conditions compared with Inactive Reservists.
- Ex-serving Transitioned ADF were more likely to report a service-related injury compared with Active Reservists and were more likely to report three injury types compared with Inactive Reservists.
- Ex-Serving Transitioned ADF members were more likely to report the majority of respiratory symptoms (but not asthma), high pain intensity and disability, and clinical insomnia compared with Active and Inactive Reservists.
- In terms of lifestyle risk factors, Ex-Serving Transitioned ADF members were more likely to be physically inactive and obese compared with Active Reservists. Furthermore, Ex-Serving ADF were more likely than Active Reservists to be current smokers.
- Ex-Serving Transitioned ADF were more likely to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poorer physical health and lower quality of life compared with Active Reservists and Inactive Reservists.

- In relation to health service use, the proportions of Ex-Serving ADF, Active Reservists and Inactive Reservists who reported visiting any health service in the preceding 12 months were similar.
- Ex-Serving ADF were more likely than both Active Reservists and Inactive Reservists to have visited most types of health professionals or services in the preceding 12 months and to have visited GPs or specialists in the preceding two weeks.

#### **Medical discharge status**

- Transitioned ADF who had been medically discharged were significantly more likely to report all health symptoms (with the exception of skin ulcers) and most doctor-diagnosed conditions, respiratory symptoms (except nasal allergies and asthma), most injury types (except burn injuries), higher pain levels and insomnia than those not medically discharged.
- In terms of lifestyle risk factors, Transitioned ADF who had been medically discharged were more likely to be inactive or minimally active, more likely to be categorised as obese, and more likely to currently smoke than Transitioned ADF who had been discharged on other grounds.
- Transitioned ADF who had been medically discharged were more likely to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poorer physical health and lower quality of life compared with personnel who had been non-medically discharged.
- In relation to health service use, Transitioned ADF who had been medically discharged were significantly more likely to consult a range of health professionals and services in the preceding 12 months compared with Transitioned ADF discharged on non-medical grounds.
- Transitioned ADF who had been medically discharged were significantly more likely to have consulted a GP or specialist doctor in the preceding two weeks compared with Transitioned ADF who had not been medically discharged.

### **Smoking, quality of life and doctor-diagnosed asthma in Transitioned ADF and the Australian Community sample**

- Compared with the Australian Community sample, the proportion of Transitioned ADF members reporting 'current smoking' was significantly lower (21.9% vs 15.2%), reporting being 'former smokers' was significantly higher (28.8% vs 53.9%), and reporting having 'never smoked' was significantly lower (49.2% vs 29.5%).
- Compared with the Australian Community sample, the proportion of Transitioned ADF members who rated their self-perceived health as excellent (19.2% vs 8.9%) or very good (37.5% vs 26.4%) was significantly lower and who rated their self-perceived health as fair (10.1% vs 23.9%) or poor (3.1% vs 11.1%) was significantly higher.
- The proportion of Transitioned ADF who reported doctor-diagnosed asthma was significantly lower compared with the Australian Community sample (Transitioned ADF, 15.3%; Australian Community, 21.9%).



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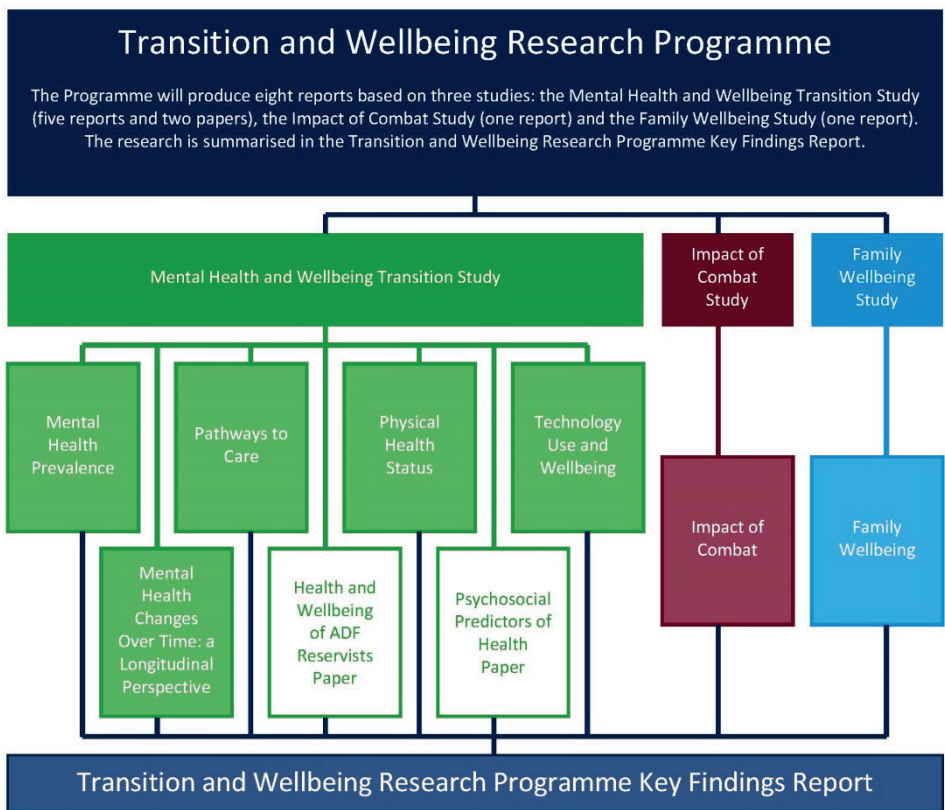
For their assistance in developing the **Military and Veteran Research Study**

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**Other key organisation**

Australia Post

# Transition and Wellbeing Research Programme – an overview



The Transition and Wellbeing Research Programme is the most comprehensive study undertaken in Australia that examines the impact of military service on the mental, physical and social health of:

- serving and ex-serving Australian Defence Force members (including those who have been deployed in contemporary conflicts) and
- their families.

This research further extends and builds on the findings of the world-leading research conducted with current serving members of the ADF in the 2010 Military Health Outcomes Program.

This current research, conducted in 2015, arises from the collaborative partnership between the Department of Veterans' Affairs and the Department of Defence. It aims to implement the Government's goal of ensuring that current and future policy, programs and services are responsive to the current and emerging health and wellbeing needs of serving and ex-serving ADF members and their families before, during and after transition from military life.

Ten objectives were developed to guide the Programme. The objectives are being realised through three studies comprising eight reports: the Mental Health and Wellbeing Transition Study (five reports and two papers), the Impact of Combat Study (one report), the Family Wellbeing Study (one report) and the *Transition and Wellbeing Research Programme Key Findings Report*, which summarises the research, as the diagram above shows. The table below shows which reports deliver on the objectives. This present report, the *Physical Health Status Report*, addresses the fourth objective, which is to examine the physical health status of Transitioned ADF members and the 2015 Regular ADF members.

| Programme objectives   | Corresponding reports and papers  |
|--|---|
| 1. Determine the prevalence of mental disorders among ADF members who have transitioned from Regular ADF service between 2010 and 2014.<br>2. Examine self-reported mental health status of Transitioned ADF and the 2015 Regular ADF. | <i>Mental Health Prevalence Report</i>                                    |
| 3. Assess pathways to care for Transitioned ADF and the 2015 Regular ADF, including those with a probable 30-day mental disorder.  | <i>Pathways to Care Report</i>  |
| 4. Examine the physical health status of Transitioned ADF and the 2015 Regular ADF.  | <i>Physical Health Status Report</i>                                      |
| 5. Investigate technology and its utility for health and mental health programmes including implications for future health service delivery.   | <i>Technology Use and Wellbeing Report</i>                                |
| 6. Conduct predictive modelling of the trajectory of mental health symptoms/disorders of Transitioned ADF and the 2015 Regular ADF, removing the need to rely on estimated rates.  | <i>Mental Health Changes Over Time: a Longitudinal Perspective Report</i> |
| 7. Investigate the mental health and wellbeing of currently serving 2015 Ab initio Reservists.   | <i>The Health and Wellbeing of ADF Reservists Paper</i>                   |
| 8. Examine the factors that contribute to the wellbeing of Transitioned ADF and the 2015 Regular ADF.  | <i>Psychosocial Predictors of Health Paper</i>                            |
| 9. Follow up on the mental, physical and neurocognitive health and wellbeing of participants who deployed to the Middle East Area of Operations between 2010 and 2012.   | <i>Impact of Combat Report</i>  |
| 10. Investigate the impact of ADF service on the health and wellbeing of the families of Transitioned ADF and the 2015 Regular ADF.  | <i>Family Wellbeing Study</i>   |
| All objectives   | <i>Transition and Wellbeing Research Programme Key Findings Report</i>    |

Two eminent Australian research institutions, one specialising in trauma and the other in families, have led the research programme. The Centre for Traumatic Stress Studies at the University of Adelaide is conducting the Mental Health and Wellbeing Transition Study and the Impact of Combat Study, and the Australian Institute of Family Studies is conducting the Family and Wellbeing Study.

Their research expertise is enhanced through partner institutions from Monash University, the University of New South Wales, Phoenix Australia Centre for Posttraumatic Mental Health and, until June 2016, the Young and Well Cooperative Research Centre, the work of which is continued through the University of Sydney.

Through surveys and interviews, the researchers engaged with a range of DVA clients and ADF members including:

- ADF members who transitioned from the Regular ADF between 2010 and 2014 (including Ex-Serving, Active and Inactive Reservists)
- a random sample of Regular ADF members serving in 2015
- a sample of Ab-initio Reservists serving in 2015 (who have never been full-time ADF members)
- 2015 Regular ADF and Transitioned ADF members who participated in MilHOP
- family members nominated by the above.

The Departments of Defence and Veterans' Affairs thank current and ex-serving ADF members and their families who participated in this research for sharing your experiences and insights. Your efforts will help inform and assist the ways you, your colleagues, friends and families, as well as those who come after you, can best be supported during and after a military career.

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# 1 Introduction

## 1.1 Background to this report: physical health in transitioned military personnel

### 1.1.1 The impact of transition from full-time military service

In Australia military service is held in high regard, and it is recognised that it places onerous demands on those who serve. Military service can involve exposure to extreme physical, psychological and mental stressors (Thompson et al., 2015). Some personnel experience physical and psychological injuries as a result of their military service (Tanielian & Jaycox, 2008), which can affect their longer term health and wellbeing (Ikin et al., 2007; Ikin et al., 2009). Nevertheless, military service can be a positive experience for many, helping them build physical and mental resilience as well as providing valuable opportunities to develop skills and knowledge that would otherwise not be accessible in civilian life (KCMHR, 2014).

For a variety of reasons, each year a proportion of service men and women choose to leave or are discharged from military service and need to meet the challenge of re-integrating into civilian life. Many make the transition with relative ease, but others – particularly those who have developed mental and/or physical health conditions – can struggle with the adjustment (Kukla et al., 2015; Pease et al., 2016).

At present about 5000 serving men and women (9 per cent) transition out of the Regular Australian Defence Force each year (Department of Defence, 2016). For example, during the five years from 2010 to 2014 more than 24,000 ADF members discharged completely or transitioned into the Reserves. This represents a significant number of Transitioned ADF members who are in the critical early stages of transition to civilian life and re-integrating into the community. Importantly, these individuals fall into a range of age groups, with those transitioning to retirement representing only a small proportion. Instead, with an average length of military service of 10 years, most ADF members transition with the aim of entering civilian occupations.

Surprisingly, there has been very little systematic research into the mental and physical health and wellbeing of Transitioned ADF members after they leave the ADF. This is despite concern in the ex-serving and broader community and acknowledgment that the transition and re-integration into civilian life is also a significant stressor (Forces in Mind Trust, 2013; Pease et al., 2016). One particular concern, for example, is that those who are discharging have a greater probability of experiencing major injuries and illness compared with those who remain in the ADF. Furthermore, there is a growing

body of evidence showing that the first few years after separating from military service are crucial to the overall wellbeing of transitioned personnel (Pedlar & Thompson, 2016; Shields et al., 2016). Deployment can have longer term impacts on health and wellbeing (Ikin et al., 2007, 2009, 2017), yet the importance of the transition period in relation to this or the longer term impacts of military service more generally is not well researched or understood.

Improving our knowledge of the physical health and wellbeing of ADF personnel who have transitioned from Regular ADF to civilian life, establishing an evidence base and identifying where gaps in knowledge lie are important for future development of policies and services that will support the military workforce both during and after their military career.

### **1.1.2 Defining transition from regular military service**

The deficiency of epidemiological data on health outcomes in transitioning or transitioned military personnel is further complicated by a lack of consensus on the definition of, and the terminology used to describe, the transition process and its length (Ray & Heaslip, 2011). The length of transition has variously been considered to be from up to six months before release from service until five years after release (Pedlar & Thompson, 2016; Shields et al., 2016). The five-year post-service time frame is one relatively consistent feature of ‘early’ transition across studies. Similarly, there is worldwide variation in how ‘service leavers’, ‘veterans’ and ‘ex-serving’ personnel are defined (Hatch et al., 2013). This makes direct comparisons between the research findings of different countries particularly difficult, which in turn impedes understanding of the transition (Shields et al., 2016). For the purpose of the current study, transition across a five-year time frame beginning *after* leaving regular ADF service and not including the peri-transition period was used. The term ‘Transition(ed) ADF’ is used to denote military service leavers.

## **1.2 Physical health of personnel during and after leaving military service**

### **1.2.1 Review of the literature**

The following literature review summarises relevant national and international literature on the physical health of military personnel (including those in transition after leaving military service), epidemiological studies of military and veteran populations, and more specific indicators of health that may inform the study of these populations’ physical health status.

There is a substantial body of research on the health impacts for deployed or specific deployment cohorts from Australia (Gwini et al., 2015, 2016a, 2016b; Ikin et al., 2007; Kelsall et al., 2004a, 2004b; McGuire et al., 2012; McKenzie et al., 2004, 2006; Zheng et

al., 2016) and internationally (Fear et al., 2010; Hoge et al., 2004; Kang et al., 2009). Very few studies, and even fewer longitudinal research studies, have been done to determine the physical health outcomes of recently transitioned military personnel, independent of deployment, or to assess physical health within an entire military population such as through database analysis.

### ***Epidemiological studies of physical health in ADF and veteran personnel***

Ex-serving ADF personnel have been included in several epidemiological health studies (Dobson et al., 2012; Ikin et al., 2009), but this has rarely been in the context of recent transition and the samples were not representative of all personnel transitioning from Regular ADF service during a discreet period. Further, data collection occurred retrospectively at varying periods after deployment. The Australian Korean War Veterans' Health Study, for example, reported poorer quality of life and satisfaction with life in Australian Korean War veterans compared with similarly aged Australian men, but the study was conducted 50 years after deployment (Ikin et al., 2009).

Similarly, the Australian Gulf War Veterans' Follow up Health Study, which followed up Australian 1990–91 Gulf War veterans almost 20 years after the Gulf War and 10 years from the baseline study, found that Gulf War veterans reported poorer health when compared with a military comparison group on several outcome measures (Ikin et al., 2016, 2017; Sim et al., 2015).

Australian Gulf War veterans reported health symptoms, and multisymptom illness based on two definitions, with greater frequency than the comparison group at follow-up, although the pattern of co-occurrence of symptoms reported at follow-up by the two groups was similar, as assessed through factor analysis. Some medical conditions, such as irritable bowel syndrome based on Rome III criteria, were in excess in Gulf War veterans. There was no significant excess of self-reported doctor-diagnosed or -treated musculoskeletal disorders including osteoarthritis, rheumatoid arthritis, other inflammatory arthritis, gout or osteoporosis. The most prevalent musculoskeletal disorder reported was osteoarthritis. Debilitating pain in the preceding six months was highly prevalent in both study groups. Gulf War veterans were significantly more likely than the comparison group to report sleeping difficulties, although overall levels of daytime sleepiness were similar for the two study groups.

At follow-up, a number of respiratory symptoms were reported significantly more frequently by Australian Gulf War veterans than by members of the comparison group; the greatest excess was for morning cough. The differences between the two groups on self-reported doctor-confirmed respiratory medical conditions were not statistically significant, although asthma, chronic bronchitis and emphysema or chronic obstructive pulmonary disease were all reported more frequently by Gulf War veterans.

A little more than one-third of participants in both study groups reported at least one injury in the preceding 12 months that was severe enough to interfere with their daily activities. The groups did not differ in relation to the activity types to which their injuries were attributed. The most frequently reported injuries were to do with sport: one-third of recent injuries were attributed to this.

At follow-up the Gulf War veterans reported poorer self-assessed physical health than the comparison group, and this health difference was very slightly wider than that observed at baseline. General measures of life satisfaction, health satisfaction and overall quality of life were similar in the two study groups. The social health of Gulf War veterans at follow-up was similar to that in the comparison group.

Relative to the comparison group, Gulf War veterans had a significantly increased rate of lodging disability claims with DVA and an increased likelihood of having had at least one claim accepted. They also had an increased rate of DVA hospitalisation, an increased likelihood of having been issued a Gold Card and an increased number of pharmaceutical prescriptions being filled in the preceding 12 months. There was no observable difference, however, in the two study groups' likelihood of having visited general practitioners, several specified medical specialists and allied health professionals.

On the whole, the two study groups were similar when it came to health-related behaviours such as smoking, physical activity and diet, as well as anthropometric measures such as body weight, body mass index and waist circumference. There was a large reduction in tobacco smoking since the baseline study.

The presence of one or more of the disorders of multisymptom illness, of chronic fatigue, 12-month major depression, posttraumatic stress disorder or alcohol use disorder at baseline was associated with substantially poorer general health and wellbeing, greater health service use at follow-up in both study groups, and increased DVA disability claims in the Gulf War veteran group. This is indicative of poorer health outcomes associated with these disorders in the longer term. A further finding was that several Gulf War deployment characteristics and exposures were associated with a number of adverse health outcomes at follow-up in Gulf War veterans.

The Middle East Area of Operations (MEAO) Census Study, a study of more recently deployed Australian personnel, was a retrospective, self-report survey of ADF members who had deployed to the MEAO between 2001 and 2009 (Dobson et al., 2012). General health symptoms, including physical and psychological health symptoms, were assessed using a 67-item questionnaire, and their association with psychological health was examined. Factor analysis was conducted on symptoms reported by participants deployed in Iraq or Afghanistan. The prevalence and pattern of current health symptom reporting was found to be very similar in ADF members

who deployed to Iraq and to Afghanistan. The prevalence of physical and psychological symptoms reported by ADF members deployed to the MEAO was found to be broadly consistent with that reported by Australian and UK veterans deployed in the 1990–91 Gulf War (Kelsall et al., 2004a; Unwin et al., 1999), and there was no evidence of patterns of symptoms specific to MEAO deployments. Deployment to areas within Iraq and Afghanistan (as opposed to providing support from other MEAO locations outside Iraq and Afghanistan) and having a combat role were associated with reporting more physical health symptoms. Furthermore, there was a strong relationship between physical health symptoms and psychological health such as PTSD symptoms (Dobson et al., 2012). This study did not, however, examine the impacts of transition on the physical health of MEAO personnel.

Although the impact of the transition period on the health of ADF veterans was not specifically examined in any of these studies, the studies' findings do show that significant morbidity can exist in an ex-serving population, including in the longer term.

The following summarises other national and international literature on specific aspects of physical health relevant to military personnel who have transitioned out of military service.

### ***General health and the healthy soldier effect***

The impacts of military service on the physical health and wellbeing of military personnel are multiple and complex. Overall, the types of physical health problems experienced by personnel during and after leaving the military may depend on several factors, among them Service (Navy, Army or Air Force), role, deployment status, nature of deployment, exposure to combat, psychological and physical trauma, and environmental hazards. The prevalence of physical health problems reported in the literature may vary according to the military population assessed, differences in assessment protocols and instruments used, deployment status, and the frequency and intensity of combat exposure.

Consideration of the 'healthy worker effect' and the 'healthy soldier effect' may be important for interpreting the findings of studies of military and veteran populations, including the present study. The healthy worker effect describes the finding that employed groups are generally healthier in terms of morbidity and mortality compared with the general population; that is, relatively healthy individuals are more likely to gain employment and to remain in the workforce than people with severe illnesses, chronic conditions and disabilities (Choi, 1992; Pearce et al., 2007).

A similar finding, known as the healthy soldier effect, has been observed in military populations (McLaughlin et al., 2008). Military populations need to meet specific medical and physical recruitment standards and are expected to maintain levels of

fitness, including cardiovascular fitness, while serving and are therefore generally healthier when compared with the general population. Furthermore, for serving defence force members health care can be more accessible and the standard of care higher compared with civilian populations. These factors can contribute to fewer observed health problems in a military group compared with the general population or potentially among transitioned personnel.

The healthy worker effect can have long-term impacts and generally results in lower overall mortality rates compared with the general population – as was observed in the Australian Vietnam Veterans Mortality and Cancer Incidence Studies (Department of Veterans' Affairs & Australian Institute of Health and Welfare, 2006). Vietnam veterans as a group generally had lower mortality compared with the Australian community. There were, however, several diseases for which mortality or incidence were more common among Vietnam veterans; these included neoplasms and diseases of the digestive system, primarily alcoholic liver disease. The healthy worker effect is not considered to affect all causes of mortality or morbidity equally, being smaller for cancer and greater for cardiovascular diseases, diabetes and respiratory diseases. In the Vietnam Veterans Mortality and Cancer Incidence Studies, the National Service study controlled for the healthy worker effect and found that Vietnam veterans experienced higher than expected mortality and cancer incidence compared with those who did not serve in Vietnam (Department of Veterans' Affairs & Australian Institute of Health and Welfare, 2006).

Military employment selectivity and the requirement to maintain levels of fitness for active duty might contribute to deployed veterans and/or veterans of active-duty service having better health than age- and sex-comparable civilian groups (O'Toole et al., 2009). Research into other military groups has examined this. The longer term general health and health risk factors were found to be poorer in Australian Vietnam veterans than in the general Australian population. Of the 67 long-term conditions, the prevalence of 47 was higher and the prevalence of four was lower when compared with the general Australian population. Military and war service characteristics and age were predictors of physical health (O'Toole et al., 2009).

Research among overseas military populations has examined this in relation to markers of general health. For example, a study looking at the mental and physical health of US Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) veterans one year after deployment found that general mental health was poorer but general physical health, as measured by the Physical Component Summary score of the Veterans Rand-12 (VR-12), was comparable to the mean reported in the general US population. The relatively good physical health of OEF and OIF veterans was considered to be partly attributable to their youth and fitness compared with the general population (Eisen et al., 2012). Another study, however, found different results

(Teachman, 2010). The US National Longitudinal Survey in 1979 explored the relationship between active-duty military service and self-reported health measures in participants aged 40 years. The study showed that veterans of reserve duty service and non-veterans (who passed the physical exam for entrance into the military) reported better physical health on the 12-item Short-Form Health Survey (SF-12), whereas active-duty veterans did not. The lower than expected self-reported health of active-duty veterans persisted after adjustment for possible confounding variables such as income, education and marital status and, in a further model, after adjustment for differences in health-related behaviours such as excessive alcohol use, cigarette smoking and body mass index (Teachman, 2010).

### ***General health and health risk behaviours***

Studies examining general health and health risk behaviours of male veterans based on a US national behavioural risk factor surveillance survey showed that US veterans (active duty in the past but not in the preceding 12 months) generally reported poorer health and health risk behaviours than civilians on indicators such as cardiovascular diseases, diabetes, smoking, heavy alcohol consumption, drug use and lack of exercise (Hoerster et al., 2012). Another study, also based on a US national behavioural risk factor surveillance survey, similarly found that female veterans reported poorer general health and had a higher incidence of health risk behaviours, mental health conditions and chronic health conditions than civilian women (Lehavot et al., 2012). Active-duty women, however, tended to report better physical health and less engagement in health risk behaviours compared with veterans and civilian women (Lehavot et al., 2012). In contrast, active-duty men generally tended to report current smoking and heavy alcohol consumption compared with civilians and National Guard and Reserve members (Hoerster et al., 2012). These findings suggest overall that the physical health of currently serving personnel, particularly female personnel, might be better relative to civilians or those who have left service. There have been no similar studies of Australian military personnel.

### ***Weight and physical exercise***

Being overweight or obese and physical inactivity are significant lifestyle risk factors for poorer health outcomes. Excess body fat is associated with numerous health problems, among them type 2 diabetes, coronary heart disease, respiratory disease, gall bladder disease, ischaemic stroke and some cancers. Anthropometric indices – in particular, BMI and waist circumference – are commonly used as measures of body fat (adiposity) (Australian Institute of Health and Welfare, 2002).

A study examining the association of rank, job stress and psychological distress with physical activity levels among personnel of the Brazilian Army showed that, while job stress and rank were associated with higher levels of occupational physical activity, job stress and psychological distress were associated with lower levels of recreational

physical exercise (Martins & Lopes, 2013). In the case of the ADF and Australian civilian populations, the effects of obesity and physical inactivity have not previously been compared.

### ***Pain and smoking and substance use in coping***

Military veterans can suffer persistent complex pain that is not always attributable to known physical disorders. Furthermore, chronic pain and its associated disability and often concurrently experienced psychological distress can significantly undermine adjustment following trauma and therefore make it difficult to implement pain management strategies that would help improve quality of life (Williams & Baird, 2016).

US studies have shown that chronic pain and smoking are prevalent among military veterans (Chapman & Wu, 2015). Results have shown that individuals with chronic pain often report using cigarettes to cope (Chapman & Wu, 2015). Pain might therefore be a barrier to cigarette cessation and abstinence in this population. Because of its physiological effects, smoking cigarettes may also interfere with pain management. In their systematic literature review of 23 studies examining pain and smoking variables among military veterans, Chapman and Wu (2015) showed an interaction between pain and smoking among veteran populations. Whilst studies show an interaction between pain and smoking among veterans, the mechanisms underlying this relationship remain unclear. An increased risk of musculoskeletal injury, decreased pain medication effectiveness, mood regulation and PTSD might be important mechanisms (Chapman & Wu, 2015).

### ***Respiratory health***

Respiratory infections during deployment and exposures that might affect respiratory health have been reported in the literature. In deployments to the Gulf War (1990–1991), Afghanistan and Iraq, personnel could have been exposed to dust or sand storms and chemicals released from the open-air burning of trash (burn pits) and other wastes, all of which have the potential to contribute to the development of health conditions. Despite concerns about the elevated risks of respiratory illnesses among veterans (Karlinsky et al., 2004; Kelsall et al., 2004b), the impact of exposures during deployment on respiratory health after deployment has not been extensively examined.

The occurrence of respiratory tract infections in military personnel has been reported in several epidemiological studies. Researchers have observed an increase in post-deployment respiratory tract infections compared with pre-deployment rates in active duty US service members as well as in participants in contemporary combat operations (Korzeniewski et al., 2015). Soldiers commonly experience respiratory disease, including febrile upper respiratory infections, pneumonia, pharyngitis and bronchitis,

leading to significant morbidity and missed service days (Korzeniewski et al., 2015). The factors contributing to an increase in respiratory infection susceptibility were reported to be the combined effects of heavy work in relation to the individual's physical condition, overexertion, food restriction, and psychological stress on the immune function.

Approximately 40–70 per cent of US soldiers who participated in recent military operations in Iraq and Afghanistan reported to medical treatment facilities as a result of upper respiratory tract infections; this has operational implications (Korzeniewski et al., 2015). Despite some recent reports of an increase in respiratory symptoms and illnesses in military personnel during and following deployment to Iraq and Afghanistan (Baird et al., 2012; Falvo et al., 2015; King et al., 2011; Korzeniewski et al., 2015), a case-crossover study among US military personnel deployed to Southwest Asia reported no statistically significant associations between particulate matter and cardiorespiratory outcomes in deployed military personnel (Abraham & Baird, 2012). In addition, the findings of another study investigating respiratory illnesses and potential open-air burn-pit exposure among Millennium Cohort participants did not support an elevated risk for respiratory outcomes among personnel deployed in proximity to documented burn pits in Iraq or Afghanistan (Smith et al., 2012).

There are limited toxicological, epidemiological or objective clinical data to reliably evaluate the prevalence or severity of the adverse effects associated with inhalational exposures to particulate matter or burn-pit combustion products among deployed military personnel. Most current clinical evidence on the effect of deployment on respiratory health is primarily retrospective in nature, does not have data on specific causative agents or exposures, and is not able to assess the effect in the deployed population as a whole (Morris et al., 2011). To date, there has been no systematic examination of recent health symptoms among ADF personnel. In the baseline Australian Gulf War Veterans' Health Study, Australian Gulf War veterans had a higher than expected prevalence of respiratory symptoms and respiratory conditions suggesting asthma and bronchitis compared with a randomly sampled military comparison group. This was not, however, reflected in poorer lung function (Kelsall et al., 2004b).

### ***Sleep problems***

Sleep complaints are prevalent in military veterans and have been associated with poor psychiatric and physical outcomes. A cross-sectional study examined the relationships between sleep difficulties and behavioural, physiological and psychiatric risk factors for cardiovascular disease in a relatively young sample of current and former US military service members deployed since 2011 (Ulmer et al., 2015). Self-reported sleep difficulties were associated with increased odds of being a current smoker in the entire sample, although the odds of elevated blood pressure, self-

reported hypertension and psychiatric symptoms or diagnosis were dependent on subgroup membership as defined by an interaction of age and race. Other known risk factors for cardiovascular disease, including BMI and diastolic blood pressure, were not associated with self-reported sleep difficulties (Ulmer et al., 2015). Hence, while sleep disturbance is a symptom of a number of psychological disorders, it is an important risk factor to consider in association with physical disorders.

### ***Injuries and quality of life***

There is a need for greater understanding of the impact of combat injuries in veterans, including quality of life outcomes, in order to improve care and treatment and prevent poorer physical, psychological and social outcomes. A Dutch observational cohort study looking at personnel with battle injuries during the period 2006 to 2010 showed long-term impacts on a wide range of scales that contributed to a reduced quality of life (Hoencamp et al., 2015). The Wounded Warrior Recovery Project, a longitudinal study of injured US OEF/OIF soldiers that began in 2014, monitors changes in quality of life and associated risk factors, including sociodemographic factors, injury characteristics, service-related factors, clinical and diagnostic measures (including traumatic brain injury and PTSD) and medical procedures and services. This project is among the first longitudinal population-based investigations of quality of life outcomes after combat injury (Woodruff et al., 2014).

Physical injuries are also common in the training and sporting and recreational environments, musculoskeletal disorders being a major cause of morbidity in ADF personnel. In the Australian Gulf War veteran cohort there was also significant comorbidity between musculoskeletal disorders and psychological disorders (Kelsall et al., 2014). The pattern of physical injuries is thus an important source of morbidity to examine in Transitioned ADF personnel.

### ***Health service use***

The physical health treatment preferences of new cohorts of veterans who differ from earlier veteran cohorts in terms of age, education and use of and comfort with technology are not well understood (Sayer et al., 2010).

It has been shown that US Iraq and Afghanistan combat veterans who already receive Veterans Affairs medical care reported multiple current re-integration problems and wanted services and information to help them re-adjust to community life (Sayer et al., 2010). These concerns were particularly prevalent among those with probable PTSD.

Despite many studies reporting low levels of health service use among returned Iraq and Afghanistan veterans – particularly for mental health problems (Kim et al., 2010) – a recent literature review of DVA health service use among returning Iraq and

Afghanistan US war veterans with PTSD reported an increase in the rate of health service use in recent years (Shiner, 2011).

The rates of help-seeking from medical sources and receipt of treatment are low in UK armed forces personnel, especially in relation to alcohol misuse and depression and anxiety. Personnel show a clear preference for consulting peers, friends and non-medical sources such as chaplains. These results are similar to those reported by military personnel in the United States and similar to rates in the general population (Iversen et al., 2010).

A systematic review of the state of female veterans' health research looked at 195 articles. High rates of positive PTSD symptoms and other mental health disorders were found among OEF/OIF returning military women (Bean-Mayberry et al., 2011). The review uncovered a need for repeated mental health screening, for continuity of care, and for follow-up of psychiatric and gynaecological problems that could have occurred in the field. The literature confirmed the association between military sexual trauma and PTSD and the associated negative health effects. Most female veteran health research has been observational, but a more analytical focus is evolving. Remaining gaps in the literature include post-deployment re-adjustment for veterans and their families and quality-of-care interventions and outcomes for physical and mental conditions (Bean-Mayberry et al., 2011).

The types of healthcare services Transitioned ADF members are using and what they might be needing to negotiate in terms of their health service use at the time of transition are important matters to consider. Health service use can also cast light on how readily, and through which health professionals, evidence-based care can be implemented. This builds on the findings relating to mental health service use from the *Pathways to Care* report.

### ***The association between mental health and physical health problems***

When looking at research into physical health outcomes in ex-serving military populations, the connections between mental and physical health and the comorbidity of mental and physical health should also be considered. It is well documented that the mental health impact of trauma exposure can have 'downstream' effects on physical health, and there is now a substantial body of research demonstrating that repeated exposure to mental trauma over a prolonged period increases the risk of psychological morbidity and related physical symptoms (Krysinska & Lester, 2010; Richardson et al., 2010). In particular, lifetime trauma has been associated with a wide range of chronic physical health conditions, among them arthritis, back and neck pain, frequent or severe headaches, heart disease, high blood pressure, asthma, peptic ulcers, chronic lung disease and stroke (Atwoli et al., 2015; Scott et al., 2013).

The baseline study of Australian Gulf War veterans found that almost one-quarter of veterans and the comparison group reported a musculoskeletal disorder. In cross-sectional analyses, having any or a specific musculoskeletal disorder was associated with depression and PTSD and poorer wellbeing but not alcohol use disorders (Kelsall et al., 2014). Veterans with a history of PTSD had increased odds of reporting hypertension: hypertension was over seven times more likely among veterans with PTSD alone than among those with no mental illness in the preceding 12 months (Abouzeid et al., 2012). A cross-sectional study of a sample of Australian Vietnam veterans recently reported that PTSD in Vietnam veterans was associated with comorbidities across several body systems, including the gastrointestinal, cardiovascular and respiratory systems (McLeay et al., 2017). The data were, however, collected at a single time point only.

International studies of contemporary military populations in the United States and the United Kingdom suggest that the most common mental health problems are PTSD, depression and anxiety, as well as alcohol and substance misuse (Brancu et al., 2011; Fear et al., 2010). Furthermore, several studies have shown that mental health functioning, PTSD and depression seem to be significantly worse among veterans compared with the general population, and alcohol and drug abuse was prevalent among veterans returned from Iraq and Afghanistan (de Silva et al., 2013; Eisen et al., 2012; Seal et al., 2011).

Studies of grief and physical health outcomes in US soldiers returning from combat suggest that physical health and occupational impairment associated with combat are considerable and that grief uniquely contributes to these outcomes (Toblin et al., 2012).

Furthermore, having a physical impairment could also result in an increased likelihood of having mental health problems. A recent systematic review of ex-military personnel with physical impairments showed an association between having a permanent, predominantly physical, impairment and mental health problems (Stevellink et al., 2015). Consistent with this, a cross-sectional study also demonstrated a significant association between multiple physical symptoms and PTSD, as well as other psychological comorbidities (de Silva et al., 2013). It is therefore important to assess the physical health of Transitioned ADF members and consider it in the context of the significant psychological morbidity identified.

It has been suggested that longer deployments and a 'mismatch' between actual and expected deployment lengths can increase the likelihood of physical health problems in military personnel who deploy to war zones. A systematic review highlighted the deleterious effects of deploying for a longer-than-expected period on the health and wellbeing of personnel. Furthermore, the review found that the risk of adverse physical

and mental health effects increased as deployment length increased (Buckman et al., 2011). Similarly, another study of deployed Iraq and Afghanistan Army personnel found that longer deployment lengths increased the likelihood of substance use and a diagnosis of major depression (Shen et al., 2012). This problem pertaining to the extension of deployments is not, however, significant for the majority of ADF personnel.

These research findings illustrate that the psychological and physical effects of combat exposure and repeated deployments, comorbidities and longitudinal effects are important background factors to consider in the interpretation of physical health results. It is, however, beyond the scope of this report to explore these more complex interactions.

### ***Transitioning from the ADF***

Several factors that relate broadly to discharge and transitioning from the ADF might also be important in the interpretation of physical health status among Transitioned ADF members. The reason for discharge can be medical and/or non-medical. Transitioned ADF members can discharge from the ADF or maintain a continued association with Defence through the Reserves, as an Active or Inactive Reservist. This discharge status broadly represents different levels of continued association and contact with Defence, as well as individuals' potential access to support services provided in Defence.

Access to health care has many facets, including a transition phase from the care provided within the ADF to a more complex system for the veteran to negotiate. Transitioned ADF members might not contact DVA or become clients of DVA, or they might do so many years after discharge. Transitioned ADF personnel may submit illness or injury claims to DVA under the *Veterans' Entitlement Act 1986*, the *Safety, Rehabilitation and Compensation Act 1988* and the *Military Rehabilitation and Compensation Act 2004*. Not all veterans who have their illness or injury liability claim accepted as service related by DVA automatically receive a treatment card or benefits, although they would still be considered DVA clients. Transitioned ADF members can also access health care through a combination of the general Australian public and the private healthcare system.

The subgroupings considered relevant to the present study and their definitions are included in Chapter 2 under 'Transitioned ADF subgroups' and defined in the glossary.

### **1.3 Background literature in the context of the current report**

This report broadly assesses the physical health of transitioning ADF members. Such information is of crucial importance to informing systems of care and programs to assist individuals at this important crossroad in their lives. The challenge from the currently published literature in relation to framing a study of transitioning personnel is that there has been a substantial focus on deployed populations or on veterans compared with non-deployed comparison groups and on the risks of deployment in particular geographic locations. Each conflict brings with it medical, chemical and environmental exposures, as well as stressful military experiences that can affect physical health. This is above and beyond the injuries and deaths that might occur in the deployed environment and that must be accommodated in rehabilitation and transition programs. Recognition of the importance of mental health in recent cohorts of veterans also highlights the importance of understanding the way in which physical and psychological health interact in terms of shared mechanisms of disease and also where adverse physical health outcomes could represent a potentially significant psychological cost for the individual's adaptation.

The current program of research, in assessing the physical health of Transitioned ADF personnel and 2015 Regular ADF members and through the wider Transition and Wellbeing Research Programme, builds on and extends the research done to date in relation to serving and ex-serving ADF personnel. It is necessary to better understand the physical health status of a representative population of Transitioned ADF personnel and compare this with a representative sample of Regular Serving ADF personnel.

There is also emerging recognition of the co-relationship between physical and psychological health in military and veteran populations and the potential for impacts on the burden of disease as a result of chronic conditions. Comorbidity refers to the occurrence of more than one condition or disorder at the same time. Comorbidity of a physical and psychological disorder occurred in about one in nine Australians aged 16–85 years in 2007, and having multiple disorders (as opposed to a single disorder) was associated with greater disability and use of health services (Australian Institute of Health and Welfare, 2012). The co-relationship between physical and psychological health is particularly important as ADF and Transitioned ADF personnel age and become more likely to develop multiple morbidities. Age at transition and comorbidities are factors that can have an impact on physical health at discharge or during transition and the need for health services. Risk factors for chronic diseases such as hypertension and the incidence of chronic conditions such as cardiovascular disease and musculoskeletal disorders such as arthritis become increasingly important with age.

Thus far, very little is known about the physical health and wellbeing of ADF members who have transitioned from Regular ADF service to civilian life. Identifying the available evidence and mapping where the gaps lie is critical to the development of policies for the future that will support the military workforce and transitioned personnel.

The physical health and morbidity patterns among non-deployed personnel have received relatively little attention other than in particular scenarios such as the Royal Australian Air Force Deseal/Reseal program, which involved specific occupational exposures. Major peacetime disasters, such as the HMAS *Melbourne* collision with HMAS *Voyager* and the Black Hawk helicopter disaster, have also provoked particular interest and investigation. In general, however, non-deployed personnel are considered under the broad spectrum of the occupational and environmental medicine literature. What has not been mapped systematically are the rates of training accidents and their long-term impacts on physical health outcomes. The health of non-deployed personnel has attracted less attention to date because long-term disabilities and illnesses are not subject to the same entitlements as those coming within the *Veterans' Entitlements Act 1986* and the Statements of Principles, which are used by DVA to establish a connection between service and the condition/s claimed. Hence, mapping the health of the population transitioning from the ADF between 2010 and 2014 who may have deployed or been non-deployed ADF personnel offers a unique opportunity to better understand the range of reasons for leaving the ADF and the associated health difficulties experienced by those leaving.

Although the literature reviewed considers the relationship between physical and psychiatric disorders, this report does not specifically investigate the interactions and the patterns of morbidity. Equally, the consequences of health-related risk factors (such as weight, physical activity and substance use) and their role as predictors of morbidity are not considered here. Non-specific aspects of general health that can also be indicative of psychiatric disorders (such as non-specific symptomatic complaints and sleep disturbance) are, however, documented. This report examines the prevalence and significance of these phenomena in the Transitioned ADF population, rather than investigating their causes and associations.

In summary, this report assesses several physical health outcomes, including some aspects of general health that can also relate to psychological health and that have previously been found to be of importance in deployed and non-deployed military and veteran populations in Australia and internationally. The report does not discuss comorbidity and risk factor modelling. It examines the physical health profiles of Transitioned ADF and Regular ADF members and looks at different groups within the Transitioned population, so that these can be considered in the context of the health of those who continue to serve in the ADF as well as the general Australian population. A better understanding of the physical health of transitioned ADF personnel and

regular ADF personnel is important for preventive care and multidisciplinary approaches to the management of physical health and comorbidities and in order to benefit and better advise serving personnel, veterans and their families, clinicians, policy makers and service providers.

## **1.4 Physical health in Transitioned ADF members and 2015 Regular ADF members**

### **1.4.1 The current study**

The primary objective of this current study is to examine the physical health status of Transitioned ADF (those members who transitioned from regular ADF service between 2010 and 2014) and 2015 Regular ADF (regular ADF members who were serving in 2015) in the following key areas:

- self-reported health symptoms
- self-reported doctor-diagnosed medical conditions
- respiratory health
- injuries
- pain
- sleep problems
- lifestyle risk factors – body mass index, physical activity, smoking
- self-perceived health and quality of life
- health service use. (This is limited to service items from the survey and does not specifically examine current DVA programs.)

Since a key goal of the study is to inform service delivery, physical health status among the Transitioned ADF members was also examined in relation to following factors:

- Transition status
  - *Ex-Serving*. An individual who was a Regular (full-time) ADF member before 2010, who transitioned from the Regular ADF between 2010 and 2014 and who no longer remains engaged with Defence in a Reservist role. These individuals are classified as discharged from Defence. Discharge can have occurred for medical or administrative reasons or the member might have reached compulsory retirement age.

- *Active Reservist*. An individual who was a Regular ADF member before 2010 but has now transitioned into an Active Reservist position. Active Reservists are required to complete a minimum number of service days each year.
- *Inactive Reservist*. An individual who was a Regular ADF member before 2010 but has now transitioned into the Inactive Reserves. These individuals represent a latent capability that Service Chiefs can call upon as required to provide voluntary service. Defence can call on them to perform a specific task.
- *DVA client status*. This distinguishes DVA clients from non-DVA clients (as taken from an indicator on the Military and Veteran Research Study Roll). DVA clients are those receiving a fortnightly payment, treatment card holders, and those who have had their illness or injury liability claim accepted as service-related.
- *Type of discharge*. This refers to a medical discharge (an involuntary termination of the client's employment by the ADF on the grounds of permanent or at least long-term unfitness to serve or unfitness for deployment to operational (warlike service) or a non-medical discharge.

These transition factors were chosen following extensive consultation with DVA and Defence on the types of factors hypothesised to moderate or predict physical health status among Transitioned ADF members.

This study also compares selected risk factors and physical health outcomes – smoking status, self-reported asthma and quality of life – for Transitioned ADF members with those applying to an Australian community sample.

## 1.5 Aims, objectives and research questions

### 1.5.1 Aims

The primary aims of the *Physical Health Status* report within the Transition and Wellbeing Research Programme's Mental Health and Wellbeing Transition Study were to:

- examine the physical health status of regular ADF members in 2015 and of ADF members who transitioned out of full-time regular service in the five years between January 2010 and December 2014
- explore a range of potential demographic, service-related and transition-related predictors of physical health outcomes among Transitioned ADF members
- compare the physical health and wellbeing of Transitioned ADF members with that of the 2015 Regular ADF members

- compare the physical health and wellbeing of Transitioned ADF members with that of a comparable Australian community sample on several health indicators
- compare the physical health and wellbeing of Transitioned ADF members according to transition status (Ex-Serving, Active Reservist, Inactive Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge).

### 1.5.2 Objectives

The report therefore examines the physical health status of Transitioned ADF members and the 2015 Regular ADF members. It provides a comprehensive, high-level overview of the physical health and wellbeing of Transitioned ADF members, as well as a comparison of these members with other key groups of interest – the 2015 Regular ADF members and the Australian community. It identifies the key demographic, service and transition factors that might be associated with physical health among the Transitioned ADF members, thereby also providing a framework for further detailed analysis. It also highlights the priority areas for further DVA and ADF policy and research attention.

### 1.5.3 Research questions

This report addresses the following research questions:

1. What is the socio-demographic profile of Transitioned ADF members and is it different from that of 2015 Regular ADF members?
2. Do Transitioned ADF have an increased reporting of general health symptoms compared with 2015 Regular ADF members?
3. Do Transitioned ADF members have an increased reporting of doctor-diagnosed medical conditions compared with 2015 Regular ADF members?
4. Do Transitioned ADF members report more respiratory symptoms and respiratory conditions than 2015 Regular ADF members?
5. Have Transitioned ADF members experienced more injuries or a different pattern of injuries that required time off work during their military career than 2015 Regular ADF members?
6. Have Transitioned ADF members experienced greater pain intensity and disability over the past 6 months than 2015 Regular ADF members?
7. Do Transitioned ADF members have poorer sleep patterns, including current prevalence of sleep problems, than 2015 Regular ADF members?
8. Are Transitioned ADF members more often categorised with lifestyle risk factors (body mass index, physical activity, smoking) than 2015 Regular ADF members?

9. Do Transitioned ADF members have poorer self-perceived health, satisfaction with health, quality of life, satisfaction with life and self-reported physical health over the past year compared with 2015 Regular ADF members?
10. Is the self-reported use of health services greater in Transitioned ADF members compared with 2015 Regular ADF members?
11. Does the physical health status of Transitioned ADF members differ by DVA client status (DVA client, non-DVA client), by transition status (Ex-Serving, Inactive Reservist, Active Reservist) and by medical discharge status (medical discharge, non-medical discharge)?
12. Do Transitioned ADF members have lower reporting of smoking and asthma and better quality of life than a comparable Australian community sample?

## 1.6 How to interpret and discuss the findings in this report

### Weighted prevalence estimates

- Where the report talks about prevalence estimates, it is referring to the *estimated* prevalence of a particular outcome within the entire population or subpopulation. It is important to understand that these are estimates. The estimates represent the proportion of cases we would predict to observe in the total population, based on the proportion of actual cases detected in the subpopulation who completed the outcome measure.
- When considering prevalence estimates, estimated proportions are more informative than estimated numbers.
- While the results in this report were weighted to represent the total population, this weighting was performed on the basis of four key variables – sex, rank, Service (Navy, Army or Air Force) and medical fitness. This assumes a general consistency across individuals with each combination of these characteristics (strata) and does not account for individual differences or other factors that could influence the outcomes of interest.
- The relatively low response rates observed in the study mean that the weighted estimates presented might have a lower level of accuracy, with estimates more highly dependent on the characteristics used for weighting.
- Estimates for subpopulations (strata) with higher response rates more accurately represent those subpopulations than estimates for subpopulations with lower response rates.
- The subpopulations (strata) used for weighting in this report are shown in Tables C.1, C.2 and C.3. These tables show how many individuals within the population each responder represents for each stratum. The higher this number, the more caution should be applied in interpreting the associated estimates.

- Where an outcome is relatively rare and is detected at a high prevalence in individuals who share characteristics with a large proportion of the population (such as Other Ranks), the estimated proportion of the entire population predicted to have achieved that outcome should be greater than the proportion of cases detected.
- Where an outcome is relatively common and is detected at a high rate in those who share characteristics with a small proportion of the population, the estimated proportion of the total population predicted to have achieved that outcome should be lower than the proportion of cases detected.
- To interpret the precision or imprecision of a given estimate, readers might consider additional information supplied with the estimates, such as confidence intervals.

### **Confidence intervals**

Confidence intervals represent the possible range of values within which the presented estimate falls. Where the value of interest is a prevalence estimate, confidence intervals show the range of error in the estimate. In general, confidence intervals that are very close to the estimate value indicate that the estimate is more precise, while very wide confidence intervals suggest that the estimate is imprecise. Where there are wide confidence intervals, associated estimates should be interpreted cautiously.

### **Standard errors**

Like confidence intervals, standard errors indicate the range of error in an average score.

### **Between-group comparisons**

When comparing prevalence estimates between groups, the overlap in confidence intervals provides an indication of between-group differences. Where there is significant overlap, any apparent difference in estimates is more likely to reflect an error in measurement or estimate. In general, the smaller the subpopulation of interest the greater the error, so where a stratification variable has a very small number in some categories, estimates are likely to have large associated confidence intervals or standard errors.

### **Odds ratios**

When estimating the prevalence of a particular health outcome, there could be differences in the prevalence rates between two groups (for example, between 2015 Regular ADF and Transitioned ADF). This could be due to differences in extraneous factors other than transition status – such as sex, age, Service or rank – across the comparison groups, particularly if these other factors are associated with the health outcome. If this is true, these factors may inadvertently influence the results, resulting in a spurious association between the comparison group (for example, transition status) and the outcome. One way to address this is to employ a logistic regression model that controls (adjusts) for these factors. The statistical output from a logistic regression model is an odds ratio (OR), which denotes the odds of a particular group (such as Transitioned ADF) having a particular health outcome compared with a reference group (such as 2015 Regular ADF).

An OR greater than 1 indicates increased odds of having the outcome compared with the reference group, whereas an OR less than 1 suggests less likelihood of having the particular health outcome compared with the reference group. For example, an OR of 1.7 for Transitioned ADF members (compared with 2015 Regular ADF) suggests that the Transitioned ADF members have 70% increased odds of having that particular health outcome. Conversely, an OR of 0.70 suggests that the Transitioned ADF members are 30% less likely to have the particular health outcome compared with the 2015 Regular ADF. When an OR is greater than 2, we can then say that the Transitioned ADF are twice as likely to have the particular health outcome compared with the 2015 Regular ADF. Similarly, if the OR is greater than 3 they would be three times as likely to have the particular health outcome, and so forth.

### **Last 12 months**

Where references in text are made to the 'last 12 months', this refers to the 12 months preceding the date of participation in the study, with all data collection undertaken between 1 June 2015 and 15 December 2015.

### **Significance**

Where the text describes a between-group difference as significant, this means that the difference between groups was statistically tested then adjusted for sex, age and Service, and there was no overlap in the associated confidence intervals between groups.

### **Further caveats**

Further caveats to be considered when reading and discussing the findings from this study are as follows:

- The overall response rate for the study was low, particularly among Transitioned ADF members. While respondent data were able to be statistically weighted up to the total population, the lower the number of respondents, the less accurate the resulting weighted population estimates are likely to be.
- Response rate data show some subpopulations had substantially lower response rates, which affects the accuracy of associated estimates. In particular, among the ranks Officers and Non-Commissioned Officers were over-represented among respondents, while Other Ranks were highly under-represented, despite accounting for the largest proportion of the total population. As a result, any estimates, when stratified by rank, should be interpreted with a degree of caution.
- A large proportion of this study relates to self-reported measures, which are subject to potential biases, including recall bias (systematic error caused by differences in the accuracy of the recollections retrieved by study participants regarding experiences from the past).
- Cell sizes equal to or less than 5 are suppressed in tables in order to preserve the anonymity of participants.

Refer to the glossary for definitions of key terms used in the report.



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## 2 Methodology

### Study design

- In phase 1 of the Mental Health and Wellbeing Transition Study, participants were surveyed for physical health problems using a 60-minute self-report questionnaire. The questionnaire also included questions on demographics, Service and deployment history, and psychological health.

### Study populations

- The Transitioned ADF population comprised 24,932 ADF members who transitioned from the Regular ADF between 2010 and 2014; this includes Active and Inactive Reservists and Ex-Serving ADF members.
- The 2015 Regular ADF population comprised the entire Regular serving ADF population in 2015 (n = 52,500).
- One population comparison group was used – the Australian community (2014–2015). Socio-demographically matched data were drawn from 2014–2015 Australian Bureau of Statistics National Health Survey.

### Survey completion rate

- Of those invited, 18% (n = 4326) of the Transitioned ADF population and 42.3% (n = 8480) of the 2015 Regular ADF population completed the survey.

### Weighting

- All survey data for the Transitioned ADF population were weighted using distinct strata for sex, Service, rank and medical fitness.
- All survey data for the 2015 Regular ADF population were weighted using distinct strata for sex, Service, rank, medical fitness, and whether the individual completed a study as part of MilHOP (the Military Health Outcomes Program).

### Analyses

- All analyses were conducted in Stata version 13.1 or SAS version 9.2 and used weighted estimates of totals, means and proportions.
- All regressions included the covariates for age, sex, Service and rank.

Refer to the glossary for definitions of key terms used in this section.

## 2.1 Study design

In phase 1 of the Mental Health and Wellbeing Transition Study, Transitioned ADF members and 2015 Regular ADF members were assessed for mental health problems, psychological distress, physical health problems, wellbeing factors, pathways to care and occupational exposures. This assessment was conducted using a 60-minute self-report questionnaire, which participants completed either online or in hard copy. Each participating sample received a slightly different questionnaire relevant to their current ADF status – Transitioned ADF member, 2015 Regular ADF member or Ab-initio Reservist – and in relation to demographics and Service and deployment history. The core validated measures of psychological and physical health remained the same, however, and replicated where possible the measures previously administered as part of the 2010 ADF Mental Health Prevalence and Wellbeing Study. This component of the design is crucial to the longitudinal comparisons over time and highlights the importance of a consistent approach to overseeing research design for military and veteran populations over time.

Section 2.6 provides details of the self-reporting survey measures used.

## 2.2 Samples

This report uses two of the Transition and Wellbeing Research Programme's six overlapping samples. (A detailed description of all six samples used in the broader Programme is provided in Annex A).

- *Sample 1, Transitioned ADF.* This sample comprised all ADF members who transitioned from the Regular ADF between 2010 and 2014 and included those who transitioned into the Active Reserves and Inactive Reserves as well as those who were discharged completely from the Regular ADF (Ex-Serving members).
- *Sample 2, 2015 Regular.* This sample comprised three separate groups of Regular ADF members in 2015 – those who participated in the 2010 Mental Health Prevalence and Wellbeing Study and remained a Regular ADF member in 2015; those who participated in the Middle East Area of Operations Prospective Health Study between 2010 and 2012 and remained a Regular ADF member in 2015; and a stratified random sample of Regular ADF members from 2015 who were not part of the 2010 MHPWS or the MEAO Prospective Health Study. Combined results from these three groups were weighted to represent the entire Regular ADF in 2015.

Of the Transitioned ADF population of 24,932, 96% (23,974) were invited to participate. Those not invited were individuals who might have opted out of the study or did not have any usable contact information. Thirty-eight per cent (20,031) of the total 2015 Regular ADF population (52,500) were invited to participate.

The samples were taken from a Military and Veteran Research Study Roll generated specifically for this Programme and were held at the Australian Institute of Health and Welfare. The Study Roll was generated from Defence personnel data, DVA contact data and ComSuper contact details and was cross-referenced against the National Death Index. For all individuals in the Transitioned ADF and the 2015 Regular ADF populations, basic demographic characteristics used for weighting were held by the AIHW until the conclusion of data collection, at which time the information was provided to the researchers in an identified or de-identified form, depending on participation and consent status.

### **2.2.1 Population comparison samples**

Although there are acknowledged limitations in comparing military groups with the general population, to enable comparison of estimates for the Transitioned ADF with an Australian community population, direct standardisation was applied to estimates in the 2014–2015 ABS National Health Survey data. The NHS is the most recent in a series of Australia-wide ABS health surveys, assessing various aspects of the health of Australians, including long-term health conditions, health risk factors and health service use. The NHS data were restricted to those aged 18–71 years (consistent with the Transitioned ADF). These data were standardised by sex, employment status (employed or not) and age category (18–27, 28–37, 38–47, 48–57 and 58+) and estimates were generated on the outcomes of interest. Standard errors for the NHS data were estimated using the replication weights provided in the NHS data file. Significant differences were determined by calculating the confidence intervals on the difference in proportions, and if these included unity they were not significant.

### **2.2.2 Transitioned ADF subgroups**

Transitioned ADF members were grouped into three subgroups: by DVA client status (DVA client, non-DVA client), by transition status (Ex-Serving, Inactive Reservist, Active Reservist) and by medical discharge status (medical discharge, non-medical discharge) (see glossary for definitions).

The transition status groups broadly represented participants' level of continued association and contact with Defence, as well as their potential access to support services provided in Defence. Ex-Serving members were those who had completely discharged from the ADF. Inactive Reservists were individuals who were classified as a Reservist but had had no ongoing, regular engagement with the ADF. Active Reservists were those who regularly parade or do reserve work and are therefore still actively

engaged with the ADF. The comparison between Ex-Serving members and Active Reservists was considered to represent the most marked comparison between ongoing contact with Defence as well as potential access to support services provided in Defence.

DVA clients, by definition in this study, require assistance and/or are seeking compensation for an injury linked to service, either physical or psychological. This covers being in receipt of a fortnightly payment (such as income support or a compensation pension), holding a treatment card, or having had their illness/injury liability claim accepted as service related by DVA but not automatically receiving a treatment card or pension payment.

## 2.3 Response rates

„Of the Transitioned ADF population of 24,932, 96% (23,974) were invited to participate. Those not invited represented individuals who might have opted out of the study or did not have any usable contact information. Thirty-eight per cent (20,031) of the 2015 Regular ADF population (52,500) were invited to participate. The sample of 2015 Regular ADF invited to participate included a stratified random sample of 5040 full-time members in 2015, as well as those who had participated in the Military Health Outcomes Program between 2010 and 2012 and who were still serving in 2015. Of those invited, 18% (n = 4,326) of the Transitioned ADF population and 42.3% (n = 8,480) of the 2015 ADF population completed the survey.

In addition to the substantially lower response rates overall among Transitioned ADF members compared with 2015 Regular ADF members, there were a number of subgroup differences. Female Transitioned ADF members were significantly more likely to respond to the survey than male Transitioned ADF members. In the 2015 Regular ADF population, female members were less likely to respond to the survey than male members. The Transitioned ADF population had significantly lower response rates for Officers and Non-Commissioned Officers but significantly higher response rates for Other Ranks compared with the 2015 Regular ADF. In both groups the lower ranks were the poorest responders. When response rates in the different Services were compared, Transitioned Air Force members were most likely to respond, whereas Transitioned Navy and Transitioned Army members were least likely to respond. Among the 2015 Regular ADF, Army had the highest response rate, at 43.4%. Finally, Transitioned ADF members who were classified as unfit had a response rate of 20.9%; this compares with 46.5% in the 2015 Regular ADF population.

Table 2.1 shows survey response rates for Transitioned ADF and 2015 Regular ADF. Figure 2.1 summarises the breakdown of Transitioned ADF and 2015 Regular ADF

members who provided enough data to be included in the survey. Table 2.2 shows the unweighted demographic characteristics of the respondents.

The characteristics of survey respondents can be summarised thus.

*Age.* Transitioned ADF survey respondents (mean age 41.9 (SE 0.1)) were of a similar age to the 2015 Regular ADF respondents (mean age 41.1 (SE 0.1)).

*Sex.* Consistent with the Transitioned ADF population, the sample was predominantly male, with transitioned females significantly more likely to respond than transitioned males. In the 2015 Regular ADF females were less likely than males to respond.

*Rank.* Survey respondents from the Transitioned ADF comprised 29.1% Officers, 48.5% Non-Commissioned Officers and 22.4% Other Ranks. In the 2015 Regular ADF there was a similar distribution – 41.7% Officers, 51.1% Non-Commissioned Officers and 7.2% Other Ranks. The Transitioned ADF population had significantly lower response rates for Officers and Non-Commissioned Officers but significantly higher response rates in Other Ranks compared with the 2015 Regular ADF. In both groups the lower ranks were the poorest respondents.

*Service.* In the Transitioned ADF 19.9% of survey respondents were Navy, 56.9% were Army and 23.1% were Air Force. For the 2015 Regular ADF, however, 34.7% of survey respondents were Navy, 41.3% were Army and 24.1% were Air Force. When response rates in the different Services were compared Transitioned Air Force members were most likely to respond, whereas Transitioned Army and Navy members were least likely to respond. In the 2015 Regular ADF, Army had the highest response rate, at 41.3%.

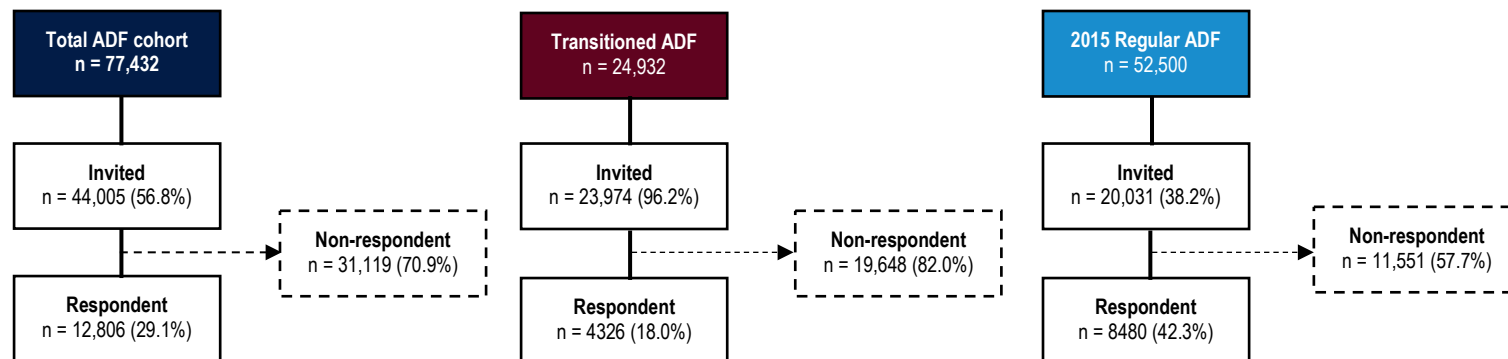
*Medical fitness.* Not surprisingly, Transitioned ADF were significantly more likely to be unfit on transition from the Regular ADF (31.1%) compared with the 2015 Regular ADF population (16.1%). Transitioned ADF who were unfit had a response rate of 20.9% compared with 46.5% in the 2015 Regular ADF.

**Table 2.1 Survey response rates, Transitioned ADF and 2015 Regular ADF**

|                 | Transitioned ADF<br>n = 24,932 |         |             |                   | 2015 Regular ADF<br>n = 52,500 |         |             |                   |
|-----------------|--------------------------------|---------|-------------|-------------------|--------------------------------|---------|-------------|-------------------|
|                 | Population                     | Invited | Respondents | Response rate (%) | Population                     | Invited | Respondents | Response rate (%) |
| Service         |                                |         |             |                   |                                |         |             |                   |
| Navy            | 5671                           | 5495    | 863         | 15.7              | 13,282                         | 5113    | 2040        | 39.9              |
| Army            | 15,038                         | 14,465  | 2463        | 17.0              | 25,798                         | 8067    | 3500        | 43.4              |
| Air Force       | 4223                           | 4014    | 1000        | 24.9              | 13,420                         | 6851    | 2940        | 42.9              |
| Sex             |                                |         |             |                   |                                |         |             |                   |
| Male            | 21,671                         | 20,713  | 3646        | 17.6              | 47,645                         | 15,176  | 6693        | 44.1              |
| Female          | 3261                           | 3261    | 380         | 20.9              | 4855                           | 4855    | 1787        | 36.8              |
| Rank            |                                |         |             |                   |                                |         |             |                   |
| OFFR            | 4063                           | 3939    | 1259        | 32.0              | 13,444                         | 7847    | 3538        | 45.1              |
| NCO             | 7866                           | 7393    | 2097        | 28.4              | 17,491                         | 9117    | 4336        | 47.6              |
| Other Ranks     | 13,003                         | 12,642  | 970         | 7.7               | 21,565                         | 3067    | 606         | 19.7              |
| Medical fitness |                                |         |             |                   |                                |         |             |                   |
| Fit             | 18,273                         | 17,525  | 2981        | 17.0              | 46,022                         | 17,097  | 7116        | 41.6              |
| Unfit           | 6659                           | 6449    | 1345        | 20.9              | 6478                           | 2934    | 1364        | 46.5              |
| Total           | 24,932                         | 23,974  | 4326        | 18.0              | 52,500                         | 20,031  | 8480        | 42.3              |

Notes: Unweighted data. Response rates presented are calculated as the proportion of those invited to participate in the study. OFFR = Officer, NCO = Non-Commissioned Officer.

**Figure 2.1** Survey response rates, Transitioned ADF and 2015 Regular ADF



**Table 2.2 Unweighted demographic characteristics of respondents, Transitioned ADF and 2015 Regular ADF**

|                 | Transitioned ADF<br>n = 4326 |      |              | 2015 Regular ADF<br>n = 8480 |      |              |
|-----------------|------------------------------|------|--------------|------------------------------|------|--------------|
|                 | n                            | %    | 95% CI       | n                            | %    | 95% CI       |
| Age (M, SE)     | 41.9                         | 0.2  |              | 41.1                         | 0.1  |              |
| Age group       |                              |      |              |                              |      |              |
| 18–27           | 471                          | 10.9 | (10.0, 11.9) | 602                          | 7.1  | (6.6, 7.7)   |
| 28–37           | 1262                         | 29.2 | (27.8, 30.5) | 2484                         | 29.3 | (28.3, 30.3) |
| 38–47           | 1119                         | 25.9 | (24.6, 27.2) | 2976                         | 35.1 | (34.1, 36.1) |
| 48–57           | 871                          | 20.1 | (19.0, 21.4) | 2069                         | 24.4 | (23.5, 25.3) |
| 58+             | 548                          | 12.7 | (11.7, 13.7) | 201                          | 2.4  | (2.1, 2.7)   |
| Sex             |                              |      |              |                              |      |              |
| Male            | 3646                         | 84.3 | (83.2, 85.3) | 6693                         | 78.9 | (78.0, 79.8) |
| Female          | 680                          | 15.7 | (14.7, 16.8) | 1787                         | 21.1 | (20.2, 22.0) |
| Rank            |                              |      |              |                              |      |              |
| OFFR            | 1259                         | 29.1 | (27.8, 30.5) | 3538                         | 41.7 | (40.7, 42.8) |
| NCO             | 2097                         | 48.5 | (47.0, 50.0) | 4336                         | 51.1 | (50.1, 52.2) |
| Other Ranks     | 970                          | 22.4 | (21.2, 23.7) | 606                          | 7.2  | (6.6, 7.7)   |
| Service         |                              |      |              |                              |      |              |
| Navy            | 863                          | 19.9 | (18.8, 21.2) | 2940                         | 34.7 | (33.7, 35.7) |
| Army            | 2463                         | 56.9 | (55.5, 58.4) | 3500                         | 41.3 | (40.2, 42.3) |
| Air Force       | 1000                         | 23.1 | (21.9, 24.4) | 2040                         | 24.1 | (23.2, 25.0) |
| Medical fitness |                              |      |              |                              |      |              |
| Fit             | 2981                         | 68.9 | (67.5, 70.3) | 7116                         | 83.9 | (83.1, 84.7) |
| Unfit           | 1345                         | 31.1 | (29.7, 32.5) | 1364                         | 16.1 | (15.3, 16.9) |

Notes: Unweighted data. Response rate denominator: those who were invited and responded to the survey.

## 2.4 Statistical analysis

Analyses were conducted in Stata version 13.1 or SAS version 9.2. All were conducted using weighted estimates of totals, means and proportions, except where otherwise specified. Standard errors were estimated using linearisation, except where otherwise specified.

For the self-report measures, the proportion (n%) of ADF members in each subgroup is presented. Comparisons between the mean total scores among subgroups were also analysed where appropriate, using weighted multiple linear regressions. Logistic regressions were used to produce odds ratios where appropriate. All regressions included the covariates of age, sex, Service and rank. See Annex B for a detailed description of the strength of each association and individual odds ratios.

To compare estimates for the Transitioned ADF with those for an Australian community population, direct standardisation was applied to estimates in the 2014–2015 ABS National Health Study. The NHS data were restricted to those aged 18–

71 years (consistent with the Transition and Wellbeing Research Programme transition population). The data were standardised by sex, employment status (employed or not) and age category (18–27, 28–37, 38–47, 48–57 and 58+) to ensure the populations were comparable. Standard errors for the NHS data were estimated using the replication weights provided in the NHS data file.

## 2.5 Weighting

The statistical weighting process used in the Mental Health and Wellbeing Transition Study replicated that used in the 2010 Mental Health Prevalence Wellbeing Study and allowed for the inference of results for the entire Transitioned ADF and 2015 Regular ADF populations.

Survey respondent weights were used to correct for differential non-response to the survey by Transitioned ADF and 2015 Regular ADF members. The weighting procedure involved allocating a representative value, or 'weight', to the data for each respondent, based on key variables that are known for the entire population (including respondents and non-respondents). This weight indicates how many individuals in the entire population each actual respondent represents. Weighting data allows for the inference of results for an entire population – in this case, the Transitioned ADF – by assigning a representative value to each 'actual' case (respondent) in the data. If a case has a weight of 4, for example, it means that case counts in the data as four identical cases. By using known characteristics about each individual in the population (in this case sex, rank and medical fitness), the weight assigned to respondents indicates how many 'like' individuals in the entire population (based on those characteristics) each respondent represents.

Weighting is used to correct for differential non-response and to account for systematic biases that might be present in study respondents. This methodology provides representative weights for the population to improve the accuracy of the estimated data and requires that every individual within the population has actual data on the key variables that determine representativeness.

The Transitioned ADF weights were derived from the distinct strata of sex, Service, rank and medical fitness, this last factor being a dichotomous variable derived from Medical Employment Classification status. There were 313 (1.2%) of the total Transitioned ADF population with missing information on the strata variables, so the final weighted population for analysis was 24,932.

The 2015 Regular ADF weights were derived from the distinct strata of sex, Service, rank, medical fitness, and whether the individual completed a study as part of the Military Health Outcomes Program. Inclusion of this additional stratification variable aimed to account for the targeted sampling of the MilHOP cohort, who were then

over-represented within the current serving respondents. A MilHOP flag variable (yes/no = 1/0) was created and used in the weighting process in order to reduce this bias. There were 192 (0.4%) 2015 Regular ADF with missing information on the strata variables, which reduced the final weighted population for analysis to 52,500. Tables C.1, C.2, C.3 present the study population and respondents within each stratum used for weighting and show approximately how many individuals in each subpopulation each study respondent represented.

To maximise the actual data available for analysis, survey weights were calculated for each separate section of the survey. This addressed the issue of differential responses to various sections of the survey, whereby individuals potentially completed some but not all parts of the survey. A 'survey section responder' was defined as anyone who answered at least one question in that particular section of the survey. There was a total of 29 section responder weight variables. For the purpose of analysis the weights used were always for the primary outcome variable of interest.

## **2.6 Measures used in this report**

The following measures were used in the self-report survey to assess current physical health status.

*Smoking status.* Items assessing tobacco use were taken from the 2013 National Drug Strategy Survey (Australian Institute of Health and Welfare, 2014) and the 2010 Mental Health Prevalence Wellbeing Study (McFarlane et al., 2011). Participants were asked a series of questions about their past and present tobacco use, including frequency of use, the ages at which they started and stopped smoking daily, and the types of tobacco products they had smoked in the preceding year. Based on these responses, participants were classed as a 'current smoker', 'former smoker' (had smoked at least 100 cigarettes in their lifetime but does not currently smoke), 'tried smoking' (had smoked a full cigarette or equivalent but had not smoked at least 100 cigarettes) or 'non-smoker' (had never smoked a full cigarette or equivalent). In order to make these four categories comparable with those used in the community, the categories were further collapsed to 'current smoker' (current smoker), 'former smoker' (former smoker, tried smoking) and 'never smoked' (non-smoker). This three-category variable was used in the community comparison analyses.

*Self-reported doctor-diagnosed medical conditions.* This 43-item questionnaire asked participants about medical problems or conditions they had been diagnosed with or treated for by a medical doctor during their lifetime. If a participant answered 'yes' to any of the items listed, they were also asked to specify the year they were first diagnosed, whether they had been treated by a doctor for the condition in the preceding year and whether they had taken medication for the condition in the

preceding month. Items in this section were derived from the 2011–12 Australian Gulf War Veterans' Follow up Health Study (Ikin et al., 2017; Sim et al., 2015).

*Self-perceived health.* This was assessed via a single item taken from the SF-12 (Ware et al., 1996) – 'In general would you say your health is?' on a five-point Likert scale ranging from 'excellent' to 'poor'. For the purpose of the analysis, the five-point scale was further dichotomised into 'Fair–Poor' versus 'Excellent–Good'.

*Self-perceived satisfaction with health.* This was assessed via a single item – 'How satisfied are you with your health?' on a five-point Likert scale ranging from 'very dissatisfied' to 'very satisfied' – from the WHOQOL-Bref (World Health Organization, 1996). The groupings were categorised into 'Dissatisfied', 'Neither' and 'Satisfied' for the purpose of the analysis.

*Self-perceived quality of life.* This was assessed with a single question – 'How would you rate your quality of life?' on a five-point Likert scale ranging from 'very poor' to 'very good' – from the WHOQOL-Brief (World Health Organization, 1996). For the purpose of the analysis, the five-point scale was collapsed into 'Poor', 'Neither' and 'Good'.

*Self-perceived satisfaction with life.* Self-perceived satisfaction with life was assessed via the Delighted–Terrible Scale (Andrews & Crandall, 1976), a single item scored on a seven-point scale. Respondents were asked 'How do you feel about your life as a whole, taking into account what has happened last year and what you expect to happen in the future?' Scaled responses ranged from 'delighted' to 'terrible'. For the purpose of the analysis, the seven-point scale was collapsed into 'Dissatisfied' (Mixed–Terrible) and 'Satisfied' (Mostly Satisfied – Delighted).

*Self-reported physical health over the past year.* Self-reported physical health was assessed by a single item devised by the authors on a five-point scale. Respondents were asked to indicate how their physical health had been in the past year and responses ranged from 'very poor' to 'excellent'. For the purpose of the analysis the five-point scale was dichotomised into 'poor–fair' and 'good–excellent'.

*Sleep problems.* Self-perceived insomnia was assessed using the Insomnia Severity Index (Bastien et al., 2001), which comprises seven items assessing the severity of sleep onset and sleep maintenance difficulties, satisfaction with the current sleep pattern, interference with daily functioning, noticeability of impairment attributed to the sleep problem, and degree of distress or concern caused by the sleep problem. Each item is rated on a 0–4 scale and the total score ranges from 0 to 28. A higher score suggests more severe insomnia. For the purpose of the analysis, total scores from the seven-item scale were dichotomised into 'No insomnia' (No clinically

significant insomnia or Sub-threshold insomnia), 'Insomnia' (Clinical insomnia (moderate severity) and Clinical insomnia (severe)).

*Pain.* Pain intensity, disability and functional impairment were assessed using a seven-item scale and algorithm (Von Korff et al., 1992) that was used in the Australian Gulf War Follow up Health Study (Sim et al., 2015). Participants were asked to answer a series of seven questions about their current pain, worst pain and average pain in the preceding six months, rating the intensity of their pain on a 10-point Likert scale. Participants were also asked to indicate how much their pain had interfered with their daily activities, their recreational/social activities, and their ability to work in the preceding six months.

Based on the algorithm by Von Korff et al. (1992), the final pain index categories used were Grade 0 'pain free', Grade I 'low disability – low intensity', Grade II 'low disability – high intensity', Grade III 'high disability – moderately limiting' and Grade IV 'high disability – severely limiting'. The pain index was collapsed into three categories for analysis – High (Grade IV or Grade III), Low (Grade II or Grade I) and None (Grade 0).

*Injuries.* Researchers developed this section of the survey for the current Programme and asked about injuries sustained during an individual's military career that required time off work. For each injury type participants were asked to specify how many injuries were sustained during their military career, how many were sustained whilst on deployment and how many were sustained during training. Participants were also asked to indicate all the body sites where the injuries occurred.

*Respiratory health.* This section of the survey asked participants about any respiratory symptoms, symptom-based definitions of respiratory conditions, and doctor-diagnosed respiratory conditions in the preceding 12 months. The questionnaire was based on the questionnaire used in the Australian Gulf War Follow up Health Study (Ikin et al., 2017; Sim et al., 2015) and baseline study (Kelsall et al., 2004b), which included items derived from the European Community Respiratory Health Survey (Burney et al., 1994) and the American Thoracic Society questionnaire (Ferris, 1978). The purpose of the questions was to identify respiratory symptoms such as wheezing or whistling, breathlessness, tightness in the chest, shortness of breath, coughing and phlegm, nasal allergies and respiratory medical conditions.

Doctor-diagnosed asthma in the Australian community sample was measured using a self-report item from the Doctor-Diagnosed Conditions section of the 2014–2015 National Health Survey data (Australian Bureau of Statistics, 2015).

For the purpose of comparisons in this report, asthma was defined in two ways. In Chapter 6, a more inclusive definition is used, defining 'asthma ever' as those who ever had asthma in their lifetime. For Chapter 13, the community comparison chapter, a

stricter definition of ‘ever doctor-diagnosed asthma’ required that the respondent also endorse that the asthma had been confirmed by a doctor. For this reason estimates of asthma between the two chapters vary.

*Health symptoms.* Items assessing current general health symptoms in the preceding month used the 63-item symptom questionnaire of the Australian Gulf War Follow up Health Study (Sim et al., 2015; Ikin et al., 2016), which in turn was based on the symptom questionnaire developed and used by the King’s College Gulf War Illness Research Unit (Unwin et al., 1999), it being based on the Hopkins Symptom Checklist (Derogatis et al., 1974) and used in a number of overseas postal surveys investigating the health of a country’s veterans. This 67-item adapted version of the self-report symptom questionnaire included respiratory, cardiovascular, musculoskeletal, dermatological, gastrointestinal, genitourinary, neurological and cognitive symptoms. For every symptom reported for the preceding month, participants were also required to provide an indication of symptom severity on a three-point Likert scale (mild, moderate, severe). In this report, the severity index is not used: each physical health symptom is dichotomised as absent (0 = no) or present (1, 2, 3 = yes). The number of symptoms present for each participant was summed then categorised as follows: 0 = ‘0’, 1 = ‘1–5’, 2 = ‘6–10’, 3 = ‘11–15’, 4 = ‘16–20’, 5 = ‘21–30’, 6 = ‘31–40’, 7 = ‘40+’.

*Physical activity.* In the case of physical activity, participants were asked to complete the Short Last 7 Days Self-Administered version of the International Physical Activity Questionnaire (IPAQ, 2002). Questions asked participants to indicate the number of days, the number of times and the amount of time they spent doing vigorous, moderate and light physical activity in the preceding seven days, as well as the amount of time they spent sedentary. Scores on this scale were categorised as ‘Inactive’ (insufficiently active), ‘Minimally Active’ (sufficiently active) or ‘HEPA active’ (Health Enhancing Physical Activity).

*Body mass index.* BMI was calculated as a function of respondents’ self-reported weight and height –  $\text{weight (kg)} / \text{height (m)}^2$ . Based on guidelines from the Australian Government Department of Health (Department of Health, 2017), BMI scores were categorised as ‘underweight’ (<18.5), ‘normal’ (18.50–24.99), ‘pre-obese’ (25.00–29.99), ‘obese class 1’ (30.00–34.99), ‘obese class 2’ (35.00–39.99) and ‘obese class 3’ (>40).

*Health service use.* To assess health service use, respondents were asked whether or not they had made a visit to any of a list of different types of health professionals in the preceding 12 months (excluding any time spent in hospital):

- Outpatients section of the hospital
- Casualty or emergency ward
- Day clinic for minor surgery or diagnostic tests other than x-ray

- General practitioner
- Specialist doctor
- Dentist or dental professional
- Accredited counsellor
- Alcohol or drug worker
- Psychologist
- Social worker/welfare officer
- Physiotherapist/hydrotherapist
- Chiropractor
- Osteopath
- Diabetes educator
- Dietician/nutritionist
- Naturopath
- Audiologist/audiometrist
- Other.

Additionally, participants were asked whether or not they had consulted a general practitioner or specialist doctor in the preceding two weeks, as well as how many times this had occurred. This section of the questionnaire was based on the questionnaire used in the Australian Gulf War Follow up Health Study (Ikin et al., 2016; Sim et al., 2015).

See Annex A for a description of the full methodology, including a comprehensive description of all the measures used in the survey.

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### 3 Demographic characteristics of Transitioned ADF members and 2015 Regular ADF members

#### **Transitioned ADF members compared with 2015 Regular ADF members**

- Transitioned ADF members and 2015 Regular ADF members were equally likely to be aged 18–27 years. Compared with the 2015 Regular ADF members, there were more Transitioned ADF members aged over 58 years.
- There were more females among the Transitioned ADF compared with the 2015 Regular ADF.
- Transitioned ADF members were less likely to be ‘in a relationship but not living together’ compared with the 2015 Regular ADF members.
- Just over 40% of the Transitioned ADF members and 36% of the 2015 Regular ADF members reported having a diploma or a university qualification.
- There were no significant differences in housing stability between the Transitioned ADF and the 2015 Regular ADF: more than 93% were estimated to have been in stable housing in the preceding two months.
- Transitioned ADF members were more likely to come from the lower ranks compared with 2015 Regular ADF members.
- A greater proportion of the Transitioned ADF were from the Army compared with the 2015 Regular ADF.
- Twice as many members of the Transitioned ADF were classified as medically unfit compared with the 2015 Regular ADF.
- Transitioned ADF members were more likely to report having less than eight years of service compared with the 2015 Regular ADF members.

#### **Among Transitioned ADF members**

- More than half (55.8%) of the Transitioned ADF members remained in the ADF as Reservists. Of these, 25.7% were Active Reservists.
- The majority of Transitioned ADF members had left full-time service between one and three years beforehand, the smallest proportion having left less than 12 months before.
- The most commonly reported reason for leaving was ‘own request’, which was the case for more than 60% of the Transitioned ADF members.

- Just over one-fifth of the Transitioned ADF members were estimated to have been medically discharged.
- The most commonly reported reasons for transition were ‘impact of service life on family’ (10.2%), ‘better employment prospects in civilian life’ (7.2%), ‘mental health problems’ (6.5%) and ‘physical health problems’ (4.3%).
- Almost two-thirds of the Transitioned ADF members reported being engaged in civilian employment (62.8%). For them, the most common industries of employment were government administration and Defence (16.8%), mining (9.9%), construction (8.8%) and transport and storage (8.6%).
- A considerable proportion of the Transitioned ADF reported a period of three months or longer in which they had been unemployed (43.7%) since transitioning from the Regular ADF.
- More than 43% of Transitioned ADF members reported accessing DVA-funded treatment through a DVA White Card (39.4%) or a DVA Gold Card (4.2%).
- Approximately one in five Transitioned ADF members reported joining an ex-service organisation.
- Among the Transitioned ADF members, 2.9% reported having been arrested and 2.1% reported having been convicted since transition.

Refer to the glossary for definitions of key terms used in this section.

This chapter provides a detailed summary of the demographic characteristics of Transitioned ADF members, including an examination of the differences between Transitioned ADF members and 2015 Regular ADF members. Outcomes are weighted up to the entire population using the technique described in Chapter 2, so they represent weighted estimates of these characteristics within the Transitioned ADF and 2015 Regular ADF cohorts.

### **3.1 Transitioned ADF members compared with the 2015 Regular ADF members**

Table 3.1 shows the demographic characteristics of Transitioned ADF members and the 2015 Regular ADF members.

The age distribution across the two groups was significantly different. The Transitioned ADF cohort had more elderly (58+ years) and fewer middle-aged (38–47 years) members based on 95% confidence intervals, while the younger age groups were similar for both cohorts. There were more female members in the Transitioned ADF group (13.1% compared with 9.2% for the 2015 Regular ADF group). Based on 95% confidence intervals, there was no significant difference between the two groups for

‘Not in a relationship’ or ‘In a relationship and living together’, although Transitioned ADF members were significantly less likely to be ‘In a relationship not living together’. There were differences in the highest education categories: Transitioned ADF members were significantly more likely to report a diploma (20.9% compared with 14.8%) and significantly less likely to report a university qualification than the 2015 Regular ADF (20.4% compared with 22.9%). There were no differences in whether the respondents reported having stable housing in the preceding two months.

Table 3.2 shows the service characteristics of Transitioned ADF and 2015 Regular ADF members. In the Transitioned ADF group there were fewer Officers (16.3% compared with 25.6% of 2015 Regular ADF) and more Other Ranks (52.2% compared with 41.1% 2015 Regular ADF). The Service distribution also varied significantly between the two groups: there were more Army and fewer Air Force members in the Transitioned ADF group. Significantly more Transitioned ADF members (26.7%) were classified as being medically unfit compared with the 2015 Regular ADF group (12.3%).

### **3.2 Transitioned ADF members**

As Table 3.3 shows, more than half (55.8%) of Transitioned ADF members remained in the ADF as Reservists. Of these, just under half were Active Reservists. Regardless of Reservist status, however, the majority reported transitioning between one and three years beforehand. The most common type of discharge or resignation reported was ‘own request’: this was the case for more than half (53.7%) of Transitioned ADF members, and the proportion increased to over 60% when ‘end of fixed period’ (2.1%) and ‘end of initial enlistment period’ (5.2%) were included. The second most common type of discharge was ‘medical discharge’: approximately one-fifth (20.4%) of Transitioned ADF members reported this type of discharge. The most commonly reported reasons for transition were ‘impact of service life on family’ (10.2%), ‘better employment prospects in civilian life’ (7.2%), ‘mental health problems’ (6.5%) and ‘physical health problems’ (4.3%). A large proportion of Transitioned ADF members did not report their main reason for transition (39.5%).

Table 3.4 summarises employment and DVA support characteristics for Transitioned ADF members. Almost two-thirds (62.8%) of the group reported being engaged in civilian employment, and for them the most common industries of employment were government administration and Defence (16.8%), mining (9.9%), construction (8.8%), and transport and storage (8.6%). Of those who were employed, 1.3% did not report which industry they were involved in. A considerable proportion of the Transitioned ADF (43.7%) reported a period of three months or longer in which they had been unemployed since transitioning from the Regular ADF. More than 43% of Transitioned ADF members reported accessing DVA-funded treatment using a DVA White Card (39.4%) or DVA Gold Card (4.2%).

**Table 3.1 Weighted demographic characteristics of Transitioned ADF and 2015 Regular ADF members**

| Characteristic   | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|--|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|  | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Age group  |                                  |            |                   |                                  |            |                   |
| 18–27  | 471                              | 5195       | 20.8 (19.3, 22.5) | 602                              | 10,319     | 19.7 (16.4, 23.3) |
| 28–37  | 1262                             | 8808       | 35.3 (33.6, 37.1) | 2484                             | 17,472     | 33.3 (29.9, 36.9) |
| 38–47  | 1119                             | 5215       | 20.9 (19.7, 22.2) | 2976                             | 14,185     | 27.0 (24.5, 29.7) |
| 48–57  | 871                              | 3389       | 13.6 (12.8, 14.5) | 2069                             | 8019       | 15.3 (14.3, 16.4) |
| 58+  | 548                              | 1937       | 7.8 (7.2, 8.4)    | 201                              | 721        | 1.4 (1.1, 1.7)    |
| Sex*   |                                  |            |                   |                                  |            |                   |
| Male   | 3646                             | 21,671     | 86.9              | 6693                             | 47,645     | 90.8              |
| Female   | 680                              | 3261       | 13.1              | 1787                             | 4855       | 9.2               |
| Relationship status  |                                  |            |                   |                                  |            |                   |
| In a relationship and living together                      | 3121                             | 16,453     | 65.9 (64.2, 67.7) | 5964                             | 33,433     | 63.7 (60.1, 67.2) |
| In a relationship not living together                      | 301                              | 2182       | 8.8 (7.7, 9.9)    | 1100                             | 8294       | 15.8 (13.1, 18.9) |
| Not in a relationship                                      | 821                              | 5738       | 23.0 (21.5, 24.7) | 1263                             | 9847       | 18.8 (15.9, 22.0) |
| Education  |                                  |            |                   |                                  |            |                   |
| Primary/secondary school                                   | 1007                             | 7062       | 28.3 (26.7, 30.0) | 1996                             | 15,269     | 29.1 (25.8, 32.6) |
| Certificate  | 975                              | 7200       | 28.9 (27.2, 30.6) | 1723                             | 16,508     | 31.4 (28.1, 35.0) |
| Diploma  | 1063                             | 5229       | 20.9 (19.7, 22.3) | 1601                             | 7787       | 14.8 (13.0, 16.9) |
| University   | 1221                             | 5078       | 20.4 (19.3, 21.5) | 3015                             | 12,025     | 22.9 (21.6, 24.2) |
| Employment status  |                                  |            |                   |                                  |            |                   |
| Full/ part time paid work                                  | 2909                             | 17,063     | 68.4 (66.8, 70.0) | 8480                             | 52,500     | 100.0             |
| Unpaid work  | 151                              | 777        | 3.1 (2.6, 3.7)    | ..                               | ..         | ..                |
| Unemployed/looking for work                                | 199                              | 1289       | 5.2 (4.4, 6.1)    | ..                               | ..         | ..                |
| Unemployed - sickness allowance/disability support pension | 412                              | 2224       | 8.9 (8.1, 9.9)    | ..                               | ..         | ..                |
| Student  | 206                              | 1728       | 6.9 (5.9, 8.1)    | ..                               | ..         | ..                |
| Retired  | 377                              | 1373       | 5.5 (5.0, 6.0)    | ..                               | ..         | ..                |
| Main source of income                                      |                                  |            |                   |                                  |            |                   |
| Wage/salary/own business/partnership                       | 2590                             | 16,024     | 64.3 (62.7, 65.8) | 8480                             | 52,500     | 100.0             |
| Age pension  | 263                              | 911        | 3.7 (3.3, 4.1)    | ..                               | ..         | ..                |
| Invalidity service pension                                 | 262                              | 1322       | 5.3 (4.7, 6.0)    | ..                               | ..         | ..                |
| VEA/SRCA/MRCA compensation                                 | 195                              | 1114       | 4.5 (3.8, 5.2)    | ..                               | ..         | ..                |
| Dividends/interest/investments                             | 27                               | 153        | 0.6 (0.4, 0.9)    | ..                               | ..         | ..                |
| Other pension/benefit/allowance                            | 183                              | 1342       | 5.4 (4.6, 6.4)    | ..                               | ..         | ..                |
| Superannuation   | 404                              | 1590       | 6.4 (5.8, 7.0)    | ..                               | ..         | ..                |
| Other  | 301                              | 1795       | 7.2 (6.3, 8.2)    | ..                               | ..         | ..                |
| Stable housing   |                                  |            |                   |                                  |            |                   |
| No   | 129                              | 852        | 3.4 (2.8, 4.2)    | 233                              | 2287       | 4.4 (2.9, 6.4)    |
| Yes  | 4089                             | 23,378     | 93.8 (92.8, 94.6) | 8043                             | 48,851     | 93.1 (90.7, 94.9) |

Missing: 2015 Regular ADF: Age group: 148 (3.4%), Relationship status 153 (1.7%), Education 145 (1.7%) Stable housing 204 (2.6%)  
Transitioned ADF: Age group: 55 (1.6%), Relationship status 83 (2.2%), Education 60 (1.5%), Employment 72 (1.9%), Main income 101 (2.7%), Stable housing 108 (2.8%)

\*No confidence intervals are provided for sex as this variable was used to create strata for weighting.

**Table 3.2      Weighted service characteristics in Transitioned ADF and 2015 Regular ADF**

| Characteristic       | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|----------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                      | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Rank <sup>a</sup>    |                                  |            |                   |                                  |            |                   |
| OFFR                 | 1259                             | 4063       | 16.3              | 3538                             | 13,444     | 25.6              |
| NCO                  | 2097                             | 7866       | 31.6              | 4336                             | 17,491     | 33.3              |
| Other Ranks          | 970                              | 13,003     | 52.2              | 606                              | 21,565     | 41.1              |
| Service <sup>a</sup> |                                  |            |                   |                                  |            |                   |
| Army                 | 2463                             | 15,038     | 60.3 (60.3,60.3)  | 3500                             | 25,798     | 49.1              |
| Navy                 | 863                              | 5671       | 22.8 (22.8,22.8)  | 2040                             | 13,282     | 25.3              |
| Air Force            | 1000                             | 4223       | 16.9 (16.9,16.9)  | 2940                             | 13,420     | 25.6              |
| Medical fitness      |                                  |            |                   |                                  |            |                   |
| Fit                  | 2981                             | 18,273     | 73.3              | 7116                             | 46,022     | 87.7              |
| Unfit                | 1345                             | 6659       | 26.7              | 1364                             | 6478       | 12.3              |
| Time in Regular ADF  |                                  |            |                   |                                  |            |                   |
| 1 months – 3.9 years | 316                              | 2934       | 11.8 (10.5, 13.1) | 263                              | 6141       | 11.7 (8.9, 15.1)  |
| 4–7.9 years          | 966                              | 9015       | 36.2 (34.5, 37.9) | 840                              | 9710       | 18.5 (15.4, 22.0) |
| 8–11.9 years         | 613                              | 3295       | 13.2 (12.1, 14.4) | 1436                             | 10,362     | 19.7 (16.9, 22.9) |
| 12–15.9 years        | 478                              | 2086       | 8.4 (7.6, 9.2)    | 1389                             | 7568       | 14.4 (12.4, 16.8) |
| 16–19.9 years        | 265                              | 967        | 3.9 (3.5, 4.3)    | 994                              | 4143       | 7.9 (7.1, 8.8)    |
| 20+ years            | 1580                             | 5772       | 23.2 (22.4, 23.9) | 3413                             | 13,651     | 26.0 (24.4, 27.7) |

a. Either 2015 Regular ADF or on discharge from Regular ADF service.

Notes: No confidence intervals are provided for Sex, Rank, Service and Medical fitness since these variables were used to create strata for weighting.Missing: 2015 Regular ADF: Time in Regular ADF: 145 (1.7%). Transitioned: Time in Regular ADF: 108 (3.4%)

**Table 3.3 Weighted transition characteristics for Transitioned ADF members**

| Characteristic   | Transitioned ADF<br>(n = 24,932) |            |                   |
|--|----------------------------------|------------|-------------------|
|  | n                                | Weighted n | % (95% CI)        |
| Serving status   |                                  |            |                   |
| Ex-Serving   | 1675                             | 10,902     | 43.3 (42.1, 45.4) |
| Reservist  |                                  |            |                   |
| Active Reservist   | 1398                             | 6398       | 25.7 (24.4, 26.9) |
| Inactive Reservist   | 1232                             | 7502       | 30.1 (28.5, 31.8) |
| Years since transition   |                                  |            |                   |
| 0  | 376                              | 1945       | 7.8 (6.9, 8.8)    |
| 1  | 852                              | 4874       | 19.6 (18.2, 21.0) |
| 2  | 810                              | 4944       | 19.8 (18.4, 21.3) |
| 3  | 876                              | 5233       | 20.9 (19.5, 22.5) |
| 4  | 663                              | 3582       | 14.4 (13.2, 15.6) |
| 5+   | 503                              | 2785       | 11.2 (10.1, 12.3) |
| Type of discharge/resignation  |                                  |            |                   |
| Compulsory age   | 177                              | 612        | 2.5 (2.2, 2.8)    |
| Own request  | 2408                             | 13,383     | 53.7 (52.0, 55.3) |
| Unsuitable for further training  | 45                               | 485        | 1.9 (1.4, 2.7)    |
| End of fixed period  | 80                               | 532        | 2.1 (1.6, 2.8)    |
| End of initial enlistment period/return of service obligation          | 113                              | 1293       | 5.2 (4.3, 6.3)    |
| Limited tenured appointment (Officers)                                 | 22                               | 85         | 0.3 (0.2, 0.6)    |
| Not offered re-engagement  | 9                                | 83         | 0.3 (0.2, 0.7)    |
| Accepted voluntary redundancy  | 150                              | 533        | 2.1 (1.9, 2.5)    |
| Compassionate grounds  | 26                               | 150        | 0.6 (0.4, 0.9)    |
| Non-voluntary discharge – administrative                               | 77                               | 757        | 3.0 (2.4, 3.9)    |
| Medical discharge  | 911                              | 5082       | 20.4 (19.4, 21.4) |
| Other  | 208                              | 1242       | 4.9 (4.2, 5.9)    |
| Main reason for transition   |                                  |            |                   |
| Better employment prospects in civilian life                           | 285                              | 1800       | 7.2 (6.3, 8.3)    |
| Lack of promotion prospects  | 127                              | 688        | 2.8 (2.2, 3.4)    |
| Inability to plan life outside of work                                 | 82                               | 646        | 2.6 (2.0, 3.3)    |
| Impact of service life on family                                       | 457                              | 2546       | 10.2 (9.2, 11.3)  |
| Pressure from family   | 46                               | 228        | 0.9 (0.7, 1.3)    |
| Didn't want to be away from home                                       | 101                              | 586        | 2.4 (1.9, 2.9)    |
| Pregnancy  | 7                                | 39         | 0.2 (0.1, 0.4)    |
| Posting issues (i.e. unhappy with location or nature of postings)      | 224                              | 1061       | 4.3 (3.7, 4.9)    |
| Too many deployments   | a                                | a          | a                 |
| Not enough deployments   | 41                               | 341        | 1.4 (0.9, 1.9)    |
| Because of my experiences on deployment                                | 44                               | 336        | 1.4 (0.9, 1.9)    |
| Work not exciting or challenging enough                                | 93                               | 724        | 2.9 (2.3, 3.7)    |
| Dissatisfaction with pay   | 31                               | 168        | 0.7 (0.4, 1.0)    |
| Personal experience of harassment/ bullying/ discrimination in the ADF | 157                              | 916        | 3.7 (3.1, 4.4)    |
| Personal experience of violence in the ADF                             | a                                | a          | a                 |
| Disciplinary action or criminal offence                                | 8                                | 74         | 0.3 (0.1, 0.7)    |
| My service was terminated  | 106                              | 677        | 2.7 (2.2, 3.4)    |
| Physical health problems   | 178                              | 1079       | 4.3 (3.6, 5.2)    |
| Mental health problems   | 281                              | 1616       | 6.5 (5.7, 7.4)    |
| Other  | 178                              | 1079       | 4.3 (3.6, 5.2)    |

a. Cell size too small to be reported.

Note: Missing: Years since transition: 246 (6.3%), Type of discharge: 100 (2.8%), Main reason 1776 (39.5%).

**Table 3.4**      **Weighted civilian employment and DVA support among Transitioned ADF members**

| Characteristic   | Transitioned ADF<br>(n = 24,932) |            |                   |
|--|----------------------------------|------------|-------------------|
|  | n                                | Weighted n | % (95% CI)        |
| Civilian employment                                    |                                  |            |                   |
| Employed   | 2516                             | 15,664     | 62.8 (61.2, 64.4) |
| Not employed   | 1735                             | 8771       | 35.2 (33.6, 36.8) |
| Hours worked in past week <sup>a</sup>                 |                                  |            |                   |
| 0–20 hours   | 250                              | 1652       | 10.6 (9.1, 12.2)  |
| 21–40 hours  | 1199                             | 7311       | 46.7 (44.3, 49.1) |
| 41–60 hours  | 790                              | 4949       | 31.6 (29.4, 33.9) |
| 61–80 hours  | 94                               | 576        | 3.7 (2.9, 4.7)    |
| 80-plus hours  | 112                              | 790        | 5.0 (4.0, 6.3)    |
| Civilian employment industry <sup>a</sup>              |                                  |            |                   |
| Agriculture, forestry and fishing                      | 53                               | 380        | 2.4 (1.7, 3.4)    |
| Mining   | 221                              | 1557       | 9.9 (8.5, 11.6)   |
| Manufacturing  | 92                               | 751        | 4.8 (3.8, 6.1)    |
| Electricity, gas and water supply                      | 71                               | 504        | 3.2 (2.4, 4.2)    |
| Construction   | 162                              | 1375       | 8.8 (7.4, 10.4)   |
| Wholesale trade  | 23                               | 188        | 1.2 (0.8, 1.9)    |
| Retail trade   | 116                              | 1058       | 6.8 (5.5, 8.3)    |
| Accommodation, cafes and restaurants                   | 54                               | 420        | 2.7 (1.9, 3.7)    |
| Transport and storage                                  | 230                              | 1340       | 8.6 (7.3, 9.9)    |
| Communication services                                 | 96                               | 666        | 4.3 (3.4, 5.4)    |
| Finance and insurance                                  | 35                               | 216        | 1.4 (0.9, 2.1)    |
| Property and business services                         | 63                               | 407        | 2.6 (1.9, 3.5)    |
| Government administration and Defence                  | 589                              | 2637       | 16.8 (15.4, 18.4) |
| Education  | 119                              | 598        | 3.8 (3.1, 4.8)    |
| Health and community services                          | 226                              | 1210       | 7.7 (6.6, 9.0)    |
| Cultural and recreational services                     | 30                               | 201        | 1.3 (0.8, 1.9)    |
| Personal and other services                            | 149                              | 908        | 5.8 (4.8, 7.0)    |
| Emergency services                                     | 153                              | 1044       | 6.7 (5.5, 8.1)    |
| Unemployment: at least 3-month period since transition |                                  |            |                   |
| Yes  | 1762                             | 10,906     | 43.7 (42.0, 45.5) |
| No   | 2455                             | 13,359     | 53.6 (51.8, 55.3) |
| DVA support since transition                           |                                  |            |                   |
| Treatment support (White or Gold Card)                 | 1773                             | 10,879     | 43.6 (41.8, 45.5) |
| White Card   | 1565                             | 9834       | 39.4 (37.6, 41.3) |
| Gold Card  | 211                              | 1057       | 4.2 (3.6, 4.9)    |

a. Proportion of employed Transition ADF only.

Note: Missing: Civilian employment: 75 (2.0%), Hours worked 71 (2.5%) Industry 34 (1.3%), Unemployment 109 (2.7%).

As Table 3.5 shows, approximately 20% of Transitioned ADF members reported joining an ex-service organisation or voluntary group. A small proportion of members reported having been arrested (2.9%) or convicted (2.1%) since transitioning from Regular ADF service.

**Table 3.5 Weighted ex-service organisation engagement and incarceration among Transitioned ADF members**

| Characteristic                         | Transitioned ADF<br>(n = 24,932) |            |                   |
|--|----------------------------------|------------|-------------------|
|  | n                                | Weighted n | % (95% CI)        |
| No. of ex-service organisations joined |                                  |            |                   |
| None                                   | 2358                             | 17,359     | 69.6(67.7, 71.5)  |
| 1                                      | 834                              | 5060       | 20.3 (18.8, 21.9) |
| 2                                      | 228                              | 1347       | 5.4 (4.6, 6.3)    |
| 3                                      | 63                               | 374        | 1.5 (1.1, 2.0)    |
| 4                                      | 17                               | 82         | 0.3 (0.2, 0.6)    |
| 5 plus                                 | 11                               | 47         | 0.2 (0.1, 0.3)    |
| No. of other voluntary groups joined   |                                  |            |                   |
| None                                   | 2204                             | 16,202     | 64.9 (63.0, 66.9) |
| 1                                      | 732                              | 4610       | 18.5 (17.0, 20.1) |
| 2                                      | 345                              | 1961       | 7.9 (6.9, 8.9)    |
| 3                                      | 133                              | 854        | 3.4 (2.8, 4.3)    |
| 4                                      | 36                               | 208        | 0.8 (0.6, 1.2)    |
| 5-plus                                 | 27                               | 160        | 0.6 (0.4, 1.1)    |
| Criminal behaviour since transition    |                                  |            |                   |
| Arrested                               | 72                               | 746        | 2.9 (2.3,3.9)     |
| Conviction                             | 47                               | 516        | 2.1 (1.5, 2.9)    |
| Imprisoned                             | a                                | ..         | ..                |

a. Cell size too small to be reported.

Note: Missing: Ex-service organisations: 60 (2.7%), other organisations 94 (3.8%).

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## 4 Health symptoms

### Transitioned ADF members compared with 2015 Regular ADF members

- Transitioned ADF members reported a higher mean number of symptoms (M = 16.4) compared with 2015 Regular ADF members (M = 11.8).
- Transitioned ADF members were more likely to report the majority of health symptoms compared with 2015 Regular ADF members. Odds ratios varied in strength, but the strongest between-group differences (odds ratios >3.0) were observed for the following symptoms: burning sensation in their sex organs, intolerance to alcohol, loss of balance, and seizures (note that odds of reported seizures should be interpreted with caution due to wide confidence intervals for all comparisons).
- The 10 most common symptoms reported by both groups were fatigue, sleeping difficulties, headaches, feeling unrefreshed after sleep, muscle aches, low back pain, irritable outbursts, joint stiffness, difficulty finding the right word and ringing in the ears.

### Among Transitioned ADF members

- DVA clients were significantly more likely to report all health symptom types compared with non-DVA clients. Odds ratios varied in strength, but the strongest between-group differences (odds ratios >3.0) were observed for the following symptoms: feeling jumpy/easily startled, joint stiffness, pain without swelling in several joints, problems with sexual functioning, unintentional weight gain, distressing dreams, and seizures.
- Overall, a higher proportion of Ex-Serving ADF members reported the majority of symptoms compared with Active and Inactive Reservists. When comparing Ex-Serving ADF with Inactive Reservists, the strongest between-group differences (odds ratios >2.5) were observed for having problems with sexual functioning, tingling in their legs and toes, and seizures.
- When comparing Ex-Serving ADF with Active Reservists, the strongest between-group differences (odds ratios >2.5) were observed for the following symptoms: distressing dreams, tingling in legs and toes, increased sensitivity to smells or odours, shaking, and unintended weight gain.
- Similar reporting patterns were observed for Inactive and Active Reservists.

- With the exception of skin ulcers, Transitioned ADF members who were medically discharged were significantly more likely to report all health symptoms compared with Transitioned ADF members who had another type of discharge. The strongest between-group differences (odds ratios >4.0) were observed for the following symptoms: avoiding doing things or situations, joint stiffness, loss of balance or coordination, numbness in the fingers or toes, problems with sexual functioning, tingling in the legs and toes, and seizures.

Refer to the glossary for definitions of key terms used in this section.

This chapter discusses the estimated prevalence of self-reported health symptoms among Transitioned ADF members and 2015 Regular ADF members. In addition to comparing Transitioned ADF and 2015 Regular ADF, results are reported according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge).

General health symptoms were assessed with a 67-item self-report checklist of health symptoms experienced in the preceding month. The checklist was adapted from the Australian Gulf War Follow up Health Study (Sim et al., 2015) for use in the MEAO Prospective Health Study (Davy et al., 2012) and Census Health Study (Dobson et al., 2012). Items included respiratory, cardiovascular, musculoskeletal, dermatological, gastrointestinal, genitourinary, neurological and cognitive symptoms.

Participants were asked to identify whether they had experienced any of the listed symptoms in the preceding month and to indicate whether the symptoms were mild, moderate or severe in nature. For the purpose of this report, the symptom responses were dichotomised to 'yes' or 'no', with severity not examined.

A summary 'number of symptoms' variable was also created by summing the distinct symptoms per participant. This variable was then grouped into the following categories, which are based on the groupings used in the baseline assessment of the Gulf War Veterans Study (Sim et al., 2015):

- 0 = 0
- 1 = 1–5
- 2 = 6–10
- 3 = 11–15
- 4 = 16–20
- 5 = 21–30
- 6 = 31–40
- 7 = 40+

Both the number of reported health symptoms and the different symptom types are considered here. All regression models were adjusted for sex, age, rank and Service, and respiratory symptoms were also adjusted for smoking. Because of the number of significant findings, only the strongest associations are presented. For a full list of odds ratios and the strength of associations, see Annex B.

## 4.1 Number of health symptoms

### 4.1.1 Number of health symptoms in the preceding month: Transitioned ADF and 2015 Regular ADF members

The estimated proportions of Transitioned ADF and 2015 Regular ADF members reporting health symptoms in the preceding month are shown in Table 4.1 and Figure 4.1.

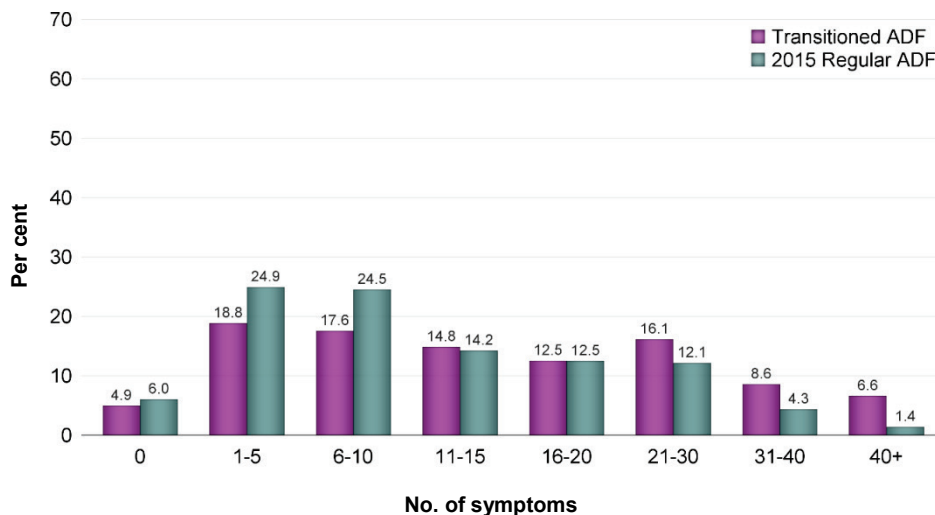
On average, the Transitioned ADF members ( $M = 16.4$ ,  $SE = 0.3$ ) reported more health symptoms than the 2015 Regular ADF members ( $M = 11.8$ ,  $SE = 0.5$ ). The Transitioned ADF were more likely to report '31 to 40' or 'more than 40' health symptoms (8.6% and 6.6% respectively) compared with the 2015 Regular ADF (4.3% and 1.4% respectively). In contrast, the Transitioned ADF were less likely to report '1 to 5' or '6 to 10' health symptoms (18.8% and 17.6% respectively) compared with the 2015 Regular ADF (24.9% and 24.5% respectively).

**Table 4.1** Estimated prevalence of number of health symptoms in the preceding month in Transitioned ADF and 2015 Regular ADF

| Number of health symptoms | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|---------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                           | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| 0                         | 134                              | 1234       | 5.0 (4.0, 6.1)    | 360                              | 3165       | 6.0 (4.3, 8.4)    |
| 1–5                       | 612                              | 4697       | 18.8 (17.2, 20.6) | 1789                             | 13,077     | 24.9 (21.5, 28.7) |
| 6–10                      | 607                              | 4376       | 17.6 (16.0, 19.3) | 1713                             | 12,873     | 24.5 (21.0, 28.5) |
| 11–15                     | 537                              | 3701       | 14.8 (13.4, 16.4) | 1290                             | 7464       | 14.2 (11.8, 17.0) |
| 16–20                     | 455                              | 3124       | 12.5 (11.2, 14.0) | 873                              | 6552       | 12.5 (9.9, 15.6)  |
| 21–30                     | 595                              | 4021       | 16.1 (14.7, 17.7) | 829                              | 6377       | 12.2 (9.4, 15.5)  |
| 31–40                     | 314                              | 2134       | 8.6 (7.5, 9.8)    | 297                              | 2272       | 4.3 (2.6, 7.1)    |
| 40+                       | 217                              | 1645       | 6.6 (5.6, 7.7)    | 113                              | 720        | 1.4 (0.9, 2.2)    |

Note: Denominator – all 2015 Regular ADF and Transitioned ADF.

**Figure 4.1** Estimated prevalence of number of health symptoms in the preceding month in Transitioned ADF and 2015 Regular ADF



#### 4.1.2 Number of health symptoms in the preceding month in Transitioned ADF, by DVA client status

Table 4.2 shows the number of health symptoms reported in the preceding month for Transitioned ADF members by DVA client status. DVA clients were more likely to report '21 to 30', '31 to 40' or 'more than 40' health symptoms (21.4%, 11.6% and 10.0% respectively) compared with non-DVA clients (11.2%, 4.8% and 2.8% respectively). Conversely, DVA clients were less likely to report '0', '1 to 5' or '6 to 10' health symptoms (2.6%, 11.5% and 14.2% respectively) when compared with non-DVA clients (6.8%, 25.7% and 21.0% respectively).

**Table 4.2** Estimated prevalence of number of health symptoms in the preceding month in Transitioned ADF, by DVA client status

| Number of health symptoms | DVA client (n = 10,647) |            |                  | Non-DVA client (n = 11,278) |            |                  |
|---------------------------|-------------------------|------------|------------------|-----------------------------|------------|------------------|
|                           | n                       | Weighted n | % (95% CI)       | n                           | Weighted n | % (95% CI)       |
| 0                         | 32                      | 281        | 2.6 (1.8,4.0)    | 85                          | 771        | 6.8 (5.2,8.9)    |
| 1-5                       | 194                     | 1227       | 11.5 (9.8,13.6)  | 337                         | 2893       | 25.7 (22.7,28.9) |
| 6-10                      | 255                     | 1511       | 14.2 (12.3,16.3) | 291                         | 2366       | 21.0 (18.3,24.0) |
| 11-15                     | 252                     | 1550       | 14.6 (12.6,16.8) | 227                         | 1768       | 15.7 (13.4,18.3) |
| 16-20                     | 244                     | 1494       | 14.0 (12.2,16.2) | 168                         | 1358       | 12.1 (10.0,14.5) |
| 21-30                     | 385                     | 2281       | 21.4 (19.2,23.8) | 151                         | 1265       | 11.2 (9.2,13.6)  |
| 31-40                     | 207                     | 1234       | 11.6 (9.9,13.5)  | 62                          | 544        | 4.8 (3.5,6.6)    |
| 40+                       | 161                     | 1069       | 10.0 (8.4,11.9)  | 29                          | 312        | 2.8 (1.8,4.3)    |

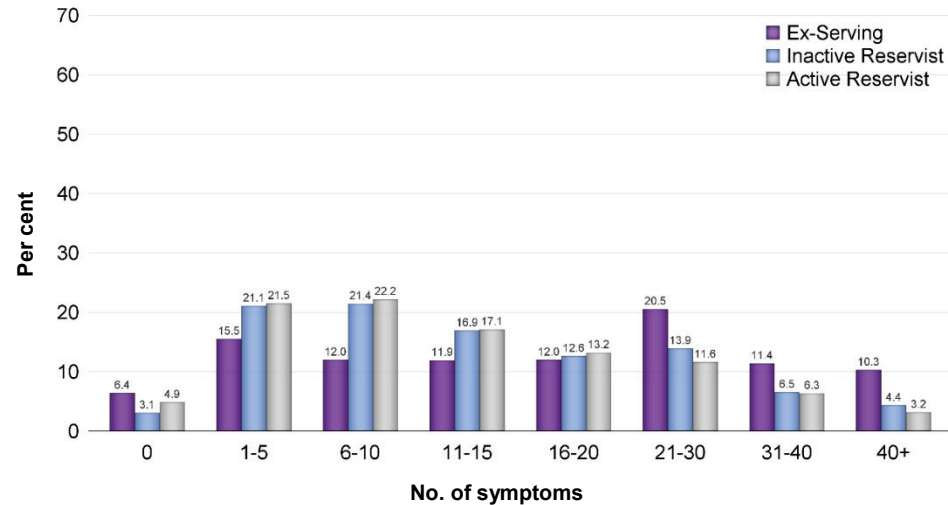
Notes: Denominator – all Transitioned ADF. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included.

**4.1.3 Number of health symptoms in the preceding month in Transitioned ADF, by transition status**

Table 4.3 shows the number of health symptoms in the preceding month reported by the Transitioned ADF members according to their transition status. Those who were Ex-Serving were more likely to report a greater number of symptoms – ‘21 to 30’, ‘31 to 40’ or ‘more than 40’ symptoms (20.5%, 11.4% and 10.3% respectively) – compared with both Inactive Reservists (13.9%, 6.5% and 4.4%) and Active Reservists (11.6%, 6.3% and 3.2%). In contrast, Ex-Serving ADF were less likely to report ‘6 to 10’ health symptoms (12.0%) than either Inactive Reservists (21.4%) or Active Reservists (22.2%) and less likely to report ‘11 to 15’ health symptoms compared with Active Reservists (11.9% and 17.1%).

Figure 4.2 shows the distribution of the number of health symptoms in the preceding month reported by the Transitioned ADF according to transition status. The overall pattern shows higher numbers of symptoms among Ex-Serving compared with Inactive Reservists and Active Reservists, whereas Inactive and Active Reservists reported similar numbers of health symptoms.

**Figure 4.2**      **Estimated proportions of number of health symptoms in the preceding month in Transitioned ADF, by transition status**



**Table 4.3** Estimated proportions of number of health symptoms in the preceding month in Transitioned ADF, by transition status

| Number of health symptoms | Ex-Serving<br>(n = 10,743) |            |                   | Inactive Reservists<br>(n = 7709) |            |                   | Active Reservists<br>(n = 6390) |            |                   |
|---------------------------|----------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                           | n                          | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| 0                         | 50                         | 685        | 6.4 (4.7, 8.7)    | 31                                | 238        | 3.1 (2.0, 4.8)    | 53                              | 311        | 4.9 (3.5, 6.7)    |
| 1–5                       | 165                        | 1662       | 15.5 (13.1, 18.4) | 195                               | 1631       | 21.1 (17.8, 24.8) | 250                             | 1375       | 21.5 (18.8, 24.5) |
| 6–10                      | 136                        | 1283       | 12.0 (9.8, 14.6)  | 210                               | 1658       | 21.5 (18.2, 25.1) | 257                             | 1418       | 22.2 (19.4, 25.2) |
| 11–15                     | 170                        | 1278       | 11.9 (9.9, 14.3)  | 168                               | 1310       | 16.9 (14.0, 20.3) | 197                             | 1096       | 17.1 (14.6, 20.0) |
| 16–20                     | 164                        | 1284       | 12.0 (10.0, 14.4) | 132                               | 976        | 12.6 (10.2, 15.5) | 157                             | 845        | 13.2 (11.1, 15.7) |
| 21–30                     | 292                        | 2197       | 20.5 (18.0, 23.3) | 159                               | 1077       | 13.9 (11.5, 16.8) | 143                             | 743        | 11.6 (9.7, 13.9)  |
| 31–40                     | 183                        | 1219       | 11.4 (9.6, 13.5)  | 57                                | 506        | 6.5 (4.7, 9.1)    | 73                              | 406        | 6.4 (4.9, 8.2)    |
| 40+                       | 150                        | 1104       | 10.3 (8.6, 12.4)  | 39                                | 337        | 4.4 (2.9, 6.4)    | 28                              | 203        | 3.2 (2.0, 5.0)    |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included.

#### 4.1.4 Number of health symptoms in the preceding month in Transitioned ADF, by reason for discharge

Table 4.4 shows the estimated proportions of Transitioned ADF members reporting health symptoms in the preceding month, according to reason for discharge. Those who were medically discharged were more likely to report a greater number of symptoms – ‘21 to 30’, ‘31 to 40’ and ‘more than 40’ health symptoms (25.2%, 18.5% and 18.3% respectively) – compared with those who left for another reason (13.6%, 6.0% and 3.6%). Conversely, those who were medically discharged were less likely to report a lower number of symptoms – ‘1 to 5’, ‘6 to 10’ or ‘11 to 15’ health symptoms (7.2%, 7.7% and 10.4% respectively) – compared with those who had another type of discharge (22.1%, 19.9% and 16.0% respectively).

**Table 4.4** Estimated number of health symptoms in the preceding month in Transitioned ADF, by reason for discharge

| Number of health symptoms | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|---------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                           | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| 0                         | 9                               | 131        | 2.6 (1.3, 5.0)    | 124                   | 1098       | 5.6 (4.5, 7.0)    |
| 1–5                       | 40                              | 368        | 7.2 (5.1, 10.1)   | 568                   | 4312       | 22.1 (20.1, 24.3) |
| 6–10                      | 47                              | 396        | 7.7 (5.5, 10.8)   | 548                   | 3885       | 19.9 (18.0, 22.0) |
| 11–15                     | 83                              | 534        | 10.4 (8.2, 13.2)  | 450                   | 3120       | 16.0 (14.3, 17.9) |
| 16–20                     | 83                              | 519        | 10.1 (8.0, 12.8)  | 368                   | 2578       | 13.2 (11.7, 15.0) |
| 21–30                     | 184                             | 1292       | 25.2 (21.6, 29.2) | 404                   | 2645       | 13.6 (12.0, 15.2) |
| 31–40                     | 146                             | 947        | 18.5 (15.4, 22.0) | 167                   | 1160       | 6.0 (4.9, 7.2)    |
| 40+                       | 133                             | 937        | 18.3 (15.2, 21.9) | 84                    | 708        | 3.6 (2.8, 4.7)    |

Note: Denominator – Transitioned ADF cohort.

## 4.2 Types of health symptoms

### 4.2.1 Type of health symptoms in the preceding month in Transitioned ADF and 2015 Regular ADF members

Table 4.5 shows the estimated proportions of Transitioned ADF members and 2015 Regular ADF members reporting each type of health symptom in the preceding month. Overall, the Transitioned ADF were more likely to report most types of health symptoms compared with the 2015 Regular ADF. Because of the large number of significant between-group differences observed, only the strongest associations are discussed here. When compared with the 2015 Regular ADF, Transitioned ADF members were significantly more likely to feel a burning sensation in their sex organs (2.6% vs 0.8%; OR 3.5, 95% CI 2.4, 5.0), were significantly more likely to have intolerance to alcohol (9.1% vs 3.2%; OR 3.0, 95% CI 1.8, 5.2) and were significantly more likely to experience a loss of balance (16.2% vs 5.2%; OR 3.5, 95% CI 2.7, 4.5). These were all strong associations. Several moderate associations were also found, the strongest of these being discussed here. When compared with the 2015 Regular ADF,

Transitioned ADF members were significantly more likely to report distressing dreams (30.6% vs 12.8%; OR 2.8, 95% CI 2.1, 3.8), were significantly more likely to report passing urine more frequently (12.8% vs 5.5%; OR 2.4, 95% CI 1.9, 3.1) and were significantly more likely to report increased sensitivity to smells/odours (9.2% vs 3.9%; OR 2.4, 95% CI 1.5, 4.0).

Figures 4.3 and 4.4 show the estimated proportions of Transitioned ADF and 2015 Regular ADF reporting each health symptom in rank order.

**4.2.2 Type of health symptoms in the preceding month in Transitioned ADF, by DVA client status**

Table 4.6 shows the estimated prevalence of health symptom types in the preceding month in Transitioned ADF members by DVA client status. Among the Transitioned ADF, DVA clients were significantly more likely to report all health symptom types compared with those who were not DVA clients. Some of the higher prevalences and stronger associations are described here. More specifically, DVA clients were significantly more likely to report feeling jumpy/easily startled (44.6% vs 21.2%; OR 3.1, 95% CI 2.5, 3.9), significantly more likely to report joint stiffness (65.0% vs 33.0%; OR 3.4, 95% CI 2.8, 4.1), significantly more likely to report pain without swelling (45.4% vs 19.5%; OR 3.3, 95% CI 2.7, 4.1), significantly more likely to report problems with sexual functioning (30.3% vs 10.6%; OR 3.1, 95% CI 2.4, 4.1), significantly more likely to report unintentionally gaining 4 kilograms or more of weight (25.0% vs 10.7%; OR 2.9, 95% CI 2.2, 3.8) and significantly more likely to report distressing dreams (39.5% vs 21.0%; OR 2.54, 95% CI 2.03, 3.16). All were strong or moderate associations.

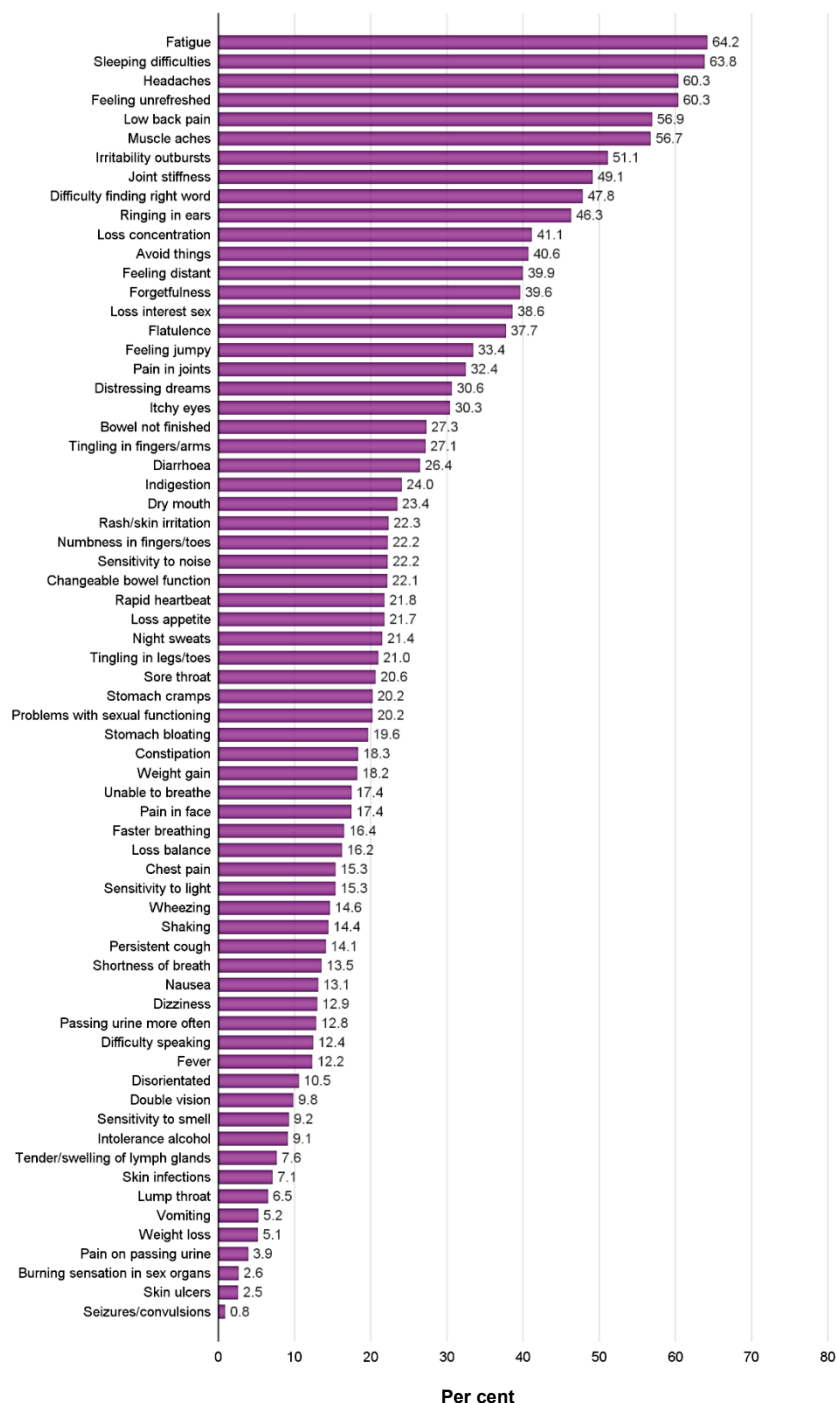
**Table 4.5**      **Estimated prevalence of health symptoms in the preceding month in Transitioned ADF and 2015 Regular ADF**

| Symptom   | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|---|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|   | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Avoiding doing things or situations                           | 1433                             | 10,133     | 40.6 (38.6, 42.7) | 1820                             | 13,404     | 25.5 (21.9, 29.6) |
| Feeling that your bowel movement is not finished              | 935                              | 6794       | 27.3 (25.4, 29.2) | 1407                             | 10,445     | 19.9 (16.8, 23.4) |
| Burning sensation in the sex organs                           | 85                               | 644        | 2.6 (2.0, 3.4)    | 102                              | 434        | 0.8 (0.7, 1.0)    |
| Changeable bowel function (mixture of diarrhoea/constipation) | 774                              | 5511       | 22.1 (20.4, 23.9) | 1258                             | 7962       | 15.2 (12.7, 18.0) |
| Chest pain  | 532                              | 3824       | 15.3 (13.9, 16.9) | 677                              | 4832       | 9.2 (7.0, 12.1)   |
| Constipation  | 634                              | 4555       | 18.3 (16.7, 19.9) | 1038                             | 6615       | 12.6 (10.1, 15.6) |
| Diarrhoea   | 938                              | 6584       | 26.4 (24.6, 28.3) | 1748                             | 12,721     | 24.2 (20.6, 28.2) |
| Difficulty finding the right word                             | 1586                             | 11,911     | 47.8 (45.6, 49.9) | 2549                             | 17,184     | 32.7 (28.9, 36.8) |
| Difficulty speaking   | 387                              | 3093       | 12.4 (11.0, 13.9) | 397                              | 4348       | 8.3 (5.8, 11.7)   |
| Feeling disorientated   | 346                              | 2625       | 10.5 (9.3, 11.9)  | 285                              | 2968       | 5.7 (3.5, 9.0)    |
| Distressing dreams  | 1067                             | 7628       | 30.6 (28.7, 32.5) | 1034                             | 6734       | 12.8 (10.3, 15.8) |
| Dizziness, fainting or blackouts                              | 426                              | 3225       | 12.9 (11.6, 14.4) | 587                              | 4701       | 9.0 (6.6, 12.1)   |
| Double vision   | 342                              | 2443       | 9.8 (8.7, 11.1)   | 430                              | 2852       | 5.4 (3.7, 7.9)    |
| Dry mouth   | 836                              | 5843       | 23.4 (21.7, 25.2) | 1052                             | 8328       | 15.9 (12.8, 19.6) |
| Faster breathing than normal                                  | 574                              | 4098       | 16.4 (15.0, 18.0) | 633                              | 6402       | 12.2 (9.1, 16.1)  |
| Fatigue   | 2280                             | 15,995     | 64.2 (62.1, 66.2) | 4457                             | 32,313     | 61.6 (57.4, 65.6) |
| Feeling distant or cut off from others                        | 1338                             | 9951       | 39.9 (37.9, 42.0) | 1756                             | 13,669     | 26.0 (22.3, 30.2) |
| Feeling jumpy/easily startled                                 | 1166                             | 8326       | 33.4 (31.5, 35.4) | 1200                             | 9298       | 17.7 (14.4, 21.5) |
| Feeling unrefreshed after sleep                               | 2169                             | 15,040     | 60.3 (58.2, 62.4) | 3881                             | 26,709     | 50.9 (46.6, 55.1) |
| Feeling feverish  | 437                              | 3054       | 12.3 (11.0, 13.7) | 530                              | 4033       | 7.7 (5.7, 10.2)   |
| Flatulence or burping   | 1365                             | 9399       | 37.7 (36.0, 39.8) | 2473                             | 15,411     | 29.4 (26.0, 33.0) |
| Forgetfulness   | 1394                             | 9866       | 39.6 (37.5, 41.6) | 2007                             | 13,917     | 26.5 (22.9, 30.5) |
| Headaches   | 2151                             | 15,041     | 60.3 (58.2, 62.4) | 4453                             | 31,841     | 60.7 (56.5, 64.7) |
| Indigestion   | 873                              | 5988       | 24.0 (22.3, 25.8) | 1265                             | 9067       | 17.3 (14.2, 20.9) |
| Intolerance to alcohol  | 293                              | 2260       | 9.1 (8.0, 10.4)   | 257                              | 1696       | 3.2 (2.1, 5.0)    |
| Irritability/outbursts of anger                               | 1797                             | 12,733     | 51.1 (49.0, 53.2) | 2749                             | 19,907     | 37.9 (33.9, 42.1) |
| Itchy or painful eyes   | 1069                             | 7565       | 30.3 (28.4, 32.3) | 1830                             | 10,996     | 21.0 (18.2, 24.0) |
| Joint stiffness   | 1844                             | 12,235     | 49.1 (47.0, 51.1) | 2953                             | 20,838     | 39.7 (35.7, 43.9) |
| Loss of, or decrease in, appetite                             | 656                              | 5422       | 21.8 (20.0, 23.6) | 772                              | 5507       | 10.5 (8.2, 13.3)  |
| Loss of balance or coordination                               | 564                              | 4032       | 16.2 (14.7, 17.8) | 550                              | 2751       | 5.2 (4.3, 6.4)    |
| Loss of concentration   | 1418                             | 10,240     | 41.1 (39.0, 43.2) | 2119                             | 14,356     | 27.3 (23.7, 31.4) |
| Loss of interest in sex                                       | 1353                             | 9613       | 38.6 (36.5, 40.6) | 1858                             | 11,672     | 22.2 (19.0, 25.9) |
| Low back pain   | 2073                             | 14,187     | 56.9 (54.8, 59.0) | 3590                             | 24,541     | 46.7 (42.6, 50.9) |
| Lump in throat  | 221                              | 1613       | 6.5 (5.5, 7.6)    | 247                              | 1893       | 3.6 (2.3, 5.6)    |
| General muscle aches or pains                                 | 2058                             | 14,139     | 56.7 (54.6, 58.8) | 3906                             | 26,290     | 50.1 (45.9, 54.3) |
| Nausea  | 467                              | 3254       | 13.1 (11.8, 14.5) | 696                              | 5861       | 11.2 (8.5, 14.5)  |

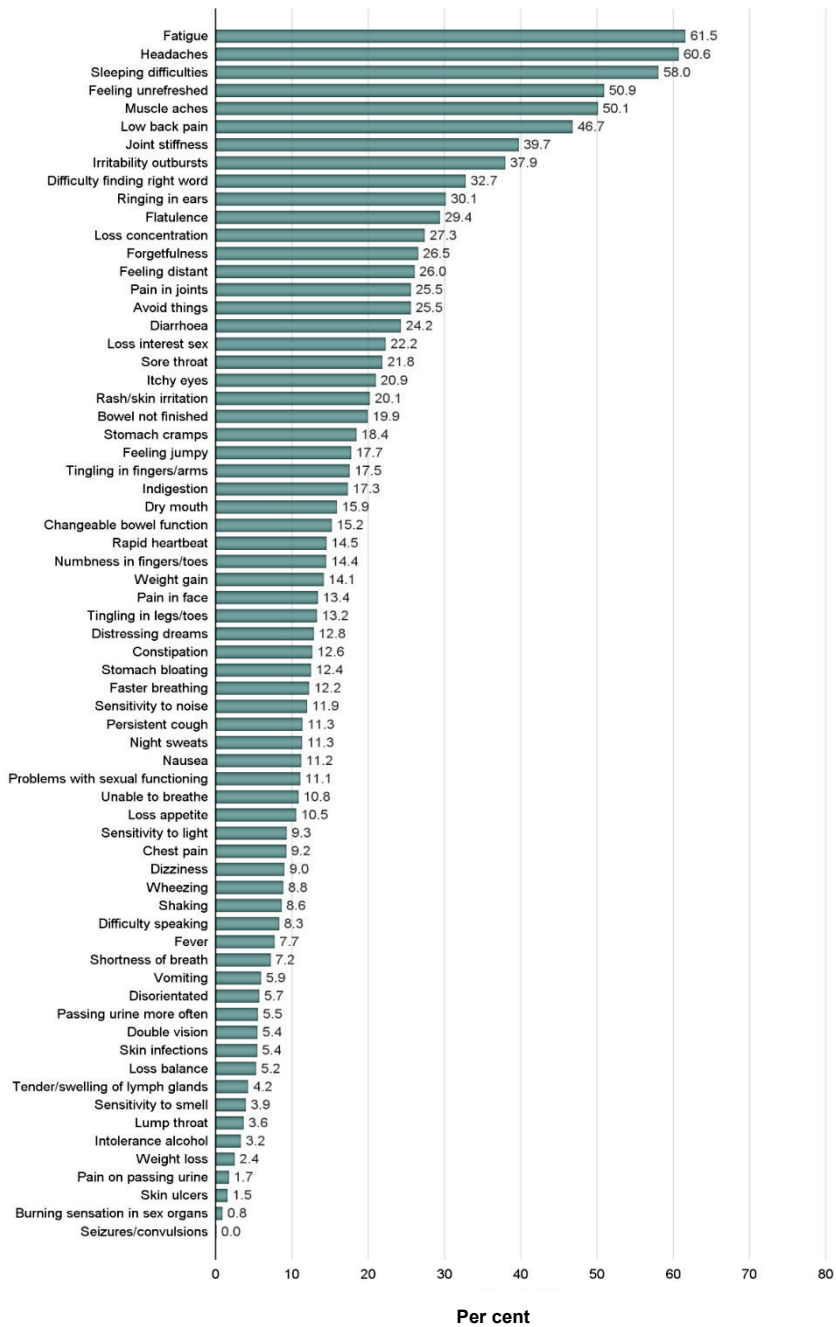
| Symptom   | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|---|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|   | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Night sweats which soak the bed sheets                          | 756                              | 5346       | 21.4 (19.8, 23.2) | 877                              | 5913       | 11.3 (9.0, 14.0)  |
| Numbness in fingers/toes  | 866                              | 5530       | 22.2 (20.6, 23.8) | 1055                             | 7574       | 14.4 (11.5, 18.0) |
| Pain in the face, jaw, in front of ear, or in ear               | 631                              | 4340       | 17.4 (15.9, 19.0) | 978                              | 7010       | 13.4 (10.7, 16.6) |
| Pain without swelling or redness in several joints              | 1198                             | 8082       | 32.4 (30.6, 34.3) | 1638                             | 13,410     | 25.5 (21.8, 29.8) |
| Pain on passing urine   | 124                              | 964        | 3.9 (3.1, 4.8)    | 126                              | 884        | 1.7 (0.8, 3.7)    |
| Passing urine more often  | 494                              | 3191       | 12.8 (11.5, 14.2) | 565                              | 2875       | 5.5 (4.5, 6.6)    |
| Persistent cough  | 496                              | 3507       | 14.0 (12.7, 15.6) | 829                              | 5946       | 11.3 (8.8, 14.5)  |
| Rapid heartbeat   | 796                              | 5424       | 21.8 (20.1, 23.5) | 1010                             | 7602       | 14.5 (11.6, 17.9) |
| Rash or skin irritation   | 833                              | 5553       | 22.3 (20.6, 24.0) | 1358                             | 10,577     | 20.2 (16.7, 24.2) |
| Ringing in the ears   | 1660                             | 11,531     | 46.3 (44.2, 48.4) | 2371                             | 15,820     | 30.1 (26.5, 34.1) |
| Seizures  | 23                               | 208        | 0.8 (0.5, 1.4)    | 6                                | 22         | 0.0 (0.0, 0.1)    |
| Increased sensitivity to light                                  | 523                              | 3818       | 15.3 (13.9, 16.9) | 696                              | 4867       | 9.3 (7.0, 12.2)   |
| Increased sensitivity to noise                                  | 855                              | 5525       | 22.2 (20.5, 23.9) | 969                              | 6257       | 11.9 (9.4, 15.1)  |
| Increased sensitivity to smells or odours                       | 338                              | 2299       | 9.2 (8.1, 10.5)   | 361                              | 2038       | 3.9 (2.6, 5.7)    |
| Problems with sexual functioning                                | 818                              | 5031       | 20.2 (18.7, 21.7) | 885                              | 5802       | 11.1 (8.8, 13.7)  |
| Shaking   | 473                              | 3590       | 14.4 (13.0, 16.0) | 497                              | 4509       | 8.6 (6.1, 11.9)   |
| Feeling short of breath at rest                                 | 467                              | 3364       | 13.5 (12.1, 15.0) | 498                              | 3767       | 7.2 (5.1, 10.0)   |
| Skin infections   | 248                              | 1762       | 7.1 (6.1, 8.2)    | 357                              | 2835       | 5.4 (3.6, 8.0)    |
| Skin ulcers   | 82                               | 631        | 2.5 (1.9, 3.3)    | 108                              | 781        | 1.5 (0.8, 2.9)    |
| Sleeping difficulties   | 2304                             | 15,900     | 63.8 (61.7, 65.8) | 4354                             | 30,457     | 58.0 (53.7, 62.2) |
| Sore throat   | 722                              | 5129       | 20.6 (18.9, 22.4) | 1538                             | 11,447     | 21.8 (18.3, 25.8) |
| Stomach bloating  | 708                              | 4885       | 19.6 (18.0, 21.3) | 1133                             | 6534       | 12.5 (10.3, 15.0) |
| Stomach cramps  | 698                              | 5035       | 20.2 (18.6, 21.9) | 1204                             | 9669       | 18.4 (15.0, 22.5) |
| Tender/painful swelling of lymph glands in neck armpit or groin | 244                              | 1893       | 7.6 (6.5, 8.9)    | 354                              | 2195       | 4.2 (2.8, 6.1)    |
| Tingling in fingers and arms                                    | 1021                             | 6764       | 27.1 (25.4, 28.9) | 1258                             | 9191       | 17.5 (14.3, 21.3) |
| Tingling in legs and toes                                       | 739                              | 5224       | 21.0 (19.3, 22.7) | 888                              | 6935       | 13.2 (10.3, 16.9) |
| Unable to breathe deeply enough                                 | 612                              | 4345       | 17.4 (15.9, 19.0) | 748                              | 5675       | 10.8 (8.2, 14.1)  |
| Vomiting  | 188                              | 1295       | 5.2 (4.4, 6.2)    | 326                              | 3096       | 5.9 (3.8, 9.1)    |
| Unintended weight gain greater than 4 kg                        | 637                              | 4532       | 18.2 (16.7, 19.8) | 893                              | 7414       | 14.1 (11.1, 17.8) |
| Unintended weight loss greater than 4 kg                        | 141                              | 1277       | 5.1 (4.2, 6.2)    | 188                              | 1282       | 2.4 (1.7, 3.6)    |
| Wheezing  | 530                              | 3633       | 14.6 (13.2, 16.1) | 680                              | 4629       | 8.8 (6.7, 11.5)   |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 4.3**      **Estimated prevalence of health symptoms in the preceding month in rank order:**  
**Transitioned ADF members**



**Figure 4.4**      **Estimated prevalence of health symptoms in the preceding month in rank order:**  
**2015 Regular ADF members**



**Table 4.6**      **Estimated prevalence of health symptoms in the preceding month in Transitioned ADF, by DVA client status**

| Symptom  | DVA client<br>(n = 10,647) |            |                   | Non-DVA client<br>(n = 11,278) |            |                   |
|--|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|  | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Avoiding doing things or situations                | 891                        | 5549       | 52.1 (49.3, 55.0) | 372                            | 3192       | 28.3 (25.3, 31.6) |
| Feeling that your bowel movement is not finished   | 550                        | 3467       | 32.6 (29.9, 35.3) | 271                            | 2463       | 21.8 (19.0, 24.9) |
| Burning sensation in the sex organs                | 53                         | 358        | 3.4 (2.4, 4.6)    | 19                             | 207        | 1.8 (1.1, 3.1)    |
| Changeable bowel function (diarrhoea/constipation) | 454                        | 2802       | 26.3 (23.9, 28.9) | 227                            | 1984       | 17.6 (15.1, 20.5) |
| Chest pain   | 331                        | 1999       | 18.8 (16.7, 21.1) | 144                            | 1294       | 11.5 (9.4, 14.0)  |
| Constipation                                       | 405                        | 2544       | 23.9 (21.6, 26.4) | 161                            | 1501       | 13.3 (11.1, 15.9) |
| Diarrhoea  | 514                        | 3210       | 30.2 (27.6, 32.9) | 306                            | 2399       | 21.3 (18.6, 24.2) |
| Difficulty finding the right word                  | 911                        | 5752       | 54.0 (51.2, 56.9) | 508                            | 4797       | 42.5 (39.1, 46.1) |
| Difficulty speaking                                | 238                        | 1528       | 14.4 (12.5, 16.5) | 102                            | 1128       | 10.0 (8.0, 12.5)  |
| Feeling disorientated                              | 223                        | 1512       | 14.2 (12.3, 16.4) | 78                             | 691        | 6.1 (4.6, 8.1)    |
| Distressing dreams                                 | 679                        | 4209       | 39.5 (36.8, 42.3) | 266                            | 2364       | 21.0 (18.2, 24.0) |
| Dizziness, fainting or blackouts                   | 250                        | 1587       | 14.9 (13.0, 17.0) | 122                            | 1139       | 10.1 (8.1, 12.5)  |
| Double vision                                      | 224                        | 1357       | 12.8 (11.1, 14.7) | 71                             | 700        | 6.2 (4.7, 8.2)    |
| Dry mouth  | 534                        | 3364       | 31.6 (29.0, 34.3) | 210                            | 1791       | 15.9 (13.5, 18.6) |
| Faster breathing than normal                       | 368                        | 2212       | 20.8 (18.6, 23.1) | 138                            | 1278       | 11.3 (9.2, 13.8)  |
| Fatigue  | 1238                       | 7609       | 71.5 (68.8, 74.0) | 785                            | 6399       | 56.7 (53.2, 60.2) |
| Feeling distant or cut off from others             | 806                        | 5227       | 49.1 (46.3, 51.9) | 385                            | 3620       | 32.1 (28.9, 35.5) |
| Feeling jumpy/easily startled                      | 757                        | 4747       | 44.6 (41.8, 47.4) | 270                            | 2387       | 21.2 (18.4, 24.2) |
| Feeling unrefreshed after sleep                    | 1220                       | 7516       | 70.6 (67.9, 73.2) | 705                            | 5654       | 50.1 (46.6, 53.6) |
| Feeling feverish                                   | 279                        | 1754       | 16.5 (14.5, 18.7) | 110                            | 890        | 7.9 (6.2, 9.9)    |
| Flatulence or burping                              | 774                        | 4857       | 45.6 (42.8, 48.5) | 449                            | 3453       | 30.6 (27.6, 33.9) |
| Forgetfulness                                      | 834                        | 5120       | 48.1 (45.2, 51.0) | 407                            | 3447       | 30.6 (27.5, 33.9) |
| Headaches  | 1159                       | 7106       | 66.7 (64.0, 69.4) | 741                            | 6043       | 53.6 (50.1, 57.1) |
| Indigestion  | 531                        | 3274       | 30.8 (28.2, 33.3) | 260                            | 2002       | 17.8 (15.3, 20.5) |
| Intolerance to alcohol                             | 173                        | 1128       | 10.6 (8.9, 12.5)  | 83                             | 788        | 7.0 (5.3, 9.1)    |
| Irritability/outbursts of anger                    | 1040                       | 6546       | 61.5 (58.7, 64.2) | 558                            | 4535       | 40.2 (36.9, 43.7) |
| Itchy or painful eyes                              | 597                        | 3528       | 33.1 (30.5, 35.9) | 345                            | 3101       | 27.5 (24.4, 30.8) |
| Joint stiffness                                    | 1144                       | 6923       | 65.0 (62.2, 67.8) | 495                            | 3720       | 33.0 (29.9, 36.2) |
| Loss of, or decrease in, appetite                  | 402                        | 2822       | 26.5 (24.0, 29.2) | 179                            | 1894       | 16.8 (14.2, 19.8) |
| Loss of balance or coordination                    | 293                        | 1199       | 4.6 (3.8, 5.6)    | 128                            | 1210       | 10.7 (8.7, 13.2)  |
| Loss of concentration                              | 837                        | 5205       | 48.9 (46.1, 51.7) | 419                            | 3728       | 33.1 (29.8, 36.5) |
| Loss of interest in sex                            | 840                        | 5134       | 48.2 (45.4, 51.1) | 365                            | 3312       | 29.4 (26.2, 32.7) |
| Low back pain                                      | 1203                       | 7348       | 69.0 (66.2, 71.7) | 629                            | 5071       | 45.0 (41.6, 48.4) |
| Lump in throat                                     | 141                        | 896        | 8.4 (7.0, 10.1)   | 52                             | 516        | 4.6 (3.3, 6.4)    |
| General muscle aches or pains                      | 1175                       | 7140       | 67.1 (64.2, 69.8) | 653                            | 5192       | 46.0 (42.6, 49.5) |
| Nausea   | 279                        | 1823       | 17.1 (15.1, 19.4) | 134                            | 974        | 8.6 (7.0, 10.6)   |
| Night sweats which soak the bed sheets             | 491                        | 2948       | 27.7 (25.3, 30.3) | 185                            | 1698       | 15.1 (12.7, 17.8) |

| Symptom  | DVA client<br>(n = 10,647) |            |                   | Non-DVA client<br>(n = 11,278) |            |                   |
|--|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|  | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Numbness in fingers/toes                                     | 556                        | 3213       | 30.2 (27.8, 32.7) | 198                            | 1512       | 13.4 (11.3, 15.8) |
| Pain in the face, jaw, in front of ear, or in ear            | 393                        | 2485       | 23.3 (21.0, 25.9) | 169                            | 1314       | 11.7 (9.7, 14.0)  |
| Pain without swelling or redness in several joints           | 799                        | 4830       | 45.4 (42.6, 48.2) | 263                            | 2203       | 19.5 (16.9, 22.5) |
| Pain on passing urine  | 77                         | 512        | 4.8 (3.7, 6.3)    | 31                             | 308        | 2.7 (1.8, 4.2)    |
| Passing urine more often                                     | 311                        | 1771       | 19.5 (14.7, 18.8) | 137                            | 1071       | 9.5 (7.7, 11.7)   |
| Persistent cough   | 301                        | 1829       | 17.2 (15.1, 19.5) | 142                            | 1306       | 11.6 (9.5, 14.1)  |
| Rapid heartbeat  | 478                        | 2731       | 25.7 (23.4, 28.1) | 223                            | 1910       | 16.9 (14.5, 19.7) |
| Rash or skin irritation                                      | 489                        | 2910       | 27.3 (24.9, 29.9) | 258                            | 2090       | 18.5 (16.0, 21.4) |
| Ringing in the ears  | 1032                       | 6160       | 57.9 (55.0, 60.7) | 442                            | 4031       | 35.7 (32.4, 39.2) |
| Seizures   | 18                         | 146        | 1.4 (0.8, 2.4)    | 3                              | 23         | 0.2 (0.1, 0.7)    |
| Increased sensitivity to light                               | 345                        | 2190       | 20.6 (18.3, 23.0) | 115                            | 1085       | 9.6 (7.7, 12.0)   |
| Increased sensitivity to noise                               | 555                        | 3175       | 29.8 (27.4, 32.4) | 204                            | 1594       | 14.1 (11.9, 16.6) |
| Increased sensitivity to smells or odours                    | 221                        | 1349       | 12.7 (10.9, 14.7) | 73                             | 593        | 5.3 (4.0, 6.9)    |
| Problems with sexual functioning                             | 572                        | 3222       | 30.3 (27.8, 32.9) | 160                            | 1195       | 10.6 (8.7, 12.8)  |
| Shaking  | 316                        | 2029       | 19.1 (16.9, 21.4) | 106                            | 1079       | 9.6 (7.6, 12.0)   |
| Feeling short of breath at rest                              | 302                        | 1794       | 16.9 (14.9, 19.0) | 109                            | 1076       | 9.5 (7.6, 11.9)   |
| Skin infections  | 160                        | 988        | 9.3 (7.7, 11.1)   | 65                             | 634        | 5.6 (4.2, 7.6)    |
| Skin ulcers  | 48                         | 352        | 3.3 (2.3, 4.7)    | 26                             | 215        | 1.9 (1.2, 3.1)    |
| Sleeping difficulties  | 1265                       | 7525       | 70.7 (67.9, 73.3) | 778                            | 6332       | 56.1 (52.6, 59.6) |
| Sore throat  | 385                        | 2513       | 23.6 (21.2, 26.2) | 256                            | 2079       | 18.4 (15.9, 21.3) |
| Stomach bloating   | 423                        | 2505       | 23.5 (21.3, 26.0) | 205                            | 1745       | 15.5 (13.1, 18.2) |
| Stomach cramps   | 396                        | 2577       | 24.2 (21.8, 26.8) | 213                            | 1726       | 15.3 (13.1, 17.9) |
| Tender/painful swelling of lymph glands neck armpit or groin | 149                        | 1015       | 9.5 (7.9, 11.5)   | 68                             | 718        | 6.4 (4.8, 8.5)    |
| Tingling in fingers and arms                                 | 653                        | 3829       | 36.0 (33.4, 38.7) | 253                            | 2106       | 18.7 (16.1, 21.5) |
| Tingling in legs and toes                                    | 478                        | 2980       | 28.0 (25.6, 30.6) | 155                            | 1427       | 12.7 (10.5, 15.2) |
| Unable to breathe deeply enough                              | 391                        | 2419       | 22.7 (20.4, 25.2) | 153                            | 1411       | 12.5 (10.3, 15.1) |
| Vomiting   | 104                        | 661        | 6.2 (5.0, 7.7)    | 63                             | 457        | 4.1 (3.0, 5.5)    |
| Unintended weight gain greater than 4 kg                     | 410                        | 2658       | 25.0 (22.6, 27.5) | 155                            | 1203       | 10.7 (8.8, 12.9)  |
| Wheezing   | 305                        | 1838       | 17.3 (15.2, 19.5) | 158                            | 1324       | 11.7 (9.7, 14.1)  |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

#### **4.2.3 Types of health symptoms in the preceding month among Transitioned ADF, by transition status**

Table 4.7 shows the types of health symptoms reported for the preceding month by Transitioned ADF members by transition status. With the exception of a few minor differences in a small number of individual symptom types, there was an overall pattern of greater prevalence of all health symptom types among Ex-Serving ADF compared with Inactive Reservists and Active Reservists and a similar prevalence of all health symptom types among Inactive Reservists and Active Reservists. Several moderate associations were found: Transitioned ADF who were Ex-Serving were significantly more likely to report having problems with sexual functioning (26.4% vs 13.2%; OR 2.6, 95% CI 2.0, 3.5) and tingling in their legs and toes (29.5% vs 14.3%; OR 2.6, 95% CI 2.0, 3.4) when compared with Inactive Reservists.

When comparing Ex-Serving ADF members with Active Reservists, a number of moderate associations emerged. Ex-Serving ADF were significantly more likely to report having distressing dreams (40.5% vs 19.6%; OR 2.8, 95% CI 2.2, 3.5) and significantly more likely to report tingling in their legs and toes (29.5% vs 15.0%; OR 2.6, 95% CI 2.0, 3.4) than Active Reservists. Ex-Serving ADF were also significantly more likely than Active Reservists to report the following conditions: loss of balance or coordination (22.8% vs 11.0%; OR 2.5, 95% CI 1.8, 3.4), increased sensitivity to smells or odours (12.6% vs 5.7%; OR 2.5, 95% CI 1.7, 3.7), shaking (20.4% vs 8.3%; OR 2.5, 95% CI 1.8, 3.7) and unintended weight gain greater than 4 kilograms (24.3% vs 11.9%; OR 2.5, 95% CI 1.8, 3.3).

#### **4.2.4 Type of health symptoms in the preceding month in Transitioned ADF, by discharge status**

Table 4.8 shows the estimated prevalence of health symptom types in the preceding month among Transitioned ADF members according to type of discharge. Transitioned ADF who were medically discharged were significantly more likely to report all health symptom types other than skin ulcers compared with Transitioned ADF members who had another type of discharge, and the magnitude of the odds ratios was moderate or strong for nearly all symptoms. Health symptoms with the largest differences included avoiding doing things or situations (68.4% vs 33.4%; OR 4.2, 95% CI 3.3, 5.2), joint stiffness (73.3% vs 42.5%; OR 4.1, 95% CI 3.23, 5.24), numbness in the fingers or toes (43.4% vs 16.6%; OR 4.3, 95% CI 3.4, 5.4), problems with sexual functioning (39.8% vs 15.1%; OR 4.5, 95% CI 3.5, 5.8), tingling in the legs and toes (45.8% vs 14.5%; OR 5.1, 95% CI 4.1, 6.5) and seizures (2.6% vs 0.4%; OR 6.4, 95% CI 2.4, 17.3). Although it was the strongest of the observed associations, the difference in seizures should be interpreted with caution because of the wide confidence intervals.

**Table 4.7** Estimated prevalence of health symptoms in the preceding month in Transitioned ADF, by transition status

| Symptom   | Ex-Serving<br>(n = 10,743) |            |                   | Inactive Reservists<br>(n = 7709) |            |                   | Active Reservists<br>(n = 6390) |            |                   |
|---|----------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|   | n                          | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Avoiding doing things or situations                           | 727                        | 5361       | 50.1 (46.7, 53.4) | 352                               | 2816       | 36.4 (32.5, 40.5) | 350                             | 1919       | 30.0 (26.9, 33.3) |
| Feeling that your bowel movement is not finished              | 434                        | 3241       | 30.3 (27.4, 33.3) | 250                               | 2058       | 26.6 (23.1, 30.5) | 247                             | 1458       | 22.8 (19.9, 26.0) |
| Burning sensation in the sex organs                           | 48                         | 363        | 3.4 (2.4, 4.8)    | 17                                | 121        | 1.6 (0.9, 2.8)    | 19                              | 156        | 2.4 (1.4, 4.3)    |
| Changeable bowel function (mixture of diarrhoea/constipation) | 386                        | 2951       | 27.6 (24.7, 30.6) | 188                               | 1401       | 18.1 (15.2, 21.5) | 198                             | 1151       | 18.0 (15.4, 20.9) |
| Chest pain  | 244                        | 1881       | 17.6 (15.2, 20.2) | 135                               | 1111       | 14.4 (11.7, 17.6) | 152                             | 828        | 13.0 (10.8, 15.4) |
| Constipation  | 325                        | 2518       | 23.5 (20.9, 26.4) | 148                               | 1147       | 14.8 (12.1, 18.0) | 161                             | 890        | 13.9 (11.7, 16.4) |
| Diarrhoea   | 437                        | 3309       | 30.9 (27.9, 34.0) | 249                               | 1807       | 23.4 (20.1, 27.0) | 251                             | 1453       | 22.7 (19.9, 25.8) |
| Difficulty finding the right word                             | 717                        | 5614       | 52.4 (49.0, 55.8) | 412                               | 3580       | 46.3 (42.2, 50.5) | 451                             | 2672       | 41.8 (38.3, 45.3) |
| Difficulty speaking   | 232                        | 1831       | 17.1 (14.7, 19.7) | 83                                | 778        | 10.1 (7.7, 13.0)  | 71                              | 479        | 7.5 (5.7, 9.9)    |
| Feeling disorientated   | 221                        | 1679       | 15.7 (13.4, 18.2) | 65                                | 560        | 7.3 (5.3, 9.8)    | 58                              | 366        | 5.7 (4.2, 7.8)    |
| Distressing dreams  | 585                        | 4336       | 40.5 (37.3, 43.8) | 250                               | 2006       | 25.9 (22.5, 29.7) | 227                             | 1255       | 19.6 (17.0, 22.5) |
| Dizziness, fainting or blackouts                              | 246                        | 1947       | 18.2 (15.8, 20.8) | 85                                | 717        | 9.3 (7.1, 12.0)   | 93                              | 544        | 8.5 (6.7, 10.7)   |
| Double vision   | 190                        | 1441       | 13.5 (11.4, 15.8) | 74                                | 466        | 6.0 (4.6, 7.9)    | 77                              | 531        | 8.3 (6.3, 10.8)   |
| Dry mouth   | 436                        | 3133       | 29.3 (26.4, 32.3) | 208                               | 1609       | 20.8 (17.7, 24.4) | 189                             | 1079       | 16.9 (14.4, 19.7) |
| Faster breathing than normal                                  | 327                        | 2397       | 22.4 (19.8, 25.2) | 129                               | 974        | 12.6 (10.2, 15.5) | 118                             | 727        | 11.4 (9.2, 14.0)  |
| Fatigue   | 969                        | 7325       | 68.4 (65.0, 71.6) | 626                               | 4726       | 61.1 (57.0, 65.1) | 677                             | 3871       | 60.5 (57.1, 63.8) |
| Feeling distant or cut off from others                        | 690                        | 5267       | 49.2 (45.9, 52.5) | 335                               | 2744       | 35.5 (31.6, 39.6) | 308                             | 1908       | 29.8 (26.6, 33.3) |
| Feeling jumpy/easily startled                                 | 633                        | 4555       | 42.5 (39.3, 45.8) | 276                               | 2309       | 29.9 (26.2, 33.8) | 253                             | 1435       | 22.4 (19.6, 25.5) |
| Feeling unrefreshed after sleep                               | 931                        | 7117       | 66.5 (63.1, 69.7) | 588                               | 4375       | 56.6 (52.4, 60.6) | 642                             | 3495       | 54.6 (51.1, 58.1) |
| Feeling feverish  | 235                        | 1667       | 15.6 (13.4, 18.0) | 92                                | 779        | 10.1 (7.8, 12.9)  | 110                             | 608        | 9.5 (7.7, 11.7)   |
| Flatulence or burping   | 564                        | 4334       | 40.5 (37.2, 43.8) | 361                               | 2768       | 35.8 (32.0, 39.8) | 439                             | 2293       | 35.8 (32.7, 39.1) |
| Forgetfulness   | 668                        | 4923       | 46.0 (42.7, 49.3) | 332                               | 2658       | 34.4 (30.6, 38.4) | 390                             | 2248       | 35.1 (31.8, 38.6) |
| Headaches   | 879                        | 6710       | 62.7 (59.2, 66.0) | 590                               | 4473       | 57.8 (53.7, 61.9) | 674                             | 3804       | 59.5 (56.0, 62.8) |

| Symptom  | Ex-Serving<br>(n = 10,743) |            |                   | Inactive Reservists<br>(n = 7709) |            |                   | Active Reservists<br>(n = 6390) |            |                   |
|--|----------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|  | n                          | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Indigestion  | 379                        | 2891       | 27.0 (24.2, 30.0) | 225                               | 1611       | 20.8 (17.8, 24.3) | 268                             | 1482       | 23.2 (20.4, 26.2) |
| Intolerance to alcohol                             | 149                        | 1174       | 11.0 (9.1, 13.2)  | 77                                | 684        | 8.8 (6.7, 11.6)   | 67                              | 402        | 6.3 (4.7, 8.4)    |
| Irritability/outbursts of anger                    | 811                        | 6045       | 56.4 (53.1, 59.7) | 489                               | 3905       | 50.5 (46.4, 54.6) | 490                             | 2735       | 42.8 (39.4, 46.2) |
| Itchy or painful eyes                              | 450                        | 3222       | 30.1 (27.2, 33.1) | 284                               | 2364       | 30.6 (26.8, 34.6) | 331                             | 1962       | 30.7 (27.5, 34.1) |
| Joint stiffness                                    | 814                        | 6010       | 56.1 (52.8, 59.4) | 471                               | 3351       | 43.3 (39.4, 47.4) | 556                             | 2853       | 44.6 (41.2, 48.0) |
| Loss of, or decrease in, appetite                  | 385                        | 3235       | 30.2 (27.2, 33.4) | 138                               | 1280       | 16.6 (13.6, 20.1) | 132                             | 891        | 13.9 (11.4, 16.9) |
| Loss of balance or coordination                    | 341                        | 2438       | 22.8 (20.2, 25.5) | 109                               | 882        | 11.4 (9.0, 14.3)  | 112                             | 704        | 11.0 (8.9, 13.6)  |
| Loss of concentration                              | 711                        | 5362       | 50.1 (46.7, 53.4) | 338                               | 2773       | 35.9 (32.0, 39.9) | 365                             | 2078       | 32.5 (29.3, 35.9) |
| Loss of interest in sex                            | 660                        | 4861       | 45.4 (42.1, 48.7) | 335                               | 2693       | 34.8 (31.0, 38.9) | 354                             | 2033       | 31.8 (28.5, 35.2) |
| Low back pain                                      | 860                        | 6560       | 61.3 (57.9, 64.5) | 567                               | 4150       | 53.7 (49.6, 57.7) | 641                             | 3458       | 54.0 (50.5, 57.5) |
| Lump in throat                                     | 116                        | 905        | 8.5 (6.8, 10.5)   | 57                                | 427        | 5.5 (4.0, 7.7)    | 48                              | 281        | 4.4 (3.2, 6.0)    |
| General muscle aches or pains                      | 863                        | 6526       | 60.9 (57.5, 64.3) | 552                               | 4087       | 52.9 (48.7, 56.9) | 636                             | 3487       | 54.5 (51.0, 57.9) |
| Nausea   | 258                        | 1883       | 17.6 (15.3, 20.1) | 108                               | 802        | 10.4 (8.2, 13.0)  | 101                             | 569        | 8.9 (7.1, 11.1)   |
| Night sweats which soak the bed sheets             | 395                        | 2917       | 27.2 (24.5, 30.2) | 179                               | 1392       | 18.0 (15.1, 21.4) | 180                             | 1029       | 16.1 (13.6, 18.9) |
| Numbness in fingers/toes                           | 423                        | 3008       | 28.1 (25.4, 31.0) | 204                               | 1322       | 17.1 (14.4, 20.1) | 237                             | 1193       | 18.6 (16.3, 21.2) |
| Pain in the face, jaw, in front of ear, or in ear  | 305                        | 2284       | 21.3 (18.8, 24.1) | 166                               | 1182       | 15.3 (12.7, 18.3) | 158                             | 866        | 13.5 (11.4, 16.0) |
| Pain without swelling or redness in several joints | 596                        | 4268       | 39.9 (36.7, 43.1) | 294                               | 2222       | 28.7 (25.2, 32.5) | 307                             | 1589       | 24.8 (22.1, 27.8) |
| Pain on passing urine                              | 75                         | 558        | 5.2 (4.0, 6.8)    | 24                                | 254        | 3.3 (2.0, 5.3)    | 25                              | 152        | 2.4 (1.5, 3.8)    |
| Passing urine more often                           | 208                        | 1419       | 13.3 (11.3, 15.5) | 137                               | 999        | 12.9 (10.4, 15.9) | 146                             | 742        | 11.6 (9.7, 13.8)  |
| Persistent cough                                   | 220                        | 1676       | 15.7 (13.4, 18.2) | 131                               | 918        | 11.9 (9.6, 14.7)  | 144                             | 909        | 14.2 (11.8, 17.1) |
| Rapid heartbeat                                    | 406                        | 2807       | 26.2 (23.5, 29.1) | 202                               | 1580       | 20.4 (17.3, 23.9) | 187                             | 1023       | 16.0 (13.7, 18.6) |
| Rash or skin irritation                            | 347                        | 2548       | 23.8 (21.2, 26.6) | 210                               | 1575       | 20.4 (17.3, 23.9) | 271                             | 1398       | 21.9 (19.3, 24.7) |
| Ringing in the ears                                | 686                        | 5171       | 48.3 (44.9, 51.7) | 441                               | 3529       | 45.6 (41.6, 49.8) | 525                             | 2778       | 43.4 (40.1, 46.8) |
| Seizures   | 16                         | 152        | 1.4 (0.8, 2.5)    | 3                                 | 14         | 0.2 (0.1, 0.5)    | 4                               | 43         | 0.7 (0.2, 2.3)    |

| Symptom   | Ex-Serving<br>(n = 10,743) |            |                   | Inactive Reservists<br>(n = 7709) |            |                   | Active Reservists<br>(n = 6390) |            |                   |
|---|----------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|   | n                          | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Increased sensitivity to light                                  | 285                        | 2082       | 19.4 (17.0, 22.1) | 130                               | 1041       | 13.5 (10.9, 16.6) | 107                             | 691        | 10.8 (8.7, 13.4)  |
| Increased sensitivity to noise                                  | 424                        | 2875       | 26.8 (24.1, 29.8) | 201                               | 1400       | 18.1 (15.3, 21.3) | 228                             | 1242       | 19.4 (16.9, 22.2) |
| Increased sensitivity to smells or odours                       | 205                        | 1346       | 12.6 (10.7, 14.7) | 72                                | 586        | 7.6 (5.7, 10.1)   | 61                              | 367        | 5.7 (4.3, 7.7)    |
| Problems with sexual functioning                                | 431                        | 2829       | 26.4 (23.8, 29.2) | 159                               | 1023       | 13.2 (10.9, 16.0) | 226                             | 1171       | 18.3 (15.9, 21.0) |
| Shaking   | 293                        | 2182       | 20.4 (17.9, 23.1) | 102                               | 870        | 11.3 (8.9, 14.2)  | 77                              | 533        | 8.3 (6.4, 10.8)   |
| Feeling short of breath at rest                                 | 257                        | 1864       | 17.4 (15.1, 20.0) | 100                               | 820        | 10.6 (8.3, 13.5)  | 109                             | 677        | 10.6 (8.5, 13.1)  |
| Skin infections   | 117                        | 902        | 8.4 (6.8, 10.4)   | 66                                | 467        | 6.0 (4.4, 8.2)    | 64                              | 390        | 6.1 (4.5, 8.1)    |
| Skin ulcers   | 35                         | 252        | 2.7 (1.6, 3.5)    | 23                                | 239        | 3.1 (1.9, 5.1)    | 24                              | 140        | 2.2 (1.3, 3.5)    |
| Sleeping difficulties   | 970                        | 7371       | 68.8 (65.5, 72.0) | 632                               | 4675       | 60.5 (56.3, 64.4) | 692                             | 3772       | 59.0 (55.5, 62.4) |
| Sore throat   | 292                        | 2255       | 21.1 (18.5, 23.9) | 190                               | 1465       | 18.9 (15.9, 22.4) | 238                             | 1382       | 21.6 (18.8, 24.7) |
| Stomach bloating  | 324                        | 2370       | 22.1 (19.6, 24.9) | 175                               | 1373       | 17.8 (14.8, 21.1) | 207                             | 1134       | 17.7 (15.3, 20.5) |
| Stomach cramps  | 344                        | 2646       | 24.7 (22.0, 27.6) | 179                               | 1380       | 17.8 (14.9, 21.2) | 173                             | 1002       | 15.7 (13.3, 18.3) |
| Tender/painful swelling of lymph glands in neck armpit or groin | 121                        | 883        | 8.2 (6.7, 10.2)   | 58                                | 611        | 7.9 (5.8, 10.8)   | 65                              | 399        | 6.2 (4.7, 8.3)    |
| Tingling in fingers and arms                                    | 505                        | 3694       | 34.5 (31.5, 37.6) | 250                               | 1682       | 21.8 (18.8, 25.1) | 263                             | 1375       | 21.5 (18.9, 24.3) |
| Tingling in legs and toes                                       | 410                        | 3157       | 29.5 (26.6, 32.6) | 154                               | 1109       | 14.3 (11.8, 17.4) | 175                             | 957        | 15.0 (12.7, 17.6) |
| Unable to breathe deeply enough                                 | 334                        | 2428       | 22.7 (20.1, 25.5) | 142                               | 1111       | 14.4 (11.7, 17.5) | 135                             | 802        | 12.5 (10.4, 15.1) |
| Vomiting  | 98                         | 691        | 6.5 (5.1, 8.1)    | 48                                | 352        | 4.6 (3.2, 6.4)    | 42                              | 252        | 3.9 (2.8, 5.6)    |
| Unintended weight gain greater than 4 kg                        | 346                        | 2606       | 24.3 (21.7, 27.2) | 156                               | 1154       | 14.9 (12.3, 18.0) | 133                             | 763        | 11.9 (9.8, 14.4)  |
| Unintended weight loss greater than 4 kg                        | 82                         | 772        | 7.2 (5.6, 9.2)    | 37                                | 331        | 4.3 (2.9, 6.4)    | 21                              | 169        | 2.6 (1.5, 4.6)    |
| Wheezing  | 250                        | 1732       | 16.2 (14.0, 18.6) | 130                               | 1075       | 13.9 (11.2, 17.1) | 150                             | 825        | 12.9 (10.8, 15.3) |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Table 4.8**      **Estimated prevalence of health symptoms in the preceding month in Transitioned ADF, by medical discharge status**

| Symptom  | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|--|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|  | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Avoiding doing things or situations <sup>S</sup>   | 521                             | 3507       | 68.4 (64.1, 72.4) | 903                   | 6507       | 33.4 (31.1, 35.7) |
| Feeling that your bowel movement is not finished   | 304                             | 2059       | 40.2 (36.0, 44.5) | 624                   | 4661       | 23.9 (21.8, 26.1) |
| Burning sensation in the sex organs                | 38                              | 240        | 4.7 (3.3, 6.6)    | 45                    | 396        | 2.0 (1.4, 2.9)    |
| Changeable bowel function (diarrhoea/constipation) | 267                             | 1848       | 36.1 (32.0, 40.3) | 501                   | 3594       | 18.4 (16.6, 20.4) |
| Chest pain   | 174                             | 1208       | 23.6 (20.1, 27.4) | 352                   | 2524       | 12.9 (11.4, 14.7) |
| Constipation                                       | 246                             | 1694       | 33.0 (29.2, 37.1) | 383                   | 2798       | 14.3 (12.7, 16.2) |
| Diarrhoea  | 301                             | 2106       | 41.1 (36.9, 45.4) | 631                   | 4432       | 22.7 (20.7, 24.8) |
| Difficulty finding the right word                  | 470                             | 3296       | 64.3 (60.0, 68.4) | 1102                  | 8440       | 43.3 (40.8, 45.8) |
| Difficulty speaking                                | 174                             | 1200       | 23.4 (20.0, 27.2) | 208                   | 1828       | 9.4 (7.9, 11.0)   |
| Feeling disorientated                              | 178                             | 1240       | 24.2 (20.6, 28.2) | 168                   | 1386       | 7.1 (5.9, 8.6)    |
| Distressing dreams                                 | 416                             | 2750       | 53.7 (49.3, 58.0) | 645                   | 4796       | 24.6 (22.5, 26.8) |
| Dizziness, fainting or blackouts                   | 183                             | 1362       | 26.6 (22.8, 30.7) | 240                   | 1808       | 9.3 (7.9, 10.8)   |
| Double vision                                      | 147                             | 1058       | 20.6 (17.4, 24.4) | 192                   | 1329       | 6.8 (5.7, 8.1)    |
| Dry mouth  | 312                             | 2077       | 40.5 (36.4, 44.8) | 519                   | 3720       | 19.1 (17.2, 21.1) |
| Faster breathing than normal                       | 251                             | 1777       | 34.7 (30.6, 39.0) | 320                   | 2275       | 11.7 (10.2, 13.3) |
| Fatigue  | 608                             | 4181       | 81.6 (77.7, 84.9) | 1653                  | 11,593     | 59.4 (57.0, 61.9) |
| Feeling distant or cut off from others             | 493                             | 3411       | 66.6 (62.3, 70.6) | 833                   | 6361       | 32.6 (30.3, 35.0) |
| Feeling jumpy/easily startled                      | 457                             | 3047       | 59.5 (55.1, 63.7) | 697                   | 5141       | 26.4 (24.2, 28.6) |
| Feeling unrefreshed after sleep                    | 601                             | 4120       | 80.4 (76.5, 83.8) | 1552                  | 10,756     | 55.1 (52.7, 57.6) |
| Feeling feverish                                   | 181                             | 1215       | 23.7 (20.3, 27.6) | 253                   | 1806       | 9.3 (7.9, 10.8)   |
| Flatulence or burping                              | 358                             | 2529       | 49.3 (45.0, 53.7) | 991                   | 6769       | 34.7 (32.4, 37.1) |
| Forgetfulness                                      | 459                             | 3093       | 60.3 (56.0, 64.6) | 921                   | 6617       | 33.9 (31.6, 36.3) |
| Headaches  | 557                             | 3772       | 73.6 (69.4, 77.4) | 1574                  | 11,084     | 56.8 (54.4, 59.3) |
| Indigestion  | 249                             | 1816       | 35.4 (31.4, 39.7) | 616                   | 4103       | 21.0 (19.2, 23.1) |
| Intolerance to alcohol                             | 100                             | 748        | 14.6 (11.7, 18.0) | 191                   | 1481       | 7.6 (6.4, 9.1)    |
| Irritability/outbursts of anger                    | 531                             | 3715       | 72.5 (68.4, 76.3) | 1249                  | 8852       | 45.4 (43.0, 47.8) |
| Itchy or painful eyes                              | 296                             | 2014       | 39.3 (35.2, 43.6) | 762                   | 5407       | 27.7 (25.6, 30.0) |
| Joint stiffness                                    | 539                             | 3758       | 73.3 (69.3, 77.0) | 1289                  | 8293       | 42.5 (40.2, 44.9) |
| Loss of, or decrease in, appetite                  | 278                             | 2066       | 40.3 (36.1, 44.7) | 374                   | 3296       | 16.9 (15.0, 19.0) |
| Loss of balance or coordination                    | 261                             | 1777       | 34.7 (30.7, 38.9) | 298                   | 2172       | 11.1 (9.7, 12.8)  |
| Loss of concentration                              | 491                             | 3325       | 64.9 (60.5, 69.0) | 916                   | 6761       | 34.7 (32.3, 37.1) |
| Loss of interest in sex                            | 462                             | 3063       | 59.8 (55.4, 64.0) | 882                   | 6428       | 33.0 (30.7, 35.3) |
| Low back pain                                      | 546                             | 3791       | 74.0 (69.8, 77.7) | 1506                  | 10,178     | 52.2 (49.7, 54.6) |
| Lump in throat                                     | 88                              | 605        | 11.8 (9.4, 14.8)  | 133                   | 1008       | 5.2 (4.2, 6.4)    |
| General muscle aches or pains                      | 558                             | 3840       | 74.9 (70.8, 78.6) | 1482                  | 10,108     | 51.8 (49.4, 54.3) |
| Nausea   | 201                             | 1433       | 28.0 (24.2, 32.0) | 265                   | 1794       | 9.2 (8.0, 10.6)   |
| Night sweats which soak the bed sheets             | 299                             | 2003       | 39.1 (35.0, 43.3) | 451                   | 3276       | 16.8 (15.0, 18.7) |

| Symptom   | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|---|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|   | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Numbness in fingers/toes  | 320                             | 2226       | 43.4 (39.2, 47.8) | 541                   | 3244       | 16.6 (15.1, 18.3) |
| Pain in the face, jaw, in front of ear, or in ear               | 223                             | 1566       | 30.5 (26.7, 34.7) | 404                   | 2717       | 13.9 (12.4, 15.7) |
| Pain without swelling or redness in several joints              | 435                             | 2954       | 57.6 (53.2, 61.9) | 758                   | 5055       | 25.9 (23.9, 28.0) |
| Pain on passing urine   | 56                              | 369        | 7.2 (5.4, 9.6)    | 68                    | 595        | 3.0 (2.3, 4.1)    |
| Passing urine more often  | 153                             | 1005       | 19.6 (16.5, 23.2) | 339                   | 2158       | 11.1 (9.7, 12.6)  |
| Persistent cough  | 136                             | 941        | 18.4 (15.3, 21.9) | 356                   | 2509       | 12.9 (11.3, 14.6) |
| Rapid heartbeat   | 288                             | 1889       | 36.9 (32.8, 41.1) | 504                   | 3485       | 17.9 (16.1, 19.8) |
| Rash or skin irritation   | 246                             | 1661       | 32.4 (28.6, 36.4) | 581                   | 3867       | 19.8 (18.0, 21.8) |
| Ringing in the ears   | 459                             | 2991       | 58.4 (54.0, 62.6) | 1185                  | 8365       | 42.9 (40.5, 45.3) |
| Seizures  | 14                              | 133        | 2.6 (1.4, 4.7)    | 9                     | 76         | 0.4 (0.2, 0.9)    |
| Increased sensitivity to light                                  | 226                             | 1578       | 30.8 (26.9, 35.0) | 294                   | 2205       | 11.3 (9.8, 14.0)  |
| Increased sensitivity to noise                                  | 314                             | 2022       | 39.4 (35.3, 43.7) | 536                   | 3459       | 17.7 (16.0, 19.6) |
| Increased sensitivity to smells or odours                       | 161                             | 996        | 19.4 (16.4, 22.8) | 175                   | 1292       | 6.6 (5.5, 8.0)    |
| Problems with sexual functioning                                | 322                             | 2040       | 39.8 (35.8, 44.0) | 489                   | 2951       | 15.1 (13.6, 16.8) |
| Shaking   | 228                             | 1555       | 30.3 (26.5, 34.5) | 242                   | 2002       | 10.3 (8.8, 12.0)  |
| Feeling short of breath at rest                                 | 192                             | 1268       | 24.7 (21.2, 28.6) | 270                   | 2040       | 10.5 (9.0, 12.1)  |
| Skin infections   | 83                              | 614        | 12.0 (9.4, 15.2)  | 164                   | 1144       | 5.9 (4.8, 7.1)    |
| Skin ulcers   | 31                              | 209        | 4.1 (2.7, 6.1)    | 51                    | 422        | 2.2 (1.5, 3.1)    |
| Sleeping difficulties   | 621                             | 4285       | 83.6 (79.9, 86.7) | 1664                  | 11,415     | 58.5 (56.1, 61.0) |
| Sore throat   | 196                             | 1342       | 26.2 (22.6, 30.1) | 522                   | 3759       | 19.3 (17.4, 21.3) |
| Stomach bloating  | 241                             | 1640       | 32.0 (28.1, 36.1) | 458                   | 3171       | 16.3 (14.6, 18.1) |
| Stomach cramps  | 237                             | 1724       | 33.6 (29.7, 37.9) | 459                   | 3288       | 16.9 (15.1, 18.8) |
| Tender/painful swelling of lymph glands in neck armpit or groin | 86                              | 554        | 10.8 (8.6, 13.6)  | 155                   | 1286       | 6.6 (5.4, 8.0)    |
| Tingling in fingers and arms                                    | 367                             | 2526       | 49.3 (45.0, 53.6) | 651                   | 4206       | 21.6 (19.7, 23.5) |
| Tingling in legs and toes                                       | 316                             | 2346       | 45.8 (41.5, 50.1) | 420                   | 2825       | 14.5 (12.9, 16.2) |
| Unable to breathe deeply enough                                 | 242                             | 1610       | 31.4 (27.6, 35.5) | 366                   | 2683       | 13.8 (12.2, 15.5) |
| Vomiting  | 79                              | 548        | 10.7 (8.3, 13.7)  | 108                   | 742        | 3.8 (3.0, 4.8)    |
| Unintended weight gain greater than 4 kg                        | 240                             | 1785       | 34.8 (30.8, 39.1) | 391                   | 2695       | 13.8 (12.3, 15.6) |
| Unintended weight loss greater than 4 kg                        | 55                              | 487        | 9.5 (7.1, 12.6)   | 85                    | 763        | 3.9 (3.0, 5.1)    |
| Wheezing  | 172                             | 1146       | 22.4 (19.0, 26.1) | 352                   | 2418       | 12.4 (10.9, 14.1) |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

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## 5 Self-reported doctor-diagnosed conditions

### Transitioned ADF members compared with 2015 Regular ADF members

- Overall, Transitioned ADF members (M = 1.9) and 2015 Regular ADF members (M = 1.5) reported similar numbers of doctor-diagnosed conditions.
- The most commonly reported doctor-diagnosed condition among both groups was chronic low back pain.
- The five most commonly reported doctor-diagnosed conditions among Transitioned ADF were chronic low back pain (18.5%), hearing loss (15.7%), high cholesterol (12.8%), other musculoskeletal (12.2%) and high blood pressure (12.0%).
- The five most commonly reported doctor-diagnosed conditions among 2015 Regular ADF were chronic low back pain (11.7%), other musculoskeletal (11.1%), high cholesterol (11.0%), hearing loss (9.1%) and sinus problems (8.2%).
- Transitioned ADF members were significantly more likely to report a circulatory condition, high blood pressure, a musculoskeletal or connective tissue condition, chronic low back pain, a nervous system condition and hearing loss compared with 2015 Regular ADF members.
- Hearing loss in both groups was one of the five most commonly reported doctor-diagnosed conditions. Transitioned ADF members were significantly more likely to report the condition compared with 2015 Regular ADF members.
- The estimated proportion reporting traumatic brain injury among both Transitioned ADF and 2015 Regular ADF members was low (1.2% in both groups), and there were no differences in weighted prevalence between the groups.

### Among Transitioned ADF members

- DVA clients reported more doctor-diagnosed conditions overall compared with non-DVA clients and were more likely to report most condition types.
- Inactive Reservists were more likely to report no doctor-diagnosed conditions (50.6%) compared with Ex-Serving ADF (41.3%) and Active Reservists (37.7%).
- Ex-Serving ADF members were more likely to report circulatory, musculoskeletal and connective tissue, and nervous system conditions, as well as a number of specific conditions (including sleep apnoea, chronic obstructive pulmonary disease, chronic fatigue syndrome, diabetes and impotence), and were less likely to report psoriasis when compared with Active Reservists.

- Ex-Serving ADF were also more likely to report digestive, musculoskeletal and connective tissue, and nervous system conditions, as well as sleep apnoea and impotence, when compared with Inactive Reservists.
- Transitioned ADF who were medically discharged were more likely than those with another type of discharge to report circulatory, digestive, musculoskeletal and connective tissue, nervous system, respiratory and skin condition types, as well as chronic fatigue syndrome, diabetes, impotence and kidney disease.
- In relation to hearing loss, DVA clients, Ex-Serving ADF and those who were medically discharged were significantly more likely to report hearing loss compared with non-DVA clients, Inactive Reservists and those who were non-medically discharged respectively.
- There were no significant differences in the weighted prevalence of traumatic brain injury between DVA clients and non-DVA clients, Ex-Serving ADF and Active and Inactive Reservists, and those who were medically discharged compared with non-medically discharged; the numbers in the subgroups are, however, small and these findings should be interpreted with some caution.

Refer to the glossary for definitions of key terms used in this section.

This chapter deals with self-reported doctor-diagnosed physical health conditions among Transitioned ADF members and 2015 Regular ADF members. In addition to comparing these two cohorts, results are reported according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge).

The prevalence of doctor-diagnosed health conditions was assessed using a checklist of 43 specific medical problems/conditions.<sup>1</sup> Respondents were asked whether a medical doctor had ever diagnosed them with, or treated them for, each of the listed medical problems or conditions. Additionally, if participants responded 'yes' to any of the questions they were asked to indicate:

- the year diagnosed
- whether they were treated by a doctor in the preceding year
- whether they had taken medication for the condition in the preceding month.

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<sup>1</sup> Note that asthma is excluded from the individual and categorical grouping variables in this chapter. Instead, lifetime asthma is considered in Chapter 6, and a modified coding of doctor-diagnosed asthma (to be consistent with the NHS data) is considered in Chapter 13, in Transitioned ADF members compared with the Australian Community in 2015.

The 43 specific conditions were then grouped into seven categories (World Health Organization, 2016). (Several self-reported doctor-diagnosed medical conditions that were not able to be grouped under the seven categories were reported separately.) The seven categories were as follows:

- skin and subcutaneous tissue
- circulatory system
- digestive system
- musculoskeletal system and connective tissue
- nervous system
- respiratory system
- neoplasms/skin cancers including melanoma.

The number of self-reported doctor-diagnosed conditions and the different types of conditions were considered, with logistic regression models performed for the seven collapsed categories of conditions. All regression models were adjusted for sex, age, rank and Service, and respiratory conditions were also adjusted for smoking. Because of the high number of significant findings, only the strongest associations are discussed here. For a full list of odds ratios and the strength of associations, see Annex B.

## **5.1 Number of doctor-diagnosed conditions ever reported**

### **5.1.1 Doctor-diagnosed conditions ever reported by Transitioned ADF compared with 2015 Regular ADF**

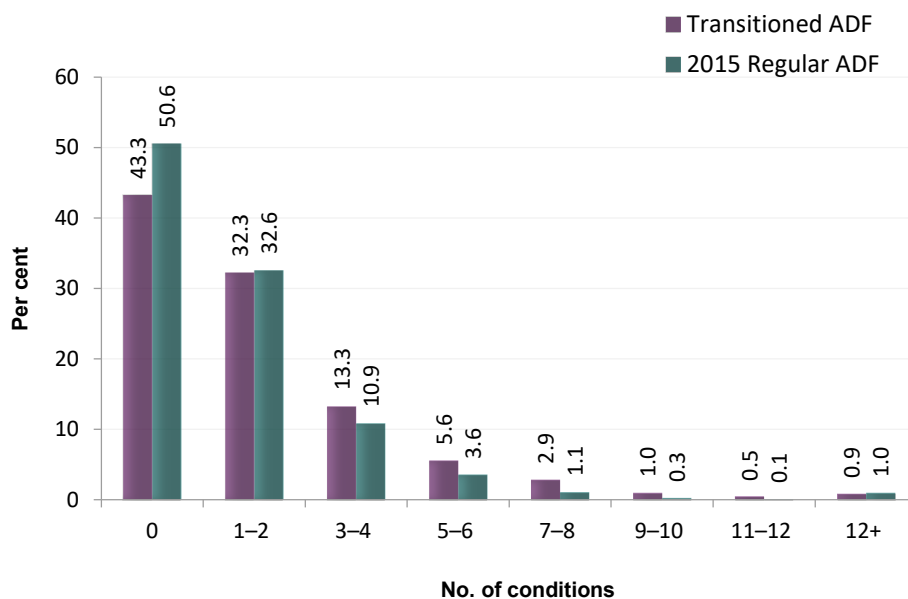
Table 5.1 and Figure 5.1 show the estimated number of doctor-diagnosed conditions ever reported by Transitioned ADF members and 2015 Regular ADF members. The mean number of doctor-diagnosed conditions ever reported was similar for the Transitioned ADF ( $M = 1.9$ ,  $SE = 0.1$ ) and the 2015 Regular ADF ( $M = 1.5$ ,  $SE = 0.3$ ). The pattern of findings indicates that overall the Transitioned ADF reported more conditions than the 2015 Regular ADF. When compared with the 2015 Regular ADF, a greater proportion of Transitioned ADF reported five or six conditions (3.6% vs 5.6%), as was the case for seven or eight conditions (1.1% vs 2.9%), nine or 10 conditions (0.3% vs 1.0%) and 11 or 12 conditions (0.1% vs 0.5%). Conversely, a greater proportion of the 2015 Regular ADF reported no doctor-diagnosed conditions (50.6% vs 43.3%).

**Table 5.1**      **Estimated number of doctor-diagnosed conditions ever reported by  
Transitioned ADF and 2015 Regular ADF**

| Number of conditions | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|----------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                      | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| 0                    | 1150                             | 10,805     | 43.3 (41.3, 45.4) | 2851                             | 26,558     | 50.6 (46.5, 54.7) |
| 1–2                  | 1136                             | 8061       | 32.3 (30.4, 34.4) | 2828                             | 17,135     | 32.6 (29.2, 36.3) |
| 3–4                  | 609                              | 3312       | 13.3 (12.2, 14.5) | 1001                             | 5708       | 10.9 (8.5, 13.7)  |
| 5–6                  | 305                              | 1434       | 5.6 (5.1, 6.4)    | 368                              | 1868       | 3.6 (2.6, 4.8)    |
| 7–8                  | 155                              | 731        | 2.9 (2.5, 3.5)    | 125                              | 558        | 1.1 (0.9, 1.3)    |
| 9–10                 | 58                               | 250        | 1.0 (0.8, 1.3)    | 28                               | 136        | 0.3 (0.2, 0.4)    |
| 11–12                | 24                               | 116        | 0.5 (0.3, 0.7)    | 11                               | 28         | 0.1 (0.0, 0.1)    |
| 12+                  | 36                               | 223        | 0.9 (0.6, 1.3)    | 37                               | 509        | 1.0 (0.3, 3.7)    |

Note: Denominator – all 2015 Regular ADF and Transitioned ADF.

**Figure 5.1**      **Estimated number of doctor-diagnosed conditions ever reported by  
Transitioned ADF and 2015 Regular ADF**



### 5.1.2 Doctor-diagnosed conditions ever reported by Transitioned ADF, by DVA client status

Table 5.2 shows the number of doctor-diagnosed conditions ever reported among Transitioned ADF members by DVA client status. Transitioned ADF who were DVA clients were more likely to report three or four doctor-diagnosed conditions (20.6% vs 7.1%), five or six doctor-diagnosed conditions (9.7% vs 1.9%), seven or eight doctor-diagnosed conditions (5.9% vs 0.6%) and nine or 10 doctor diagnosed conditions (2.0% vs 0.1%) than non-DVA clients. Conversely, those who were non-DVA clients were more likely to report no doctor-diagnosed conditions (59.0%) compared with DVA clients (25.9%).

**Table 5.2** Estimated number of doctor-diagnosed conditions ever reported by Transitioned ADF, by DVA client status

| Number of conditions | DVA client<br>(n = 10,615) |            |                   | Non-DVA client<br>(n = 11,275) |            |                   |
|----------------------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|                      | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| 0                    | 348                        | 2753       | 25.9 (23.3, 28.8) | 659                            | 6649       | 59.0 (55.7, 62.2) |
| 1–2                  | 547                        | 3590       | 33.8 (31.1, 36.6) | 460                            | 3455       | 30.6 (27.6, 33.9) |
| 3–4                  | 397                        | 2183       | 20.6 (18.5, 22.8) | 154                            | 800        | 7.1 (5.9, 8.5)    |
| 5–6                  | 220                        | 1034       | 9.7 (8.5, 11.2)   | 47                             | 211        | 1.9 (1.4, 2.5)    |
| 7–8                  | 129                        | 621        | 5.9 (4.8, 7.1)    | 16                             | 71         | 0.6 (0.4, 1.0)    |
| 9–10                 | 49                         | 212        | 2.0 (1.5, 2.7)    | a                              | ..         | ..                |
| 11–12                | 22                         | 108        | 1.0 (0.6, 1.6)    | a                              | ..         | ..                |
| 13+                  | 20                         | 114        | 1.1 (0.7, 1.8)    | 9                              | 79         | 0.7 (0.3, 1.7)    |

a. Cell size too small to be reported.

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 5.1.3 Doctor-diagnosed conditions ever reported by Transitioned ADF, by transition status

Table 5.3 and Figure 5.2 show the number of doctor-diagnosed conditions ever reported among the Transitioned ADF according to transition status. Inactive Reservists were more likely to report no doctor-diagnosed conditions (50.6%) compared with Ex-Serving ADF (41.3%) and Active Reservists (37.7%). Ex-Serving ADF (41.3%) were more likely to report no doctor-diagnosed conditions compared with Active Reservists (37.7%). Active Reservists were more likely to report five or six doctor-diagnosed conditions (7.1%) compared with Inactive Reservists (4.5%). Ex-Serving ADF were more likely to report nine or 10 doctor-diagnosed conditions (1.5%) compared with Inactive Reservists (0.5%).

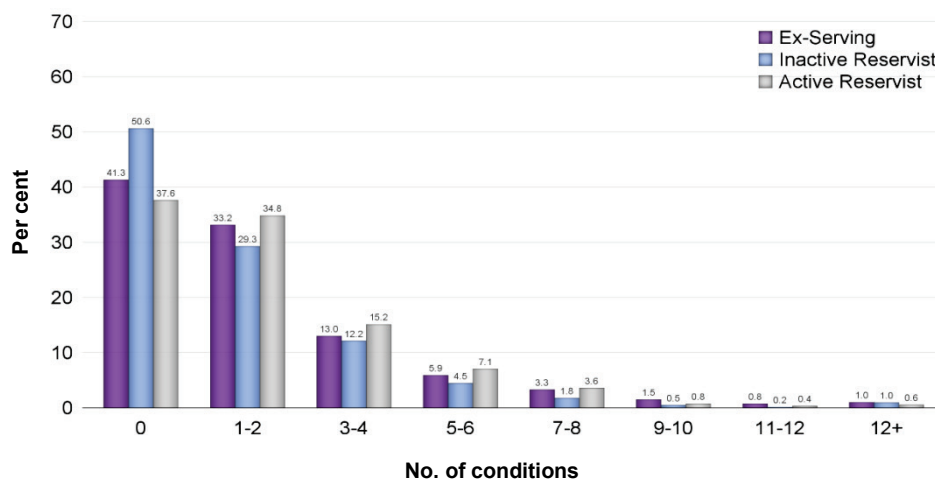
**Table 5.3**      **Estimated number of doctor-diagnosed conditions ever reported by  
Transitioned ADF, by transition status**

| Number of conditions | Ex-Serving<br>(n = 10,743) |            |                      | Inactive Reservists<br>(n = 7709) |            |                      | Active Reservists<br>(n = 6390) |            |                      |
|----------------------|----------------------------|------------|----------------------|-----------------------------------|------------|----------------------|---------------------------------|------------|----------------------|
|                      | n                          | Weighted n | % (95% CI)           | n                                 | Weighted n | % (95% CI)           | n                               | Weighted n | % (95% CI)           |
| 0                    | 393                        | 4439       | 41.3<br>(38.0, 44.7) | 390                               | 3903       | 50.6<br>(46.6, 54.7) | 363                             | 2406       | 37.7<br>(34.2, 41.3) |
| 1–2                  | 422                        | 3563       | 33.2<br>(30.1, 36.4) | 309                               | 2259       | 29.3<br>(25.8, 33.1) | 402                             | 2226       | 34.8<br>(31.6, 38.2) |
| 3–4                  | 224                        | 1397       | 13.0<br>(11.2, 15.1) | 167                               | 938        | 12.2<br>(10.1, 14.5) | 216                             | 968        | 15.2<br>(13.3, 17.2) |
| 5–6                  | 133                        | 635        | 5.9 (4.9, 7.1)       | 71                                | 344        | 4.5 (3.5, 5.7)       | 100                             | 452        | 7.1 (5.8, 8.5)       |
| 7–8                  | 73                         | 355        | 3.3 (2.5, 4.3)       | 29                                | 139        | 1.8 (1.2, 2.8)       | 51                              | 230        | 3.6 (2.8, 5.7)       |
| 9–10                 | 37                         | 162        | 1.5 (1.1, 2.1)       | 10                                | 40         | 0.5 (0.3, 0.9)       | 11                              | 48         | 0.8 (0.4, 1.3)       |
| 11–12                | 15                         | 81         | 0.8 (0.4, 1.3)       | a                                 | ...        | ...                  | 6                               | 22         | 0.4 (0.2, 0.7)       |
| 12+                  | 19                         | 111        | 1.0 (0.6, 1.8)       | 10                                | 74         | 1.0 (0.4, 2.1)       | 7                               | 38         | 0.6 (0.3, 1.3)       |

a. Cell size too small to be reported.

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included.

**Figure 5.2**      **Estimated number of doctor-diagnosed conditions ever reported by  
Transitioned ADF, by transition status**



#### 5.1.4 Doctor-diagnosed conditions ever reported by Transitioned ADF, by discharge status

Table 5.4 shows the estimated number of doctor-diagnosed conditions ever reported by the Transitioned ADF according to medical discharge status. Medically discharged Transitioned ADF were more likely to report all the categories up to 12 doctor-diagnosed conditions compared with those with no medical discharge – three or four doctor-diagnosed conditions (18.0% vs 12.2%); five or six doctor-diagnosed conditions (10.4% vs 4.6%); seven or eight doctor-diagnosed conditions (5.5% vs 2.3%); nine or 10 doctor-diagnosed conditions (2.3% vs 0.7%); and 11 or 12 doctor-diagnosed conditions (1.8% vs 0.1%). There were no between-group differences in the 12+ conditions category. Conversely, Transitioned ADF with an ‘other’ type of discharge were more likely to report no doctor-diagnosed conditions (48.3%) than those with a medical discharge (23.8%).

**Table 5.4** Estimated number of doctor-diagnosed conditions ever reported by Transitioned ADF, by medical discharge status

| Number of conditions | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|----------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                      | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| 0                    | 125                             | 1217       | 23.8 (20.0, 28.1) | 1013                  | 9424       | 48.3 (45.9, 50.7) |
| 1–2                  | 234                             | 1903       | 37.2 (33.0, 41.6) | 889                   | 6054       | 31.0 (28.8, 33.3) |
| 3–4                  | 145                             | 919        | 18.0 (15.1, 21.3) | 463                   | 2389       | 12.2 (11.1, 13.5) |
| 5–6                  | 109                             | 530        | 10.4 (8.5, 12.6)  | 192                   | 889        | 4.6 (4.0, 5.2)    |
| 7–8                  | 60                              | 283        | 5.5 (4.2, 7.3)    | 93                    | 439        | 2.3 (1.8, 2.8)    |
| 9–10                 | 26                              | 119        | 2.3 (1.5, 3.5)    | 32                    | 130        | 0.7 (0.5, 0.9)    |
| 11–12                | 17                              | 90         | 1.8 (1.0, 3.0)    | 6                     | 22         | 0.1 (0.1, 0.2)    |
| 12+                  | 10                              | 54         | 1.1 (0.5, 2.1)    | 26                    | 169        | 0.9 (0.5, 1.4)    |

Note: Denominator – Transitioned ADF cohort.

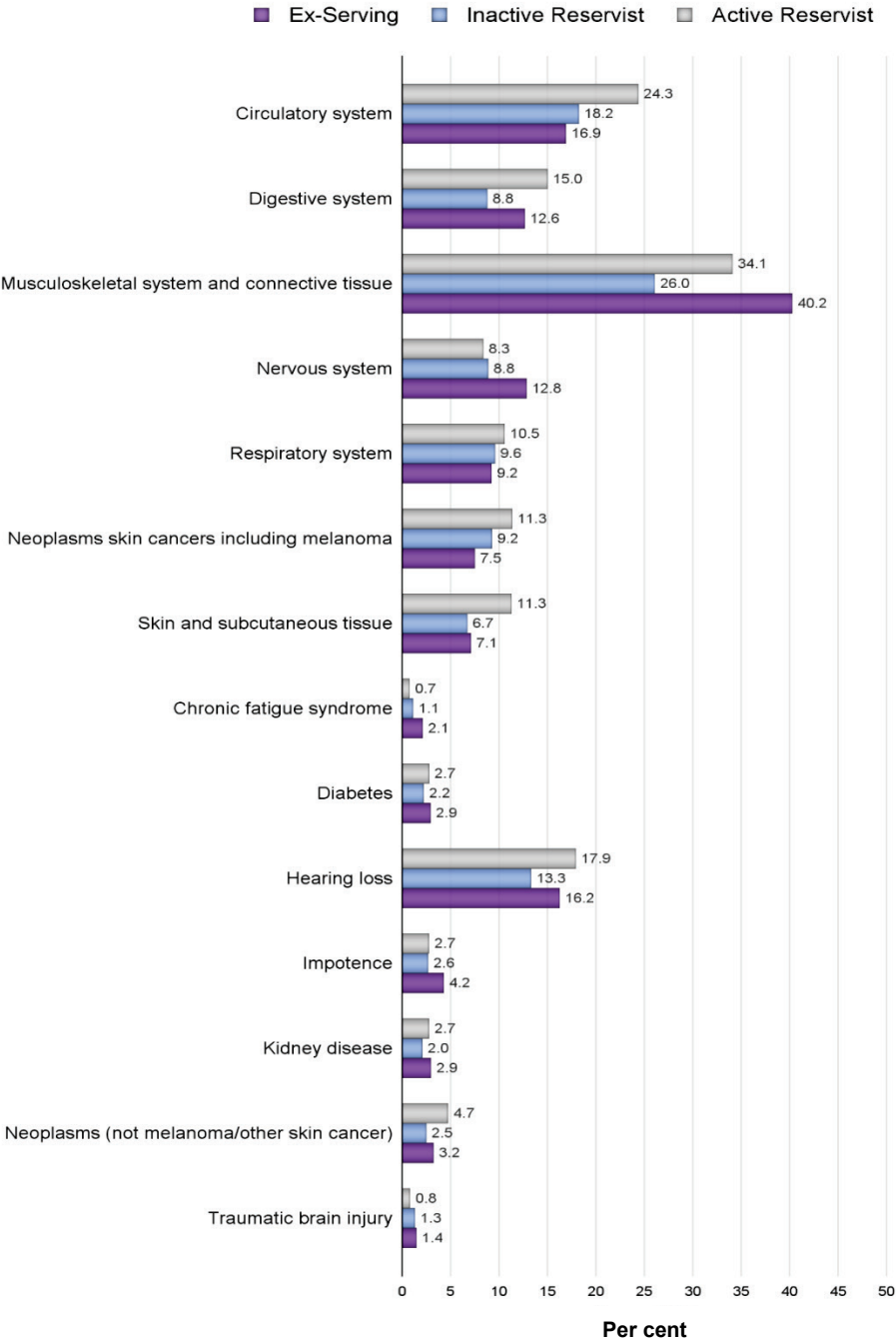
#### 5.1.5 Summary of ever reported doctor-diagnosed conditions

Figures 5.3 and 5.4 show the estimated proportions of each condition ever reported by Transitioned ADF and 2015 Regular ADF by transition status.

**Figure 5.3**      **Estimated proportions of doctor-diagnosed conditions ever reported by  
Transitioned ADF and 2015 Regular ADF**



**Figure 5.4**      **Estimated proportions of doctor-diagnosed conditions ever reported by Transitioned ADF**



## 5.2 Categories of doctor-diagnosed conditions ever reported

### 5.2.1 Circulatory conditions

#### *Circulatory conditions ever reported in Transitioned ADF compared with 2015 Regular ADF*

Table 5.5 and Figure 5.5 show the estimated prevalence of circulatory conditions (angina, high blood pressure, high cholesterol, heart attack/myocardial infarction, and stroke) ever reported by Transitioned ADF members and 2015 Regular ADF members.

Overall, Transitioned ADF members were significantly more likely to ever report circulatory conditions than the 2015 Regular ADF (19.2% vs 15.1%; OR 1.4, 95% CI 1.1, 1.8), although this was a weak association. More specifically, the Transitioned ADF were significantly more likely to report high blood pressure (12.0%) compared with the 2015 Regular ADF (7.9%) (OR 1.6, 95% CI 1.2, 2.1).

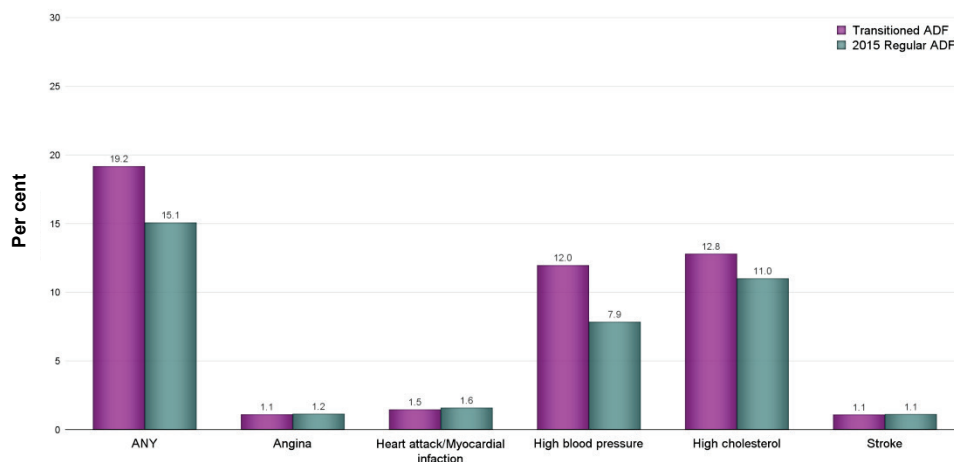
There were no significant differences between the Transitioned ADF and the 2015 Regular ADF in the estimated proportion who reported having a circulatory condition treated in the preceding year or reported having taken medication for a circulatory system condition in the preceding month.

**Table 5.5 Estimated proportions of circulatory conditions ever reported by Transitioned ADF and 2015 Regular ADF**

| Condition                          | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|------------------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                                    | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Angina                             | 50                               | 277        | 1.1 (0.8, 1.6)    | 66                               | 605        | 1.2 (0.4, 3.5)    |
| High blood pressure                | 592                              | 2985       | 12.0 (11.0, 13.1) | 826                              | 4123       | 7.9 (6.4, 9.6)    |
| High cholesterol                   | 666                              | 3194       | 12.8 (11.8, 13.9) | 1136                             | 5784       | 11.0 (9.1, 13.2)  |
| Heart attack/myocardial infarction | 77                               | 366        | 1.5 (1.2, 1.9)    | 107                              | 838        | 1.6 (0.7, 3.6)    |
| Stroke                             | 50                               | 274        | 1.1 (0.8, 1.5)    | 56                               | 592        | 1.1 (0.4, 3.6)    |
| Circulatory conditions any         | 968                              | 4782       | 19.2 (18.0, 20.5) | 1610                             | 7916       | 15.1 (13.1, 17.3) |
| Treated in past year               | 565                              | 2680       | 10.8 (9.9, 11.7)  | 835                              | 4307       | 8.2 (6.7, 10.0)   |
| Medications in past month          | 509                              | 2288       | 9.2 (8.5, 10.0)   | 802                              | 3750       | 7.1 (6.3, 8.1)    |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 5.5** Estimated proportions of circulatory conditions ever reported by Transitioned ADF and 2015 Regular ADF



***Circulatory conditions ever reported by Transitioned ADF, by DVA client status***

Table 5.6 shows the estimated prevalence of circulatory conditions ever reported by the Transitioned ADF cohort by DVA client status. DVA clients were significantly more likely to report any circulatory condition (25.9%) when compared with non-DVA clients (13.9%) (OR 1.3, 95% CI 1.1, 1.6); in general, however, there were only small differences were observed.

There were no significant differences between DVA clients and non-DVA clients in the estimated proportions who reported having a circulatory condition treated in the preceding year or reported having taken medications for a circulatory condition in the preceding month.

**Table 5.6** Estimated prevalence of circulatory conditions ever reported by Transitioned ADF, by DVA client status

| Condition                          | DVA client<br>(n = 10,615) |            |                   | Non-DVA client<br>(n = 11,275) |            |                   |
|------------------------------------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|                                    | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Angina                             | 27                         | 136        | 1.3 (0.9, 1.9)    | 16                             | 110        | 1.0 (0.5, 1.9)    |
| High blood pressure                | 348                        | 1654       | 15.6 (14.0, 17.3) | 177                            | 1017       | 9.0 (7.5, 10.8)   |
| High cholesterol                   | 413                        | 1923       | 18.1 (16.4, 20.0) | 193                            | 949        | 8.4 (7.2, 9.9)    |
| Heart attack/myocardial infarction | 45                         | 208        | 2.0 (1.5, 2.6)    | 25                             | 129        | 1.1 (0.7, 1.8)    |
| Stroke                             | 30                         | 149        | 1.4 (1.0, 2.0)    | 14                             | 99         | 0.9 (0.4, 1.8)    |
| Circulatory conditions any         | 588                        | 2754       | 25.9 (23.9, 28.1) | 288                            | 1572       | 13.9 (12.1, 16.0) |
| Treated in past year               | 377                        | 1708       | 16.1 (14.6, 17.8) | 137                            | 691        | 6.1 (5.1, 7.4)    |
| Medications in past month          | 337                        | 1474       | 13.9 (12.5, 15.4) | 128                            | 579        | 5.1 (4.3, 6.1)    |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### ***Circulatory conditions ever reported by Transitioned ADF, by transition status***

Table 5.7 shows the estimated prevalence of circulatory conditions ever reported by the Transitioned ADF cohort by transition status. Overall, Active Reservists were more likely to report any circulatory condition (24.3%) compared with Ex-Serving ADF (16.9%). Logistic regression analyses adjusted for sex, age, rank, and Service showed Ex-Serving ADF were, however, significantly more likely to report any circulatory condition than Active Reservists (OR 1.6, 95% CI 1.3, 2.1). Similarly, while Active Reservists (18.0%) were more likely to report high cholesterol than Ex-Serving ADF (10.8%), logistic regression analyses revealed Ex-Serving ADF were significantly more likely to report high cholesterol (OR 1.3, 95% CI 1.0, 1.7), although this was a weak association. Ex-Serving ADF were also significantly more likely to report high blood pressure than Active Reservists (11.0% vs 14.5%; OR 1.6, 95% CI 1.2, 2.1). Finally, Ex-Serving ADF were significantly more likely to report angina than Active Reservists (1.2% vs 0.8%; OR 2.4, 95% CI 1.1, 4.9) and significantly more likely to report a stroke (1.4% vs 0.6%; OR 3.3, 95% CI 1.6, 7.1); both were moderate associations.

Ex-Serving ADF were significantly more likely to have been treated for any circulatory condition in the preceding year (10.5% vs 13.9%; OR 1.7, 95% CI 1.2, 2.5) or to have taken medication in the preceding month (8.5% vs 12.8%; OR 1.9, 95% CI 1.5, 2.5) when compared with Active Reservists. Ex-Serving ADF were also significantly more likely to have been treated for any circulatory condition in the preceding year compared with Inactive Reservists (10.5% vs 8.5%; OR 1.6, 95% CI 1.2, 2.2).

**Table 5.7      Estimated proportions of circulatory conditions ever reported by Transitioned ADF, by transition status**

| Condition                                 | Ex-Serving<br>(n = 10,743) |               |                      | Inactive Reservists<br>(n = 7709) |               |                      | Active Reservists<br>(n = 6390) |               |                      |
|---|----------------------------|---------------|----------------------|-----------------------------------|---------------|----------------------|---------------------------------|---------------|----------------------|
|   | n                          | Weighted<br>n | % (95% CI)           | n                                 | Weighted<br>n | % (95% CI)           | n                               | Weighted<br>n | % (95% CI)           |
| Angina                                    | 21                         | 129           | 1.2<br>(0.7, 2.0)    | 17                                | 96            | 1.2<br>(0.7, 2.2)    | 12                              | 52            | 0.8<br>(0.5, 1.4)    |
| High blood pressure                       | 226                        | 1184          | 11.0<br>(9.5, 12.8)  | 165                               | 865           | 11.2<br>(9.4, 13.4)  | 198                             | 924           | 14.5<br>(12.6, 16.6) |
| High cholesterol                          | 232                        | 1161          | 10.8<br>(9.3, 12.5)  | 181                               | 885           | 11.5<br>(9.7, 13.5)  | 253                             | 1149          | 18.0<br>(16.0, 20.2) |
| Heart attack/<br>myocardial<br>infarction | 30                         | 132           | 1.2<br>(0.9, 1.8)    | 24                                | 132           | 1.7<br>(1.1, 2.8)    | 22                              | 98            | 1.5<br>(1.0, 2.3)    |
| Stroke                                    | 27                         | 146           | 1.4<br>(0.9, 2.1)    | 14                                | 90            | 1.2<br>(0.6, 2.3)    | 9                               | 38            | 0.6<br>(0.3, 1.0)    |
| Circulatory<br>conditions any             | 348                        | 1811          | 16.9<br>(15.0, 19.0) | 275                               | 1403          | 18.2<br>(15.9, 20.8) | 342                             | 1556          | 24.3<br>(22.0, 26.9) |
| Treated in past<br>year                   | 226                        | 1122          | 10.5<br>(9.0, 12.1)  | 141                               | 658           | 8.5<br>(7.2, 10.1)   | 195                             | 887           | 13.9<br>(12.1, 15.8) |
| Medications in<br>past month              | 199                        | 916           | 8.5<br>(7.3, 9.9)    | 127                               | 553           | 7.2<br>(6.1, 8.4)    | 182                             | 815           | 12.8<br>(11.1, 14.6) |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

### ***Circulatory conditions ever reported by Transitioned ADF, by discharge status***

Table 5.8 shows circulatory conditions ever reported by Transitioned ADF members, by medical discharge status. Transitioned ADF who were medically discharged were significantly more likely to report any circulatory condition than those with an ‘other’ type of discharge (22.5% vs 18.4%; OR 2.0, 95% CI 1.5, 2.6), significantly more likely to report high blood pressure (14.5% vs 11.4%; OR 1.8, 95% CI 1.4, 2.4) and significantly more likely to report high cholesterol (14.5% vs 12.4%; OR 1.8, 95% CI 1.3, 2.3). All were moderate associations.

Compared with those with an ‘other’ type of discharge, Transitioned ADF members with a medical discharge were also more likely to report having been treated in the preceding year for a circulatory condition (15.4% vs 9.6%; OR 2.8, 95% CI 1.9, 4.0) or having received medication in the preceding month for a circulatory condition (13.0% vs 8.2%; OR 3.2, 95% CI 2.4, 4.2).

**Table 5.8      Estimated proportions of circulatory conditions ever reported by Transitioned ADF, by medical discharge status**

| Condition                          | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|------------------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                                    | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Angina                             | 11                              | 68         | 1.3 (0.7, 2.6)    | 39                    | 208        | 1.1 (0.7, 1.6)    |
| High blood pressure                | 149                             | 742        | 14.5 (12.2, 17.2) | 437                   | 2217       | 11.4 (10.2, 12.6) |
| High cholesterol                   | 148                             | 743        | 14.5 (12.1, 17.3) | 511                   | 2423       | 12.4 (11.4, 13.6) |
| Heart attack/myocardial infarction | 17                              | 79         | 1.6 (0.9, 2.6)    | 60                    | 287        | 1.5 (1.1, 1.9)    |
| Stroke                             | 16                              | 80         | 1.6 (0.9, 2.6)    | 33                    | 190        | 1.0 (0.6, 1.5)    |
| Circulatory conditions any         | 231                             | 1153       | 22.5 (19.6, 25.7) | 727                   | 3588       | 18.4 (17.0, 19.8) |
| Treated in past year               | 162                             | 788        | 15.4 (13.0, 18.2) | 396                   | 1863       | 9.6 (8.7, 10.5)   |
| Medications in past month          | 144                             | 666        | 13.0 (10.9, 15.5) | 362                   | 1610       | 8.3 (7.5, 9.1)    |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

## **5.2.2      Digestive conditions**

### ***Digestive conditions ever reported by Transitioned ADF compared with 2015 Regular ADF***

Table 5.9 and Figure 5.6 show the proportions of Transitioned ADF and 2015 Regular ADF ever reporting digestive conditions (cirrhosis, colitis/Crohn’s disease, hepatitis, irritable bowel syndrome, polyps in bowel, temporomandibular dysfunction and ulcers). Overall, there were no significant differences between the Transitioned ADF and 2015 Regular ADF in the reporting of these conditions.

There were no significant differences between the Transitioned ADF and 2015 Regular ADF in the estimated proportion who reported having a digestive condition treated in

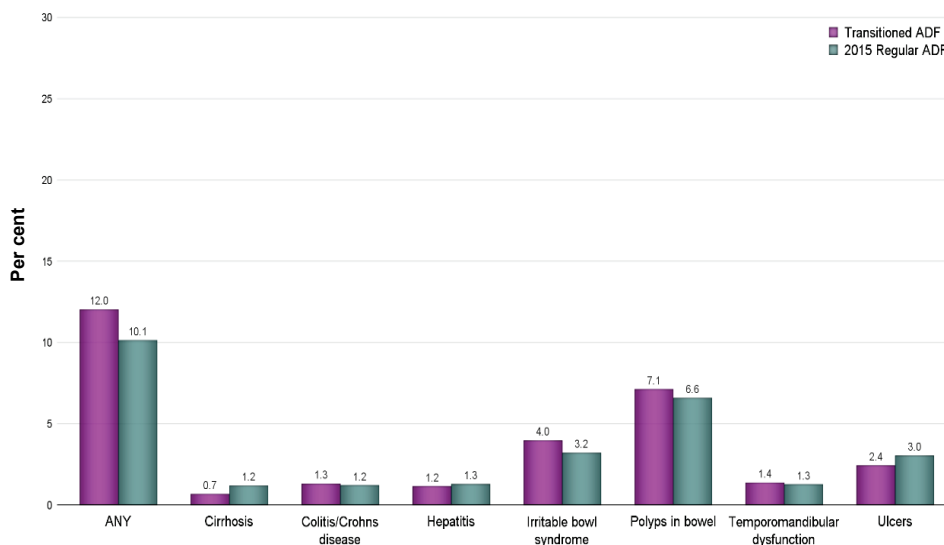
the preceding year or reported having taken medication for a digestive system condition in the preceding month.

**Table 5.9 Estimated proportions of digestive conditions ever reported by Transitioned ADF and 2015 Regular ADF**

| Digestive conditions          | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                  |
|-------------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|------------------|
|                               | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)       |
| Cirrhosis                     | 30                               | 169        | 0.7 (0.4, 1.0)    | 38                               | 626        | 1.2 (0.4, 3.8)   |
| Colitis/Crohn's disease       | 47                               | 326        | 1.3 (0.9, 1.9)    | 70                               | 639        | 1.2 (0.4, 3.5)   |
| Hepatitis                     | 45                               | 288        | 1.2 (0.8, 1.7)    | 72                               | 674        | 1.3 (0.5, 3.5)   |
| Irritable bowel syndrome      | 160                              | 990        | 4.0 (3.3, 4.8)    | 233                              | 1687       | 3.2 (1.1, 5.6)   |
| Polyps in bowel               | 343                              | 1778       | 7.1 (6.3, 8.1)    | 529                              | 3461       | 6.6 (4.8, 9.0)   |
| Temporomandibular dysfunction | 62                               | 344        | 1.4 (1.0, 1.9)    | 82                               | 668        | 1.3 (0.5, 3.5)   |
| Ulcers                        | 107                              | 608        | 2.4 (1.9, 3.1)    | 174                              | 1595       | 3.0 (1.6, 5.7)   |
| Digestive conditions any      | 547                              | 3001       | 12.0 (10.9, 13.3) | 875                              | 5327       | 10.2 (7.9, 12.9) |
| Treated in past year          | 170                              | 915        | 3.7 (3.1, 4.4)    | 349                              | 2317       | 4.4 (3.0, 6.4)   |
| Medications in past month     | 96                               | 520        | 2.1 (1.7, 2.6)    | 136                              | 770        | 1.5 (0.9, 2.3)   |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 5.6 Estimated proportions of digestive conditions ever reported in Transitioned ADF and 2015 Regular ADF**



#### ***Digestive conditions ever reported by Transitioned ADF, by DVA client status***

Table 5.10 shows the estimated prevalence of digestive conditions ever reported by Transitioned ADF members by DVA client status. DVA clients were significantly more likely to report being diagnosed with a number of digestive conditions compared with

non-DVA clients. Overall, DVA clients were significantly more likely to report being diagnosed with any digestive condition (17.8%) than non-DVA clients (7.0%) (OR 2.2, 95% CI 1.7, 3.0). For individual conditions, DVA clients were significantly more likely to report polyps in the bowel (10.9% vs 4.0%; OR 2.0, 95% CI 1.4, 2.9), significantly more likely to report ulcers (3.7% vs 1.4%; OR 2.3, 95% CI 1.3, 4.0), and significantly more likely to report irritable bowel syndrome (5.8% vs 2.3%; OR 2.6, 95% CI 1.6, 4.2) compared with non-DVA clients. All were moderate associations.

Compared with non-DVA clients, DVA clients were more likely to report having been treated in the preceding year (11.9% vs 1.9; OR 2.8, 95% CI 1.7, 4.7) or having received medication in the preceding month (3.2% vs 1.2%; OR 2.4, 95% CI 1.3, 4.4) for a digestive condition.

**Table 5.10** Estimated proportions of digestive conditions ever reported in Transitioned ADF by DVA client status

| Digestive conditions          | DVA client<br>(n = 10,615) |            |                   | Non-DVA client<br>(n = 11,275) |            |                |
|-------------------------------|----------------------------|------------|-------------------|--------------------------------|------------|----------------|
|                               | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)     |
| Cirrhosis                     | 17                         | 93         | 0.9 (0.5, 1.5)    | 9                              | 58         | 0.5 (0.2, 1.2) |
| Colitis/Crohn's disease       | 25                         | 159        | 1.5 (0.9, 2.4)    | 14                             | 121        | 1.1 (0.6, 2.1) |
| Hepatitis                     | 26                         | 137        | 1.3 (0.8, 2.0)    | 13                             | 126        | 1.1 (0.6, 2.2) |
| Irritable bowel syndrome      | 110                        | 619        | 5.8 (4.7, 7.2)    | 33                             | 259        | 2.3 (1.5, 3.5) |
| Polyps in bowel               | 223                        | 1155       | 10.9 (9.4, 12.6)  | 85                             | 453        | 4.0 (3.1, 5.3) |
| Temporomandibular dysfunction | 34                         | 159        | 1.5 (1.1, 2.1)    | 15                             | 134        | 1.2 (0.6, 2.3) |
| Ulcers                        | 72                         | 395        | 3.7(2.9, 4.8)     | 22                             | 154        | 1.4 (0.8, 2.4) |
| Digestive conditions any      | 360                        | 1891       | 17.8 (15.9, 19.9) | 129                            | 788        | 7.0 (5.6, 8.7) |
| Treated in past year          | 241                        | 1264       | 11.9 (10.3, 13.7) | 36                             | 214        | 1.9 (1.3, 2.8) |
| Medications in past month     | 66                         | 343        | 3.2 (2.5, 4.2)    | 22                             | 132        | 1.2 (0.7, 1.9) |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### ***Digestive conditions ever reported by Transitioned ADF, by transitioned status***

Table 5.11 shows the estimated prevalence of digestive conditions ever reported by Transitioned ADF members by transition status. Overall, Ex-Serving ADF were significantly more likely to report any digestive conditions compared with Inactive Reservists (12.6% vs 8.8%; OR 1.7, 95% CI 1.2, 2.3); this was a moderate association. A strong association was found for hepatitis, with Ex-Serving ADF significantly more likely to report hepatitis than Active Reservists (1.2% vs 0.5%; OR 3.1, 95% CI 1.4, 6.7). Ex-Serving ADF (5.6%) were significantly more likely to report irritable bowel syndrome than Active Reservists (2.8%; OR 2.5, 95% CI 1.6, 3.9) and Inactive Reservists (2.8%; OR 2.0, 95% CI 1.2, 3.4). Both were moderate associations. Ex-Serving ADF were also significantly more likely to report colitis/Crohn's disease (1.5% vs 0.7%; OR 2.3, 95% CI

1.1, 4.9) and ulcers (2.9% vs 2.1%; OR 2.1, 95% CI 1.1, 3.9) than Active Reservists. Both were moderate associations.

When any digestive conditions were examined by treatment in the preceding year or medications in the preceding month, Ex-Serving ADF were significantly more likely to have been treated in the preceding year than Inactive Reservists (3.9% vs 2.6%; OR 1.8, 95% CI 1.0, 3.1) or to have taken medication in the preceding month than Active (2.8% vs 2.1%; OR 2.0, 95% CI 1.2, 3.4) or Inactive Reservists (1.1%; OR 2.9, 95% CI 1.6, 5.1). All were moderate associations.

#### ***Digestive conditions ever reported by Transitioned ADF, by discharge status***

Table 5.12 shows digestive conditions ever reported by Transitioned ADF members by medical discharge status. Overall, those with a medical discharge were significantly more likely to report any digestive condition compared with those with another type of discharge (17.1% vs 10.8%; OR 2.1, 95% CI 1.6, 2.8). For individual conditions, medically discharged Transitioned ADF were significantly more likely to report irritable bowel syndrome (7.7% vs 3.1%; OR 2.6, 95% CI 1.7, 4.0), polyps in the bowel (8.8% vs 6.7%; OR 1.8, 95% CI 1.3, 2.6) and ulcers (3.7% vs 2.1%; OR 2.0, 95% CI 1.2, 3.4) than non-medically discharged Transitioned ADF. All were moderate associations.

When any digestive conditions were examined by treatment in the preceding year or medication in the preceding month, those with a medical discharge were significantly more likely to have been treated for any digestive condition in the preceding year (6.3% vs 3.0%; OR 2.7, 95% CI 1.0, 2.7) or to have taken medication in the preceding month (5.0% vs 1.4%; OR 4.4, 95% CI 2.8, 6.9) when compared with those with another type of discharge.

**Table 5.11 Estimated proportions of digestive conditions ever reported by Transitioned ADF, by transition status**

| Condition                     | Ex-Serving<br>(n = 10,743) |            |                   | Inactive Reservists<br>(n = 7709) |            |                 | Active Reservists<br>(n = 6390) |            |                   |
|-------------------------------|----------------------------|------------|-------------------|-----------------------------------|------------|-----------------|---------------------------------|------------|-------------------|
|                               | n                          | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)      | n                               | Weighted n | % (95% CI)        |
| Cirrhosis                     | 14                         | 72         | 0.7 (0.4, 1.2)    | 9                                 | 70         | 0.9 (0.4, 2.1)  | 7                               | 28         | 0.4 (0.2, 0.8)    |
| Colitis/Crohn's disease       | 22                         | 158        | 1.5 (0.9, 2.4)    | 15                                | 126        | 1.6 (0.9, 3.1)  | 10                              | 42         | 0.7 (0.4, 1.1)    |
| Hepatitis                     | 18                         | 133        | 1.2 (0.7, 2.3)    | 18                                | 120        | 1.6 (0.9, 2.7)  | 9                               | 35         | 0.5 (0.3, 1.0)    |
| Irritable bowel syndrome      | 88                         | 598        | 5.6 (4.3, 7.2)    | 34                                | 216        | 2.8 (1.8, 4.3)  | 38                              | 176        | 2.8 (2.0, 3.8)    |
| Polyps in bowel               | 127                        | 701        | 6.5 (5.3, 8.0)    | 79                                | 414        | 5.4 (4.1, 7.0)  | 135                             | 655        | 10.3 (8.5, 12.4)  |
| Temporomandibular dysfunction | 23                         | 123        | 1.1 (0.7, 1.9)    | 15                                | 96         | 1.2 (0.7, 2.4)  | 23                              | 121        | 1.9 (1.1, 3.2)    |
| Ulcers                        | 52                         | 313        | 2.9 (2.1, 4.1)    | 28                                | 156        | 2.0 (1.3, 3.1)  | 26                              | 136        | 2.1 (1.4, 3.3)    |
| Digestive conditions any      | 228                        | 1356       | 12.6 (10.8, 14.7) | 124                               | 675        | 8.8 (7.1, 10.8) | 192                             | 957        | 15.0 (12.8, 17.5) |
| Treated in past year          | 75                         | 422        | 3.9 (3.0, 5.1)    | 32                                | 198        | 2.6 (1.7, 4.0)  | 62                              | 290        | 4.5 (3.5, 5.8)    |
| Medications in past month     | 51                         | 304        | 2.8 (2.1, 3.9)    | 18                                | 85         | 1.1 (0.7, 1.8)  | 27                              | 131        | 2.1 (1.4, 4.0)    |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Table 5.12 Estimated proportions of digestive conditions ever reported in Transitioned ADF, by medical discharge status**

| Condition                     | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                  |
|-------------------------------|---------------------------------|------------|-------------------|-----------------------|------------|------------------|
|                               | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)       |
| Cirrhosis                     | 7                               | 39         | 0.8 (0.3, 1.8)    | 23                    | 130        | 0.7 (0.4, 1.1)   |
| Colitis/Crohn's disease       | 14                              | 103        | 2.0 (1.1, 3.6)    | 33                    | 223        | 1.1 (0.7, 1.8)   |
| Hepatitis                     | 6                               | 45         | 0.9 (0.4, 2.2)    | 39                    | 243        | 1.2 (0.8, 1.9)   |
| Irritable bowel syndrome      | 66                              | 393        | 7.7 (5.8, 10.1)   | 94                    | 598        | 3.1 (2.4, 3.9)   |
| Polyps in bowel               | 88                              | 452        | 8.8 (7.0, 11.0)   | 252                   | 1315       | 6.7 (5.8, 7.8)   |
| Temporomandibular dysfunction | 14                              | 68         | 1.3 (0.8, 2.3)    | 47                    | 272        | 1.4 (1.0, 2.0)   |
| Ulcers                        | 32                              | 190        | 3.7 (2.5, 5.5)    | 74                    | 414        | 2.1 (1.6, 2.8)   |
| Digestive conditions any      | 162                             | 876        | 17.1 (14.4, 20.2) | 381                   | 2110       | 10.8 (9.6, 12.2) |
| Treated in past year          | 58                              | 323        | 6.3 (4.7, 8.4)    | 111                   | 588        | 3.0 (2.4, 3.7)   |
| Medications in past month     | 39                              | 255        | 5.0 (3.5, 7.1)    | 57                    | 265        | 1.4 (1.1, 1.8)   |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

### 5.2.3 Musculoskeletal and connective tissue conditions

#### *Musculoskeletal and connective tissue conditions ever reported by Transitioned ADF compared with 2015 Regular ADF*

Table 5.13 and Figure 5.7 show the estimated proportions of Transitioned ADF and 2015 Regular ADF ever reporting musculoskeletal and connective tissue conditions – arthritis, chronic low back pain, carpal tunnel, fibrositis, gout, neck pain, osteoarthritis, osteoporosis, other inflammatory arthritis, rheumatoid arthritis and other musculoskeletal conditions. Overall, the Transitioned ADF members were significantly more likely to report being diagnosed with any musculoskeletal and connective tissue conditions compared with the 2015 Regular ADF members (34.2% vs 24.9%; OR 1.5, 95% CI 1.1, 2.0), although this was a weak association. For specific conditions, Transitioned ADF were significantly more likely to report chronic low back pain compared with 2015 Regular ADF (18.5% vs 11.7%; OR 1.6, 95% CI 1.1, 2.3); this was a moderate association.

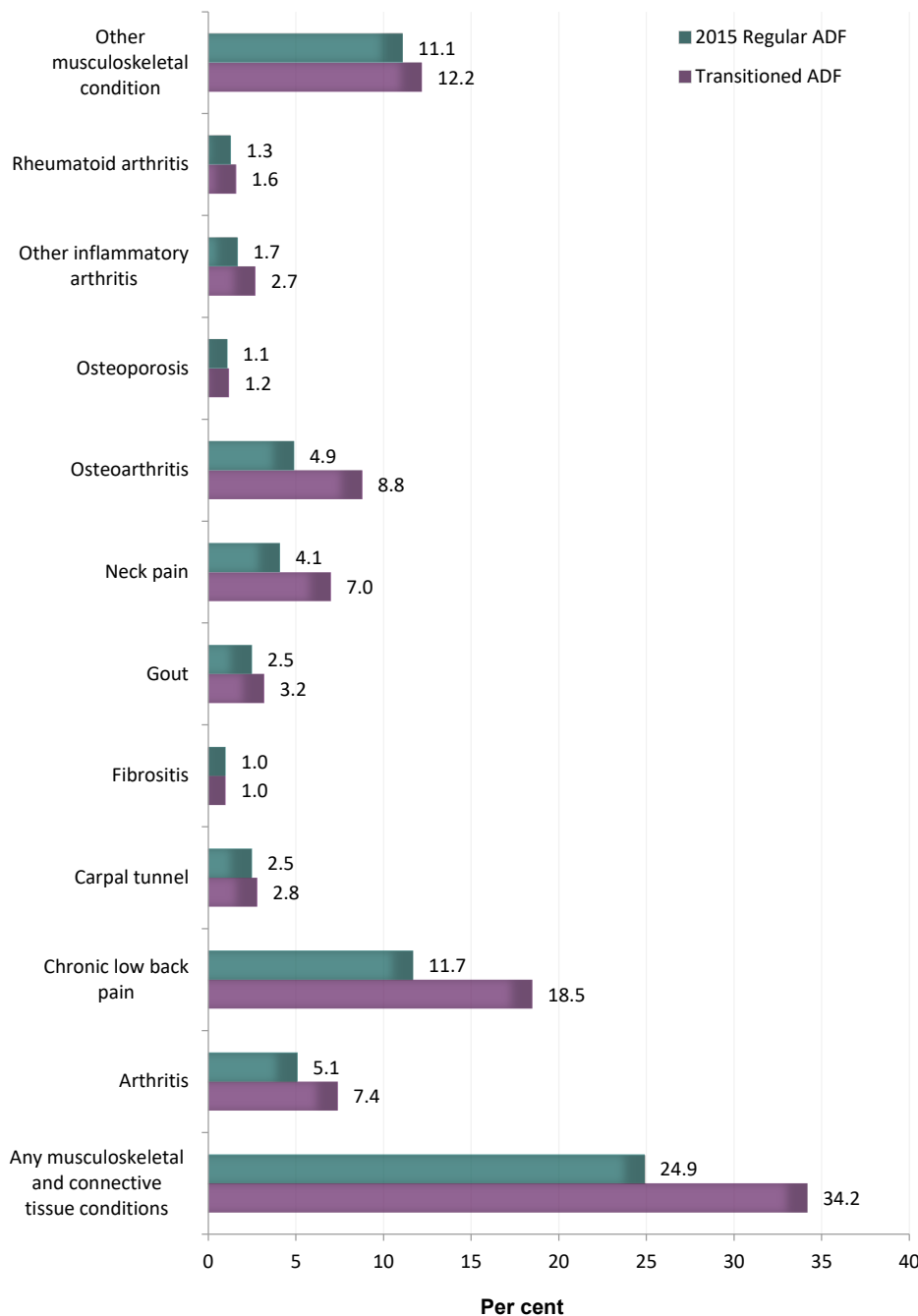
When treatment in the preceding year or medications in the preceding month were examined, Transitioned ADF were significantly more likely than 2015 Regular ADF to have taken medication for musculoskeletal or connective tissue conditions in the preceding month (15.3% vs 10.2%; OR 1.5, 95% CI 1.1, 2.1).

**Table 5.13**      **Estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF**

| Condition  | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|--|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|  | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Arthritis  | 323                              | 1835       | 7.4 (6.5, 8.4)    | 357                              | 2649       | 5.1 (3.3, 7.6)    |
| Chronic low back pain                                | 799                              | 4604       | 18.5 (17.1, 19.9) | 963                              | 6153       | 11.7 (9.3, 14.7)  |
| Carpal tunnel  | 129                              | 688        | 2.8 (2.2, 3.4)    | 189                              | 1284       | 2.5 (1.4, 4.3)    |
| Fibrositis   | 41                               | 253        | 1.0 (0.7, 1.5)    | 47                               | 530        | 1.0 (0.3, 3.6)    |
| Gout   | 152                              | 806        | 3.2 (2.7, 3.9)    | 212                              | 1301       | 2.5 (1.5, 4.2)    |
| Neck pain  | 331                              | 1740       | 7.0 (6.2, 7.9)    | 361                              | 2170       | 4.1 (2.6, 6.4)    |
| Osteoarthritis                                       | 388                              | 2183       | 8.8 (7.8, 9.8)    | 398                              | 2587       | 4.9 (3.2, 7.6)    |
| Ankle  | 108                              | 590        | 27.0 (22.2, 32.5) | 80                               | 363        | 14.0 (8.4, 22.5)  |
| Elbow  | 31                               | 135        | 6.2 (4.4, 8.7)    | 18                               | 94         | 3.6 (1.8, 7.4)    |
| Hand   | 73                               | 328        | 15.0 (11.8, 19.0) | 50                               | 208        | 8.0 (4.7, 13.5)   |
| Hip  | 69                               | 404        | 18.5 (14.2, 23.8) | 72                               | 277        | 10.7 (6.4, 17.5)  |
| Knee   | 264                              | 1433       | 65.6 (59.7, 71.2) | 235                              | 1649       | 63.7 (40.3, 82.1) |
| Lower back   | 149                              | 741        | 34.0 (28.9, 39.4) | 99                               | 738        | 28.5 (11.8, 54.2) |
| Neck   | 77                               | 354        | 16.2 (12.9, 20.2) | 63                               | 284        | 11.0 (6.4, 18.2)  |
| Shoulder   | 103                              | 551        | 25.3 (20.5, 30.6) | 94                               | 369        | 14.3 (8.6, 22.8)  |
| Other  | 39                               | 190        | 8.7 (6.2, 12.0)   | 33                               | 103        | 4.0 (2.3, 6.9)    |
| Osteoporosis   | 44                               | 291        | 1.2 (0.8, 1.7)    | 51                               | 560        | 1.1 (0.3, 3.6)    |
| Other inflammatory arthritis                         | 104                              | 660        | 2.7 (2.1, 3.4)    | 116                              | 889        | 1.7 (0.8, 3.7)    |
| Rheumatoid arthritis                                 | 64                               | 398        | 1.6 (1.2, 2.1)    | 88                               | 683        | 1.3 (0.5, 3.5)    |
| Other musculoskeletal condition                      | 506                              | 3031       | 12.2 (11.0, 13.4) | 750                              | 5839       | 11.1 (8.4, 14.6)  |
| Musculoskeletal and connective tissue conditions any | 1443                             | 8513       | 34.2 (32.4, 35.9) | 2150                             | 13,046     | 24.9 (21.5, 28.5) |
| Treated in past year                                 | 778                              | 4668       | 18.7 (17.4, 20.2) | 1198                             | 8397       | 16.0 (13.0, 19.5) |
| Medications in past month                            | 636                              | 3811       | 15.3 (14.0, 16.6) | 844                              | 5333       | 10.2 (7.9, 12.9)  |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 5.7**      **Estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF**



***Musculoskeletal and connective tissue conditions ever reported by Transitioned ADF, by DVA client status***

Table 5.14 shows the estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF members by DVA client status. Overall, DVA clients were significantly more likely to report any musculoskeletal conditions compared with non-DVA clients (52.7% vs 16.3%; OR 4.6, 95% CI 3.7, 5.7); this was a strong association. In the case of individual conditions, a number of significant associations were found; only the strongest are presented here.

DVA clients were significantly more likely than non-DVA clients to report arthritis (12.7% vs 2.6%; OR 3.9, 95% CI 2.5, 6.0), chronic low back pain (29.9% vs 6.7%; OR 4.9, 95% CI 3.8, 6.4), neck pain (11.8% vs 2.6%; OR 4.1, 95% CI 2.8, 6.0) and osteoarthritis (15.1% vs 2.7%; OR 4.6, 95% CI 3.1, 6.9).

When treatment in the preceding year or medication in the preceding month were examined, DVA clients were significantly more likely than non-DVA clients to have been treated for any musculoskeletal and connective tissue condition in the preceding year (30.0% vs 6.9%; OR 5.1, 95% CI 3.9, 6.8) and to have taken medication for this in the preceding month (24.9% vs 4.5%; OR 6.2, 95% CI 4.5, 8.5).

**Table 5.14 Estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF, by DVA client status**

| Condition  | DVA client<br>(n = 10,615) |            |                   | Non-DVA client<br>(n = 11,275) |            |                   |
|--|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|  | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Arthritis  | 242                        | 1348       | 12.7 (11.0, 14.6) | 46                             | 295        | 2.6 (1.8, 3.8)    |
| Chronic low back pain                                | 587                        | 3177       | 29.9 (27.6, 32.4) | 118                            | 759        | 6.7 (5.4, 8.4)    |
| Carpal tunnel  | 82                         | 383        | 3.6 (2.9, 4.5)    | 33                             | 244        | 2.2 (1.4, 3.4)    |
| Fibrositis   | 22                         | 113        | 1.1 (0.7, 1.7)    | 11                             | 107        | 1.0 (0.4, 2.1)    |
| Gout   | 97                         | 497        | 4.7 (3.7, 5.9)    | 42                             | 252        | 2.2 (1.5, 3.4)    |
| Neck pain  | 247                        | 1252       | 11.8 (10.3, 13.4) | 47                             | 296        | 2.6 (1.8, 3.8)    |
| Osteoarthritis                                       | 294                        | 1602       | 15.1 (13.3, 17.1) | 47                             | 309        | 2.7 (1.9, 3.9)    |
| Osteoporosis   | 29                         | 186        | 1.8 (1.1, 2.7)    | 11                             | 87         | 0.8 (0.4, 1.7)    |
| Other inflammatory arthritis                         | 77                         | 445        | 4.2 (3.2, 5.4)    | 14                             | 130        | 1.2 (0.6, 2.3)    |
| Rheumatoid arthritis                                 | 42                         | 264        | 2.5 (1.8, 3.5)    | 17                             | 112        | 1.0 (0.5, 1.9)    |
| Other musculoskeletal condition                      | 352                        | 2033       | 19.2 (17.1, 21.4) | 92                             | 598        | 5.3 (4.1, 6.9)    |
| Musculoskeletal and connective tissue conditions any | 997                        | 5590       | 52.7 (49.8, 55.5) | 290                            | 1833       | 16.3 (14.1, 18.7) |
| Treated in past year                                 | 564                        | 3187       | 30.0 (27.6, 32.5) | 119                            | 774        | 6.9 (5.5, 8.6)    |
| Medications in past month                            | 463                        | 2646       | 24.9 (22.7, 27.4) | 86                             | 506        | 4.5 (3.5, 5.8)    |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

***Musculoskeletal and connective tissue conditions ever reported by Transitioned ADF, by transition status***

Table 5.15 shows the estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF members by transition status. Only the strongest associations are reported here. Overall, Ex-Serving ADF were significantly more likely to report any musculoskeletal and connective tissue conditions when compared with Inactive Reservists (40.2% vs 26.0%; OR 2.2, 95% CI 1.8, 2.8) and Active Reservists (40.2% vs 34.1%; OR 2.3, 95% CI 1.8, 2.9).

In the case of specific conditions, Ex-Serving ADF were significantly more likely to report chronic low back pain when compared with Inactive Reservists (24.2% vs 12.1%; OR 2.5, 95% CI 2.0, 3.2) and Active Reservists (24.2% vs 16.6%; OR 2.7, 95% CI 2.1, 3.5). Similarly, Ex-Serving ADF were significantly more likely to report osteoarthritis than Active Reservists (11.9% vs 7.5%; OR 2.5, 95% CI 1.9, 3.3) and Inactive Reservists (11.9% vs 5.6%; OR 2.5, 95% CI 1.7, 3.6).

When treatment in the preceding year or medications in the preceding month were examined, Ex-Serving ADF were significantly more likely to have been treated for any musculoskeletal and connective tissue condition in the preceding year than Active Reservists (24.6% vs 16.5%; OR 2.3, 95% CI 1.8, 2.9) and Inactive Reservists (12.7%; OR 2.5 95% CI 1.9, 3.2) (moderate associations) or to have taken medication in the preceding month compared with Active Reservists (21.5% vs 12.2%; OR 2.8, 95% CI 2.2, 3.7) and Inactive Reservists (9.3%; OR 3.0, 95% CI 2.2, 4.0) (moderate associations).

***Musculoskeletal and connective tissue conditions ever reported by Transitioned ADF members, by discharge status***

Table 5.16 shows musculoskeletal and connective tissue conditions ever reported by Transitioned ADF members by medical discharge status.

Overall, medically discharged Transitioned ADF were significantly more likely to report any musculoskeletal and connective tissue condition compared with those with another type of discharge (59.2 % vs 27.7%; OR 5.1, 95% CI 4.0, 6.5). For individual conditions, Transitioned ADF with a medical discharge were significantly more likely to report arthritis (14.0% vs 5.7%; OR 3.0, 95% CI 2.2, 4.2), chronic low back pain (36.6% vs 13.8%; OR 4.3, 95% CI 3.4, 5.5), neck pain (14.0% vs 5.2%; OR 3.7, 95% CI 2.7, 5.0) and osteoarthritis (19.4% vs 6.0%; OR 4.4, 95% CI 3.2, 5.9) compared with those with another type of discharge.

**Table 5.15 Estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF, by transition status**

| Condition  | Ex-Serving<br>(n = 10,743) |            |                   | Inactive Reservists<br>(n = 7709) |            |                   | Active Reservists<br>(n = 6390) |            |                   |
|--|----------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|  | n                          | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Arthritis  | 162                        | 961        | 9.0 (7.4, 10.7)   | 69                                | 431        | 5.6 (4.1, 7.5)    | 91                              | 439        | 6.9 (5.5, 8.5)    |
| Chronic low back pain                                | 401                        | 2600       | 24.2 (21.7, 26.9) | 172                               | 933        | 12.1 (10.2, 14.4) | 224                             | 1063       | 16.6 (14.6, 18.9) |
| Carpal tunnel  | 54                         | 306        | 2.8 (2.1, 3.9)    | 31                                | 200        | 2.6 (1.6, 4.1)    | 44                              | 183        | 2.9 (2.2, 3.7)    |
| Fibrositis   | 21                         | 118        | 1.1 (0.6, 1.9)    | 7                                 | 62         | 0.8 (0.3, 2.0)    | 13                              | 73         | 1.2 (0.6, 2.3)    |
| Gout   | 52                         | 310        | 2.9 (2.1, 4.0)    | 44                                | 271        | 3.5 (2.4, 5.2)    | 56                              | 225        | 3.5 (2.8, 4.5)    |
| Neck pain  | 166                        | 920        | 8.6 (7.2, 10.2)   | 64                                | 367        | 4.8 (3.5, 6.4)    | 101                             | 453        | 7.1 (5.9, 8.5)    |
| Osteoarthritis                                       | 206                        | 1276       | 11.9 (10.1, 13.9) | 72                                | 430        | 5.6 (4.2, 7.3)    | 110                             | 478        | 7.5 (6.3, 8.9)    |
| Ankle  | 67                         | 360        | 28.2 (21.9, 35.6) | 20                                | 125        | 29.2 (17.6, 44.4) | 21                              | 104        | 21.8 (14.7, 31.1) |
| Elbow  | 7                          | 37         | 2.9 (1.3, 6.4)    | 7                                 | 30         | 6.9 (3.5, 13.2)   | 17                              | 69         | 14.4 (9.6, 21.1)  |
| Hand   | 37                         | 165        | 12.9 (9.2, 17.9)  | 13                                | 75         | 17.4 (8.9, 31.4)  | 23                              | 89         | 18.6 (13.2, 25.5) |
| Hip  | 37                         | 261        | 20.4 (14.1, 28.8) | 15                                | 67         | 15.7 (9.6, 24.5)  | 17                              | 76         | 15.8 (10.5, 23.3) |
| Knee   | 145                        | 827        | 64.8 (56.2, 72.6) | 47                                | 282        | 65.7 (51.7, 77.4) | 72                              | 324        | 67.7 (59.4, 75.1) |
| Lower back   | 86                         | 448        | 35.1 (28.0, 42.9) | 25                                | 111        | 25.9 (17.5, 36.6) | 38                              | 182        | 38.1 (29.5, 47.6) |
| Neck   | 43                         | 212        | 16.6 (11.9, 22.6) | 9                                 | 38         | 8.7 (4.8, 15.5)   | 25                              | 105        | 22.0 (15.8, 29.7) |
| Shoulder   | 59                         | 344        | 27.0 (20.3, 34.8) | 15                                | 91         | 21.1 (11.7, 35.0) | 29                              | 117        | 24.4 (18.0, 32.1) |
| Other  | 14                         | 85         | 6.7 (3.6, 12.0)   | 8                                 | 38         | 8.9 (4.5, 16.6)   | 17                              | 67         | 14.0 (9.3, 20.4)  |
| Osteoporosis   | 19                         | 123        | 1.6 (0.7, 2.0)    | 11                                | 81         | 1.1 (0.5, 2.2)    | 14                              | 87         | 1.4 (0.7, 2.6)    |
| Other inflammatory arthritis                         | 49                         | 341        | 3.2 (2.2, 4.5)    | 24                                | 164        | 2.1 (1.3, 3.5)    | 30                              | 152        | 2.4 (1.6, 3.6)    |
| Rheumatoid arthritis                                 | 30                         | 204        | 1.9 (1.2, 2.9)    | 17                                | 117        | 1.5 (0.8, 2.7)    | 16                              | 74         | 1.2 (0.7, 1.8)    |
| Other musculoskeletal condition                      | 240                        | 1581       | 14.7 (12.7, 17.0) | 124                               | 778        | 10.1 (8.1, 12.5)  | 142                             | 672        | 10.5 (8.9, 12.4)  |
| Musculoskeletal and connective tissue conditions any | 648                        | 4322       | 40.2 (37.2, 43.4) | 334                               | 2007       | 26.0 (23.0, 29.4) | 459                             | 2177       | 34.1 (31.2, 37.1) |
| Treated in past year                                 | 399                        | 2637       | 24.6 (22.1, 27.2) | 160                               | 975        | 12.7 (10.5, 15.2) | 218                             | 1052       | 16.5 (14.4, 18.8) |
| Medications in past month                            | 355                        | 2312       | 21.5 (19.2, 24.1) | 119                               | 714        | 9.3 (7.5, 11.5)   | 161                             | 782        | 12.2 (10.4, 14.4) |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Table 5.16 Estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF, by medical discharge status**

| Condition  | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|--|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|  | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Arthritis  | 123                             | 717        | 14.0 (11.5, 17.0) | 198                   | 1110       | 5.7 (4.8, 6.7)    |
| Chronic low back pain                                | 298                             | 1873       | 36.6 (32.6, 40.8) | 494                   | 2699       | 13.8 (12.5, 15.3) |
| Carpal tunnel  | 39                              | 201        | 3.9 (2.8, 5.5)    | 90                    | 487        | 2.5 (1.9, 3.2)    |
| Fibrositis   | 14                              | 69         | 1.4 (0.8, 2.4)    | 27                    | 184        | 0.9 (0.6, 1.6)    |
| Gout   | 32                              | 183        | 3.6 (2.4, 5.3)    | 119                   | 619        | 3.2 (2.5, 4.0)    |
| Neck pain  | 131                             | 714        | 14.0 (11.5, 16.8) | 198                   | 1017       | 5.2 (4.5, 6.1)    |
| Osteoarthritis                                       | 162                             | 994        | 19.4 (16.4, 22.9) | 224                   | 1171       | 6.0 (5.2, 7.0)    |
| Osteoporosis   | 11                              | 69         | 1.4 (0.7, 2.6)    | 32                    | 217        | 1.1 (0.7, 1.7)    |
| Other inflammatory arthritis                         | 39                              | 255        | 5.0 (3.4, 7.2)    | 64                    | 398        | 2.0 (1.5, 2.8)    |
| Rheumatoid arthritis                                 | 20                              | 142        | 2.8 (1.7, 4.5)    | 44                    | 256        | 1.3 (0.9, 1.9)    |
| Other musculoskeletal condition                      | 174                             | 1105       | 21.6 (18.4, 25.2) | 327                   | 1875       | 9.6 (8.4, 10.9)   |
| Musculoskeletal and connective tissue conditions any | 463                             | 3026       | 59.2 (54.8, 63.4) | 970                   | 5409       | 27.7 (25.9, 29.7) |
| Treated in past year                                 | 304                             | 2008       | 39.3 (35.1, 43.5) | 468                   | 2625       | 13.4 (12.1, 14.9) |
| Medications in past month                            | 275                             | 1777       | 34.7 (30.8, 38.9) | 358                   | 2002       | 10.3 (9.1, 11.6)  |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

When treatment in the preceding year and medications in the preceding month were examined, those with a medical discharge were significantly more likely to have been treated for any musculoskeletal and connective tissue condition in the preceding year (39.3% vs 13.4%; OR 5.1, 95% CI 3.9, 6.8) or to have taken medication in the preceding month (34.7% vs 10.3%; OR 6.2, 95% CI 4.5, 8.5) when compared with those with another type of discharge; both were strong associations.

#### 5.2.4 Nervous system conditions

##### ***Nervous system conditions ever reported by Transitioned ADF compared with 2015 Regular ADF***

Table 5.17 and Figure 5.8 show the estimated proportions of Transitioned ADF members and 2015 Regular ADF members ever reporting nervous system conditions – epilepsy, migraines, motor neurone disease, multiple sclerosis and sleep apnoea. Transitioned ADF were significantly more likely to report having been diagnosed with any nervous system condition (10.4%) when compared with 2015 Regular ADF (7.1%) (OR 1.5, 95% CI 1.0, 2.2).

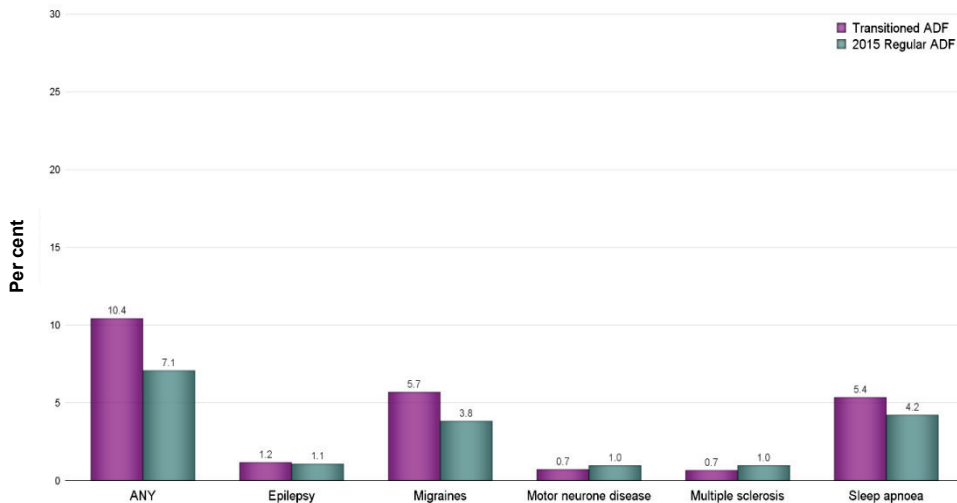
When treatment in the preceding year or medications in the preceding month were examined, Transitioned ADF were significantly more likely to have taken medication for any nervous system condition in the preceding month when compared with 2015 Regular ADF (3.2% vs 1.4%; OR 2.5, 95% CI 1.9, 3.3).

**Table 5.17 Estimated prevalence of nervous system conditions ever reported by Transitioned ADF and 2015 Regular ADF**

| Condition                     | Transitioned ADF<br>(n = 24,932) |            |                  | 2015 Regular ADF<br>(n = 52,500) |            |                |
|-------------------------------|----------------------------------|------------|------------------|----------------------------------|------------|----------------|
|                               | n                                | Weighted n | % (95% CI)       | n                                | Weighted n | % (95% CI)     |
| Epilepsy                      | 42                               | 291        | 1.2 (0.8, 1.7)   | 52                               | 563        | 1.1 (0.3, 3.6) |
| Migraines                     | 229                              | 1417       | 5.7 (4.9, 6.7)   | 422                              | 2009       | 3.8 (2.7, 5.4) |
| Motor neurone disease         | 27                               | 178        | 0.7 (0.4, 1.2)   | 35                               | 506        | 1.0 (0.3, 3.7) |
| Multiple sclerosis            | 29                               | 165        | 0.7 (0.4, 1.0)   | 35                               | 510        | 1.0 (0.3, 3.7) |
| Sleep apnoea                  | 248                              | 1335       | 5.4 (4.6, 6.2)   | 317                              | 2217       | 4.2 (2.7, 6.6) |
| Nervous system conditions any | 449                              | 2602       | 10.4 (9.4, 11.6) | 699                              | 3718       | 7.1 (5.4, 9.3) |
| Treated in past year          | 176                              | 1093       | 4.4 (3.7, 5.3)   | 303                              | 1714       | 3.3 (2.1, 5.0) |
| Medications in past month     | 134                              | 804        | 3.2 (2.6, 4.0)   | 182                              | 728        | 1.4 (1.2, 1.7) |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 5.8 Estimated prevalence of nervous system conditions ever reported by Transitioned ADF and 2015 Regular ADF**



#### ***Nervous system conditions ever reported by Transitioned ADF, by DVA client status***

Table 5.18 shows the estimated prevalence of nervous system conditions ever reported by Transitioned ADF by DVA client status. DVA clients were significantly more likely to report having been diagnosed with any nervous system condition (15.2%) compared with non-DVA clients (6.3%) (OR 2.3, 95% CI 1.7, 3.0). For individual nervous

system conditions, DVA clients were significantly more likely to report migraines (7.4% vs 3.8%; OR 1.9, 95% CI 1.3, 2.7) and sleep apnoea (8.4% vs 3.1%; OR 2.3, 95% CI 1.5, 3.4).

When treatment in the preceding year or medications in the preceding month were examined, DVA clients were significantly more likely to have been treated for any nervous system condition in the preceding year (6.6% vs 2.7%; OR 2.4, 95% CI 1.5, 3.8) or to have taken medication for any nervous system condition in the preceding month (5.3% vs 1.2%; OR 4.1, 95% CI 2.4, 7.0) when compared with non-DVA clients.

**Table 5.18 Estimated prevalence of nervous system conditions ever reported by Transitioned ADF, by DVA client status**

| Condition                     | DVA client<br>(n = 10,615) |            |                   | Non-DVA client<br>(n = 11,275) |            |                |
|-------------------------------|----------------------------|------------|-------------------|--------------------------------|------------|----------------|
|                               | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)     |
| Epilepsy                      | 23                         | 137        | 1.3 (0.8, 2.1)    | 13                             | 118        | 1.0 (0.5, 2.1) |
| Migraines                     | 132                        | 781        | 7.4 (6.0, 9.0)    | 66                             | 433        | 3.8 (2.8, 5.2) |
| Motor neurone disease         | 14                         | 82         | 0.8 (0.4, 1.4)    | 8                              | 75         | 0.7 (0.3, 1.7) |
| Multiple sclerosis            | 16                         | 89         | 0.8 (0.5, 1.5)    | 8                              | 55         | 0.5 (0.2, 1.2) |
| Sleep apnoea                  | 175                        | 896        | 8.4 (7.2, 9.9)    | 50                             | 346        | 3.1 (2.1, 4.4) |
| Nervous system conditions any | 292                        | 1608       | 15.2 (13.3, 17.2) | 107                            | 705        | 6.3 (4.9, 7.9) |
| Treated in past year          | 123                        | 696        | 6.6 (5.3, 8.1)    | 41                             | 301        | 2.7 (1.8, 3.9) |
| Medications in past month     | 95                         | 564        | 5.3 (4.2, 6.8)    | 26                             | 139        | 1.2 (0.8, 1.9) |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### ***Nervous system conditions ever reported by Transitioned ADF, by transition status***

Table 5.19 shows the estimated prevalence of nervous system conditions ever reported by members of the Transitioned ADF cohort by transition status. Overall, Ex-Serving ADF were significantly more likely to report any nervous system condition compared with Active Reservists (12.8% vs 8.4%; OR 2.5, 95% CI 1.9, 3.3) and Inactive Reservists (12.8% vs 8.8%; OR 1.6, 95% CI 1.2, 2.3). Both were moderate associations. For individual conditions, Ex-Serving ADF were significantly more likely to report epilepsy (1.7% vs 0.5%; OR 4.1, 95% CI 1.9, 8.5) and migraines (6.4% vs 4.5%; OR 1.9, 95% CI 1.3, 2.7) than Active Reservists. Ex-Serving ADF were also significantly more likely to report sleep apnoea than Active Reservists (6.6% vs 4.3%; OR 2.8, 95% CI 2.0, 4.0) and Inactive Reservists (6.6% vs 4.4%; OR 1.8, 95% CI 1.1, 2.8).

When treatment in the preceding year or medications in the preceding month were examined, Ex-Serving ADF were significantly more likely to have been treated for any nervous system condition in the preceding year than Active Reservists (6.0% vs 1.7%; OR: 3.1, 95% CI 2.1, 4.6); this was a strong association.

**Table 5.19 Estimated prevalence of nervous system conditions ever reported by Transitioned ADF, by transition status**

| Condition                     | Ex-Serving<br>(n = 10,743) |               |                   | Inactive Reservists<br>(n = 7709) |               |                 | Active Reservists<br>(n = 6390) |               |                 |
|-------------------------------|----------------------------|---------------|-------------------|-----------------------------------|---------------|-----------------|---------------------------------|---------------|-----------------|
|                               | n                          | Weighted<br>n | % (95% CI)        | n                                 | Weighted<br>n | % (95% CI)      | n                               | Weighted<br>n | % (95% CI)      |
| Epilepsy                      | 24                         | 186           | 1.7 (1.1, 2.8)    | 9                                 | 70            | 0.9 (0.4, 2.1)  | 8                               | 31            | 0.5 (0.3, 0.9)  |
| Migraines                     | 111                        | 690           | 6.4 (5.1, 8.0)    | 61                                | 441           | 5.7 (4.1, 7.9)  | 57                              | 286           | 4.5 (3.4, 5.9)  |
| Motor neurone disease         | 11                         | 80            | 0.8 (0.4, 1.6)    | 11                                | 78            | 1.0 (0.5, 2.1)  | 5                               | 20            | 0.3 (0.2, 0.7)  |
| Multiple sclerosis            | 13                         | 67            | 0.6 (0.4, 1.1)    | 11                                | 77            | 1.0 (0.5, 2.1)  | a                               | ..            | ..              |
| Sleep apnoea                  | 126                        | 711           | 6.6 (5.4, 8.2)    | 54                                | 340           | 4.4 (3.2, 6.1)  | 66                              | 277           | 4.3 (3.5, 5.4)  |
| Nervous system conditions any | 227                        | 1376          | 12.8 (11.0, 14.9) | 104                               | 681           | 8.8 (6.9, 11.2) | 115                             | 533           | 8.4 (6.9, 10.0) |
| Treated in past year          | 103                        | 644           | 6.0 (4.8, 7.5)    | 34                                | 278           | 3.6 (2.3, 5.6)  | 37                              | 163           | 2.6 (1.9, 3.5)  |
| Medications in past month     | 83                         | 467           | 4.4 (3.4, 5.5)    | 32                                | 226           | 2.9 (1.9, 4.6)  | 18                              | 108           | 1.7 (1.0, 2.9)  |

a. Cell size too small to be reported.

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

### ***Nervous system conditions ever reported by Transitioned ADF, by discharge status***

Table 5.20 shows the estimated prevalence of nervous system conditions ever reported by members of the Transitioned ADF cohort by medical discharge status. Overall, medically discharged Transitioned ADF members were significantly more likely to report being diagnosed with any nervous system condition compared with those with another type of discharge (19.3% vs 8.2%; OR 3.1, 95% CI 2.3, 4.1). In relation to individual conditions, Transitioned ADF with a medical discharge were significantly more likely to report migraines (9.8% vs 4.6%; OR 2.3, 95% CI 1.6, 3.3) and sleep apnoea (9.7% vs 4.3%; OR 3.0, 95% CI 2.1, 4.3) compared with those with another type of discharge.

When treatment in the preceding year or medications in the preceding month were examined, those with a medical discharge were significantly more likely to have been treated for any nervous system condition in the preceding year (10.0% vs 3.0%; OR 3.7, 95% CI 2.4, 5.6) or to have taken medication in the preceding month (6.9% vs 2.2%; OR 3.4, 95% CI 2.2, 4.5) when compared with those with another type of discharge; both were strong associations.

**Table 5.20 Estimated prevalence of nervous system conditions ever reported by Transitioned ADF, by medical discharge status**

| Condition                     | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                |
|-------------------------------|---------------------------------|------------|-------------------|-----------------------|------------|----------------|
|                               | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)     |
| Epilepsy                      | 15                              | 103        | 2.0 (1.1, 3.6)    | 26                    | 184        | 0.9 (0.6, 1.5) |
| Migraines                     | 83                              | 501        | 9.8 (7.6, 12.5)   | 144                   | 897        | 4.6 (3.7, 5.6) |
| Motor neurone disease         | a                               | ..         | ..                | 23                    | 147        | 0.8 (0.4, 1.3) |
| Multiple sclerosis            | 6                               | 39         | 0.8 (0.3, 1.8)    | 23                    | 126        | 0.7 (0.4, 1.1) |
| Sleep apnoea                  | 99                              | 498        | 9.7 (7.8, 12.0)   | 149                   | 837        | 4.3 (3.5, 5.2) |
| Nervous system conditions any | 176                             | 985        | 19.3 (16.4, 22.5) | 270                   | 1594       | 8.2 (7.1, 9.4) |
| Treated in past year          | 86                              | 509        | 10.0 (7.8, 12.7)  | 89                    | 580        | 3.0 (2.3, 3.9) |
| Medications in past month     | 66                              | 353        | 6.9 (5.3, 9.0)    | 66                    | 432        | 2.2 (1.6, 3.0) |

a. Cell size too small to be reported.

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

## 5.2.5 Respiratory system conditions

### *Respiratory system conditions ever reported by Transitioned ADF compared with 2015 Regular ADF*

Table 5.21 and Figure 5.9 show the estimated proportions of Transitioned ADF members and 2015 Regular ADF members ever reporting respiratory system conditions – chronic obstructive pulmonary disease, pneumonia and sinus. All logistic regression models performed for respiratory conditions were adjusted by smoking status in addition to sex, age, rank and Service. There were no significant differences between Transitioned ADF and 2015 Regular ADF in the estimated proportions of respondents reporting doctor-diagnosed respiratory system conditions.

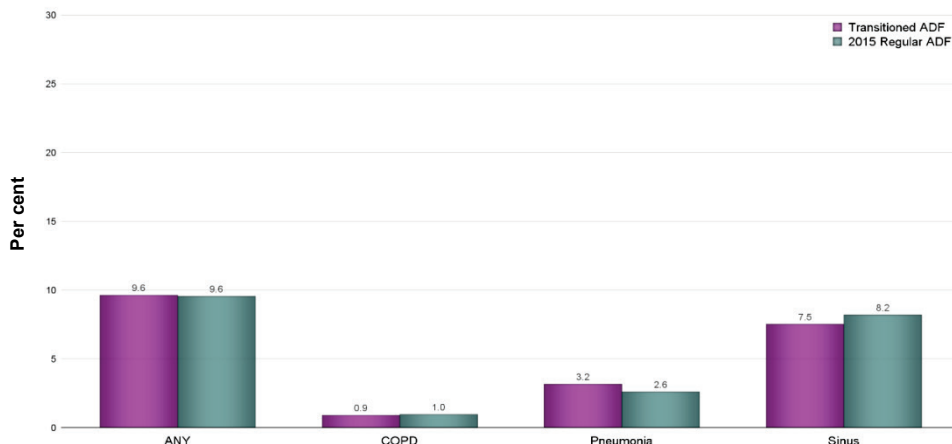
When any respiratory system conditions were examined by treatment in the preceding year or medications in the preceding month, there were no significant differences between Transitioned ADF members and 2015 Regular ADF members.

**Table 5.21 Estimated prevalence of respiratory system conditions ever reported by Transitioned ADF and 2015 Regular ADF**

| Condition                         | Transitioned ADF<br>(n = 24,932) |            |                 | 2015 Regular ADF<br>(n = 52,500) |            |                 |
|-----------------------------------|----------------------------------|------------|-----------------|----------------------------------|------------|-----------------|
|                                   | n                                | Weighted n | % (95% CI)      | n                                | Weighted n | % (95% CI)      |
| COPD                              | 36                               | 226        | 0.9 (0.6, 1.4)  | 38                               | 506        | 1.0 (0.3, 3.7)  |
| Pneumonia                         | 141                              | 788        | 3.2 (2.6, 3.9)  | 217                              | 1370       | 2.6 (1.5, 4.4)  |
| Sinus                             | 326                              | 1877       | 7.5 (6.6, 8.5)  | 619                              | 4308       | 8.2 (6.0, 11.1) |
| Respiratory system conditions any | 423                              | 2404       | 9.6 (8.6, 10.8) | 778                              | 5014       | 9.6 (7.3, 12.4) |
| Treated in past year              | 151                              | 921        | 3.7 (3.1, 4.5)  | 278                              | 1776       | 3.4 (2.2, 5.2)  |
| Medications in past month         | 106                              | 631        | 2.5 (2.0, 3.2)  | 188                              | 978        | 1.9 (1.4, 2.5)  |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 5.9 Respiratory system conditions ever reported by Transitioned ADF and 2015 Regular ADF**



***Respiratory system conditions ever reported by Transitioned ADF, by DVA client status***

Table 5.22 shows the estimated prevalence of doctor-diagnosed respiratory system conditions ever reported by Transitioned ADF members by DVA client status. Overall, DVA clients were significantly more likely to report having been diagnosed with any respiratory system condition compared with non-DVA clients (12.8% vs 6.9%; OR 1.7, 95% CI 1.3, 2.3). Additionally, DVA clients were significantly more likely to report sinus problems than non-DVA clients (9.8% vs 5.6%; OR 1.7, 95% CI 1.2, 2.3).

When treatment in the preceding year or medications in the preceding month were examined, DVA clients were significantly more likely to have been treated for any respiratory system condition in the preceding year (5.2% vs 2.5%; OR 1.9, 95% CI 1.2, 3.1) or to have taken medication in the preceding month (3.5% vs 1.4%; OR 2.3, 95% CI 1.2, 4.2) when compared with non-DVA clients.

**Table 5.22 Estimated prevalence of respiratory system conditions ever reported by Transitioned ADF, by DVA client status**

| Condition                         | DVA client<br>(n = 10,615) |            |                   | Non-DVA client<br>(n = 11,275) |            |                |
|-----------------------------------|----------------------------|------------|-------------------|--------------------------------|------------|----------------|
|                                   | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)     |
| COPD                              | 20                         | 117        | 1.1 (0.7, 1.8)    | 10                             | 83         | 0.7 (0.3, 1.7) |
| Pneumonia                         | 82                         | 436        | 4.1 (3.2, 5.2)    | 40                             | 271        | 2.4 (1.6, 3.6) |
| Sinus                             | 198                        | 1042       | 9.8 (8.4, 11.4)   | 93                             | 630        | 5.6 (4.4, 7.2) |
| Respiratory system conditions any | 257                        | 1363       | 12.8 (11.2, 14.7) | 119                            | 782        | 6.9 (5.6, 8.6) |
| Treated in past year              | 100                        | 556        | 5.2 (4.2, 6.6)    | 40                             | 284        | 2.5 (1.7, 3.7) |
| Medications in past month         | 71                         | 375        | 3.5 (2.7, 4.6)    | 23                             | 160        | 1.4 (0.9, 2.3) |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### ***Respiratory system conditions ever reported by Transitioned ADF, by transition status***

Table 5.23 shows the estimated prevalence of respiratory system conditions ever reported by Transitioned ADF members by transition status. There were no overall differences between transition groups for ‘any respiratory system conditions’. Logistic regression analysis showed, however, that Ex-Serving ADF were significantly more likely to report COPD than Active Reservists (1.1% vs 0.4%; OR 2.9, 95% CI 1.2, 6.7); this was a moderate association.

When treatment in the preceding year or medications in the preceding month were examined, Ex-Serving ADF were significantly more likely to have taken medications in the preceding month than Active Reservists (3.0% vs 2.3%; OR 1.8, 95% CI 1.1, 3.1); this was a moderate association.

### ***Respiratory system conditions ever reported by Transitioned ADF, by discharge status***

Table 5.24 shows respiratory conditions ever reported by Transitioned ADF members by medical discharge status. Overall, Transitioned ADF who were medically discharged were significantly more likely to report any respiratory condition than those who were non-medically discharged (12.4% vs 9.0%; OR 1.62, 95% CI 1.2, 2.2). In the case of specific conditions, medically discharged Transitioned ADF were also significantly more likely to report a sinus condition (9.7% vs 7.0%; OR 1.7, 95% CI 1.2, 2.3).

When treatment in the preceding year or medications in the preceding month were examined, Transitioned ADF with a medical discharge were significantly more likely to have been treated for any respiratory system condition in the preceding year (5.8% vs 3.2%; OR 2.1, 95% CI 1.3, 3.3) or to have taken medication in the preceding month (4.2% vs 2.1%; OR 2.3, 95% CI 1.4, 3.9) when compared with Transitioned ADF with another type of discharge; both were moderate associations.

## **5.2.6 Skin cancers (including melanoma)**

### ***Skin cancers (including melanoma) ever reported by Transitioned ADF compared with 2015 Regular ADF***

Table 5.25 and Figure 5.10 show the estimated prevalence of skin cancers (including melanoma) ever reported among Transitioned ADF members and 2015 Regular ADF members. No significant differences were observable.

When any skin cancers (including melanoma) were examined by treatment in the preceding year or medications in the preceding month, there were no significant differences between Transitioned ADF members and 2015 Regular ADF members.

**Table 5.23 Estimated prevalence of respiratory system conditions ever reported by Transitioned ADF, by transition status**

| Condition                        | Ex-Serving<br>(n = 10,743) |            |                 | Inactive Reservists<br>(n = 7709) |            |                 | Active Reservists<br>(n = 6390) |            |                  |
|----------------------------------|----------------------------|------------|-----------------|-----------------------------------|------------|-----------------|---------------------------------|------------|------------------|
|                                  | n                          | Weighted n | % (95% CI)      | n                                 | Weighted n | % (95% CI)      | n                               | Weighted n | % (95% CI)       |
| COPD                             | 18                         | 120        | 1.1 (0.6, 2.0)  | 11                                | 78         | 1.0 (0.5, 2.1)  | 7                               | 28         | 0.4 (0.2, 0.8)   |
| Pneumonia                        | 68                         | 357        | 3.3 (2.5, 4.3)  | 29                                | 239        | 3.1 (1.9, 5.0)  | 42                              | 185        | 2.9 (2.2, 3.9)   |
| Sinus                            | 123                        | 730        | 6.8 (5.5, 8.4)  | 88                                | 604        | 7.8 (6.0, 10.1) | 114                             | 540        | 8.5 (7.0, 10.1)  |
| Respiratory system condition any | 173                        | 987        | 9.2 (7.7, 10.9) | 105                               | 736        | 9.6 (7.5, 12.1) | 143                             | 673        | 10.5 (8.9, 12.4) |
| Treated in past year             | 78                         | 469        | 4.4 (3.4, 5.7)  | 28                                | 225        | 2.9 (1.8, 4.7)  | 45                              | 227        | 3.6 (2.6, 4.8)   |
| Medications in past month        | 55                         | 320        | 3.0 (2.2, 4.0)  | 22                                | 166        | 2.2 (1.3, 3.7)  | 29                              | 145        | 2.3 (1.6, 3.3)   |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Table 5.24 Estimated proportions of respiratory system conditions ever reported by Transitioned ADF, by medical discharge status**

| Condition                         | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                 |
|-----------------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-----------------|
|                                   | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)      |
| COPD                              | 6                               | 50         | 1.0 (0.4, 2.3)    | 30                    | 175        | 0.9 (0.6, 1.4)  |
| Pneumonia                         | 35                              | 188        | 3.7 (2.5, 5.3)    | 105                   | 597        | 3.1 (2.4, 3.9)  |
| Sinus                             | 85                              | 497        | 9.7 (7.7, 12.2)   | 237                   | 1364       | 7.0 (6.0, 8.1)  |
| Respiratory system conditions any | 109                             | 634        | 12.4 (10.1, 15.1) | 310                   | 1754       | 9.0 (7.9, 10.2) |
| Treated in past year              | 50                              | 298        | 5.8 (4.3, 8.0)    | 101                   | 623        | 3.2 (2.5, 4.1)  |
| Medications in past month         | 34                              | 214        | 4.2 (2.8, 6.2)    | 72                    | 417        | 2.1 (1.6, 2.8)  |

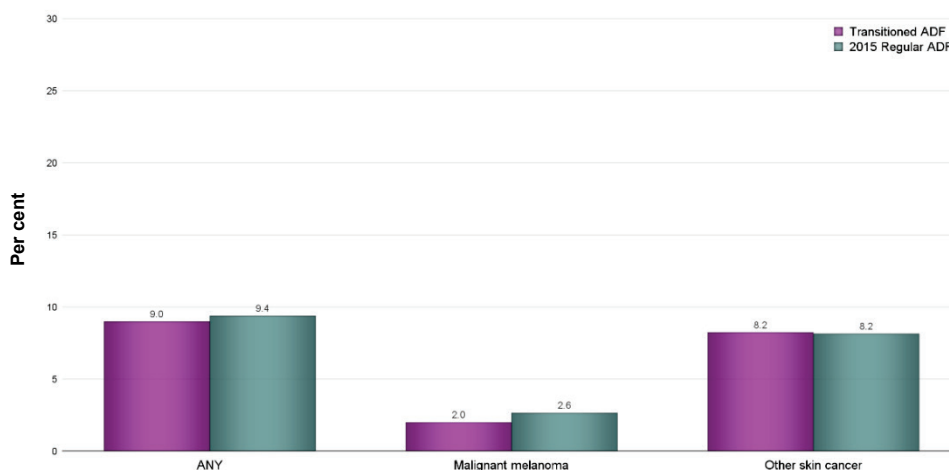
Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Table 5.25 Estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF and 2015 Regular ADF**

| Skin cancers                          | Transitioned ADF<br>(n = 24,932) |            |                 | 2015 Regular ADF<br>(n = 52,500) |            |                 |
|---------------------------------------|----------------------------------|------------|-----------------|----------------------------------|------------|-----------------|
|                                       | n                                | Weighted n | % (95% CI)      | n                                | Weighted n | % (95% CI)      |
| Melanoma                              | 91                               | 501        | 2.0 (1.6, 2.6)  | 149                              | 1390       | 2.7 (1.3, 5.2)  |
| Other skin cancer                     | 413                              | 2055       | 8.2 (7.4, 9.2)  | 694                              | 4280       | 8.2 (6.3, 10.4) |
| Skin cancers (including melanoma) any | 450                              | 2244       | 9.0 (8.1, 10.0) | 760                              | 4928       | 9.4 (7.3, 12.1) |
| Treated in past year                  | 225                              | 1072       | 4.3 (3.7, 5.0)  | 385                              | 2222       | 4.2 (2.9, 6.1)  |
| Medications in past month             | 37                               | 178        | 0.7 (0.5, 1.0)  | 55                               | 259        | 0.5 (0.4, 0.7)  |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 5.10 Estimated prevalence of skin cancers (including melanoma) ever reported in Transitioned ADF and 2015 Regular ADF**



### ***Skin cancers (including melanoma) ever reported by Transitioned ADF, by DVA client status***

Table 5.26 shows the estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF members by DVA client status. DVA clients were significantly more likely to be diagnosed with any skin cancers (including melanoma) (13.9%) compared with non-DVA clients (4.9%) (OR 2.0; 95% CI 1.5, 2.7). DVA clients were also significantly more likely report other skin cancers than non-DVA clients (12.7% vs 4.6%; OR 1.9, 95% CI 1.4, 2.6); this was a moderate association.

When treatment in the preceding year or medications in the preceding month were considered, DVA clients were significantly more likely to have been treated for any skin cancers (including melanoma) in the preceding year (6.8% vs 2.1%; OR 1.9, 95% CI 1.2, 3.1) or to have taken medication in the preceding month (1.3% vs 0.2%; OR 3.5, 95% CI 1.5, 8.4) when compared with non-DVA clients.

**Table 5.26 Estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF, by DVA client status**

| Skin cancer                           | DVA client<br>(n = 10,615) |            |                   | Non-DVA client<br>(n = 11,275) |            |                |
|---------------------------------------|----------------------------|------------|-------------------|--------------------------------|------------|----------------|
|                                       | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)     |
| Melanoma                              | 57                         | 300        | 2.8 (2.1, 3.8)    | 21                             | 146        | 1.3 (0.7, 2.3) |
| Other skin cancer                     | 284                        | 1350       | 12.7 (11.2, 14.4) | 86                             | 515        | 4.6 (3.5, 6.0) |
| Skin cancers (including melanoma) any | 306                        | 1478       | 13.9 (12.3, 15.7) | 96                             | 555        | 4.9 (3.8, 6.3) |
| Treated in past year                  | 162                        | 726        | 6.8 (5.8, 8.0)    | 39                             | 236        | 2.1 (1.4, 3.2) |
| Medications in past month             | 28                         | 141        | 1.3 (0.9, 2.1)    | 6                              | 24         | 0.2 (0.1, 0.4) |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### ***Skin cancers (including melanoma) ever reported by Transitioned ADF, by transition status***

Table 5.27 shows the estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF members by transition status. Active Reservists reported the highest rates of any skin cancers (including melanoma) (11.3%), followed by Inactive Reservists (9.2%) and Ex-Serving ADF (7.5%). Active Reservists (6.0%) were also more likely to report being treated in the preceding year for skin cancers (including melanoma) compared with Ex-Serving ADF (3.5%), although there were no significant differences between groups.

**Table 5.27 Estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF, by transition status**

| Skin cancer                           | Ex-Serving<br>(n = 10,743) |            |                | Inactive Reservists<br>(n = 7709) |            |                 | Active Reservists<br>(n = 6390) |            |                  |
|---------------------------------------|----------------------------|------------|----------------|-----------------------------------|------------|-----------------|---------------------------------|------------|------------------|
|                                       | n                          | Weighted n | % (95% CI)     | n                                 | Weighted n | % (95% CI)      | n                               | Weighted n | % (95% CI)       |
| Melanoma                              | 39                         | 203        | 1.9 (1.3, 2.7) | 23                                | 172        | 2.2 (1.3, 3.8)  | 28                              | 121        | 1.9 (1.3, 2.7)   |
| Other skin cancer                     | 138                        | 728        | 6.8 (5.5, 8.3) | 123                               | 649        | 8.4 (6.8, 10.4) | 151                             | 673        | 10.5 (9.0, 12.3) |
| Skin cancers (including melanoma) any | 153                        | 801        | 7.5 (6.2, 9.0) | 132                               | 711        | 9.2 (7.5, 11.3) | 163                             | 723        | 11.3 (9.7, 13.1) |
| Treated in past year                  | 79                         | 376        | 3.5 (2.7, 4.5) | 58                                | 311        | 4.0 (3.0, 5.5)  | 87                              | 380        | 6.0 (4.8, 7.3)   |
| Medications in past month             | 15                         | 80         | 0.8 (0.4, 1.5) | 8                                 | 33         | 0.4 (0.2, 0.8)  | 13                              | 60         | 1.0 (0.6, 1.6)   |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

### ***Skin cancers (including melanoma) ever reported by Transitioned ADF, by discharge status***

Table 5.28 shows the estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF members by discharge status. No significant differences were found between groups. There were also no significant between-group differences in self-reported treatment in the preceding year or medications in the preceding month.

## **5.2.7 Skin and subcutaneous tissue conditions**

### ***Skin and subcutaneous tissue conditions ever reported by Transitioned ADF compared with 2015 Regular ADF***

Table 5.29 and Figure 5.11 show the estimated proportions of Transitioned ADF members and 2015 Regular ADF members ever reporting skin and subcutaneous tissue conditions – dermatitis, eczema and psoriasis. No significant differences between groups were observable.

When treatment in the preceding year or medications in the preceding month were considered, Transitioned ADF were significantly more likely to have taken medication in the preceding month for a skin or subcutaneous tissue condition (2.7% vs 1.9%; OR 1.6, 95% CI 1.1, 2.2) when compared with 2015 Regular ADF.

**Table 5.28 Estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF, by medical discharge status**

| Skin cancer                           | Medical discharge<br>(n = 5138) |            |                 | Other<br>(n = 19,413) |            |                 |
|---------------------------------------|---------------------------------|------------|-----------------|-----------------------|------------|-----------------|
|                                       | n                               | Weighted n | % (95% CI)      | n                     | Weighted n | % (95% CI)      |
| Melanoma                              | 22                              | 115        | 2.3 (1.4, 3.5)  | 68                    | 381        | 2.0 (1.4, 2.7)  |
| Other skin cancer                     | 83                              | 370        | 7.2 (5.8, 9.0)  | 325                   | 1665       | 8.5 (7.5, 9.7)  |
| Skin cancers (including melanoma) any | 96                              | 436        | 8.5 (6.9, 10.4) | 349                   | 1787       | 9.2 (8.1, 10.3) |
| Treated in past year                  | 53                              | 219        | 4.3 (3.3, 5.5)  | 170                   | 846        | 4.3 (3.6, 5.2)  |
| Medications in past month             | 9                               | 35         | 0.7 (0.4, 1.2)  | 28                    | 143        | 0.7 (0.5, 1.1)  |

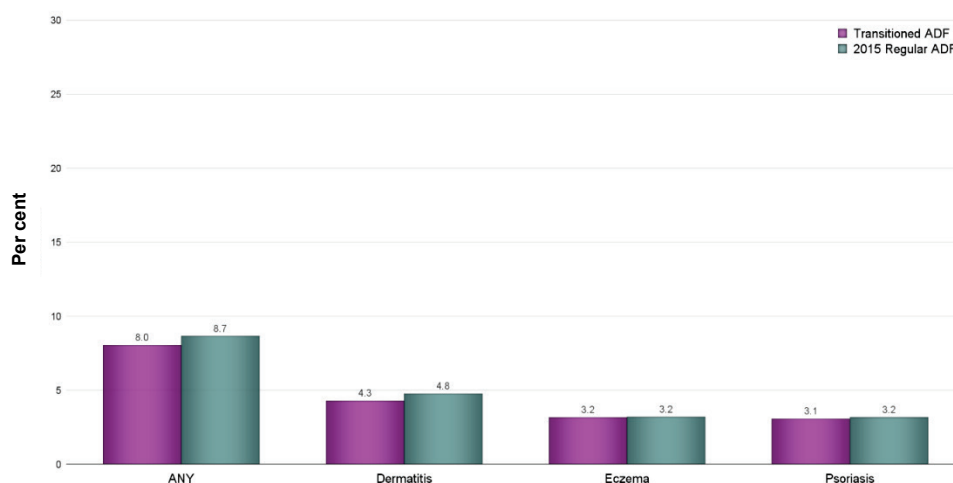
Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Table 5.29 Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF**

| Condition                                   | Transitioned ADF<br>(n = 24,932) |            |                | 2015 Regular ADF<br>(n = 52,500) |            |                 |
|---|----------------------------------|------------|----------------|----------------------------------|------------|-----------------|
|   | n                                | Weighted n | % (95% CI)     | n                                | Weighted n | % (95% CI)      |
| Dermatitis                                  | 166                              | 1069       | 4.3 (3.6, 5.2) | 304                              | 2509       | 4.8 (3.1, 7.4)  |
| Eczema                                      | 137                              | 789        | 3.2 (2.6, 3.9) | 273                              | 1683       | 3.2 (2.0, 5.1)  |
| Psoriasis                                   | 126                              | 768        | 3.1 (2.5, 3.8) | 233                              | 1668       | 3.2 (1.9, 5.2)  |
| Skin and subcutaneous tissue conditions any | 334                              | 2007       | 8.1 (7.1, 9.2) | 670                              | 4550       | 8.7 (6.6, 11.4) |
| Treated in past year                        | 128                              | 699        | 2.8 (2.3, 3.4) | 276                              | 1646       | 3.1 (2.0, 4.8)  |
| Medications in past month                   | 117                              | 663        | 2.7 (2.1, 3.3) | 218                              | 1006       | 1.9 (1.5, 2.4)  |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 5.11 Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF**



### ***Skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by DVA client status***

Table 5.30 shows the estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF by DVA client status. DVA clients were significantly more likely to report a dermatitis diagnosis than non-DVA clients (5.1% vs 3.4%; OR 1.6, 95% CI 1.0, 2.4).

When treatment in the preceding year or medications in the preceding month were considered, DVA clients were significantly more likely to have been treated for any skin or subcutaneous tissue condition in the preceding year (3.6% vs 2.0%; OR 1.7, 95% CI 1.0, 2.7) when compared with non-DVA clients.

**Table 5.30 Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by DVA client status**

| Condition                                   | DVA client<br>(n = 10,615) |            |                 | Non-DVA client<br>(n = 11,275) |            |                |
|---|----------------------------|------------|-----------------|--------------------------------|------------|----------------|
|   | n                          | Weighted n | % (95% CI)      | n                              | Weighted n | % (95% CI)     |
| Dermatitis                                  | 102                        | 540        | 5.1 (4.1, 6.3)  | 44                             | 382        | 3.4 (2.3, 5.0) |
| Eczema                                      | 70                         | 401        | 3.8 (2.9, 4.9)  | 49                             | 311        | 2.8 (1.9, 3.9) |
| Psoriasis                                   | 67                         | 386        | 3.6 (2.7, 4.8)  | 37                             | 266        | 2.4 (1.5, 3.6) |
| Skin and subcutaneous tissue conditions any | 180                        | 952        | 9.0 (7.7, 10.5) | 109                            | 781        | 6.9 (5.4, 8.8) |
| Treated in past year                        | 71                         | 377        | 3.6 (2.7, 4.7)  | 39                             | 230        | 2.0 (1.4, 3.0) |
| Medications in past month                   | 61                         | 338        | 3.2 (2.3, 4.3)  | 37                             | 219        | 1.9 (1.3, 2.9) |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

***Skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by transition status***

Table 5.31 shows the estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF by transition status. Ex-Serving ADF were significantly less likely to report a psoriasis diagnosis compared with Active Reservists (2.0% vs 4.7%; OR 0.5, 95% CI 0.2, 0.8). There were no significant differences between transition groups in self-reported treatment in the preceding year or medications in the preceding month for skin and subcutaneous tissue conditions.

***Skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by discharge status***

Table 5.32 shows the estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF by medical discharge status. Overall, medically discharged Transitioned ADF were significantly more likely to report any skin conditions compared with Transitioned ADF with another type of discharge (9.5% vs 7.7%; OR 1.4, 95% CI 1.0, 2.0), although this was a weak association. Additionally, those with a medical discharge were significantly more likely to report dermatitis than non-medically discharged members (6.1% vs 3.9%; OR 1.8, 95% CI 1.1, 2.7); this was a moderate association.

When treatment in the preceding year or medications in the preceding month were considered, Transitioned ADF with a medical discharge were significantly more likely to have been treated for any skin or subcutaneous tissue condition in the preceding year (9.5% vs 7.7%; OR 1.9, 95% CI 1.2, 3.1) or to have taken medication in the preceding month (4.2% vs 2.3%; OR 2.0, 95% CI 1.2, 3.3) when compared with those with another type of discharge; both were moderate associations.

**Table 5.31** Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by transition status

| Condition                                   | Ex-Serving<br>(n = 10,743) |            |                | Inactive Reservists<br>(n = 7709) |            |                | Active Reservists<br>(n = 6390) |            |                  |
|---|----------------------------|------------|----------------|-----------------------------------|------------|----------------|---------------------------------|------------|------------------|
|   | n                          | Weighted n | % (95% CI)     | n                                 | Weighted n | % (95% CI)     | n                               | Weighted n | % (95% CI)       |
| Dermatitis                                  | 72                         | 469        | 4.4 (3.3, 5.7) | 40                                | 291        | 3.8 (2.6, 5.6) | 53                              | 305        | 4.8 (3.4, 6.7)   |
| Eczema                                      | 55                         | 352        | 3.3 (2.4, 4.5) | 25                                | 160        | 2.1 (1.3, 3.4) | 56                              | 272        | 4.3 (3.3, 5.5)   |
| Psoriasis                                   | 39                         | 213        | 2.0 (1.4, 2.9) | 34                                | 251        | 3.3 (2.1, 5.0) | 52                              | 300        | 4.7 (3.4, 6.5)   |
| Skin and subcutaneous tissue conditions any | 124                        | 759        | 7.1 (5.7, 8.7) | 78                                | 515        | 6.7 (5.1, 8.8) | 129                             | 719        | 11.3 (9.2, 13.7) |
| Treated in past year                        | 50                         | 277        | 2.6 (1.9, 3.6) | 23                                | 145        | 1.9 (1.1, 3.2) | 52                              | 263        | 4.1 (3.0, 5.6)   |
| Medications in past month                   | 48                         | 297        | 2.8 (2.0, 3.9) | 26                                | 154        | 2.0 (1.2, 3.3) | 42                              | 207        | 3.2 (2.3, 4.5)   |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Table 5.32 Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by medical discharge status**

| Condition                                   | Medical discharge<br>(n = 5138) |            |                 | Other<br>(n = 19,413) |            |                |
|---|---------------------------------|------------|-----------------|-----------------------|------------|----------------|
|   | n                               | Weighted n | % (95% CI)      | n                     | Weighted n | % (95% CI)     |
| Dermatitis                                  | 47                              | 310        | 6.1 (4.4, 8.3)  | 117                   | 751        | 3.9 (3.1, 4.9) |
| Eczema                                      | 32                              | 192        | 3.8 (2.6, 5.4)  | 104                   | 592        | 3.0 (2.4, 3.8) |
| Psoriasis                                   | 27                              | 152        | 3.0 (2.0, 4.5)  | 96                    | 600        | 3.1 (2.4, 4.0) |
| Skin and subcutaneous tissue conditions any | 83                              | 487        | 9.5 (7.5, 12.0) | 246                   | 1495       | 7.7 (6.6, 8.9) |
| Treated in past year                        | 39                              | 212        | 4.1 (2.9, 5.8)  | 85                    | 470        | 2.4 (1.9, 3.1) |
| Medications in past month                   | 36                              | 217        | 4.2 (2.9, 6.1)  | 80                    | 441        | 2.3(1.7, 3.0)  |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

## 5.2.8 Other conditions

### *Other conditions ever reported by Transitioned ADF compared with 2015 Regular ADF*

Table 5.33 and Figure 5.12 show the estimated proportions of Transitioned ADF members and 2015 Regular ADF members ever reporting other conditions – chronic fatigue syndrome; diabetes; hearing loss; impotence; kidney disease; other cancer, tumour or malignancy; or traumatic brain injury.

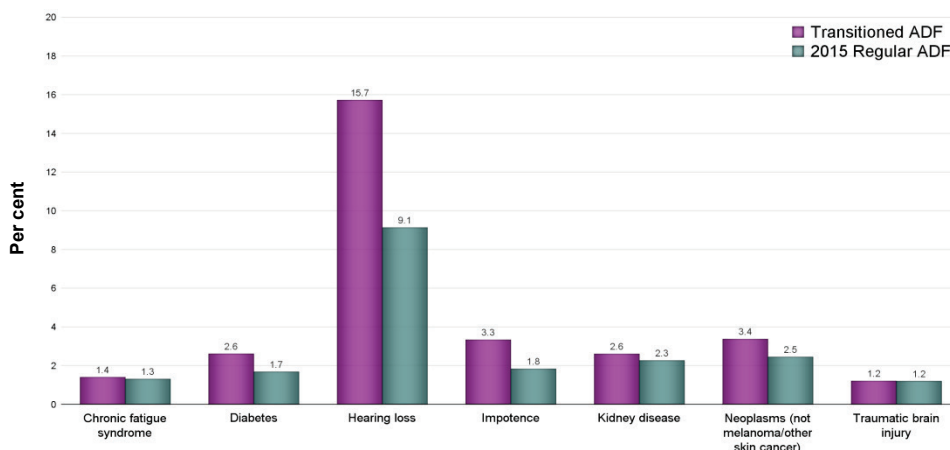
In both cohorts the most commonly reported other condition was hearing loss. Transitioned ADF were significantly more likely to report hearing loss when compared with 2015 Regular ADF (15.7% vs 9.1%; OR 1.7, 95% CI 1.2, 2.5). No other significant differences were found. It is important to note that the estimated prevalence of traumatic brain injury in both groups was low (1.2%).

**Table 5.33 Estimated prevalence of other conditions ever reported by Transitioned ADF and 2015 Regular ADF**

| Condition                          | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                 |
|------------------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-----------------|
|                                    | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)      |
| Chronic fatigue syndrome           | 55                               | 351        | 1.4 (1.0, 1.9)    | 84                               | 690        | 1.3 (0.5, 3.5)  |
| Diabetes                           | 128                              | 653        | 2.6 (2.2, 3.2)    | 114                              | 887        | 1.7 (0.8, 3.7)  |
| Hearing loss                       | 714                              | 3922       | 15.7 (14.5, 17.0) | 839                              | 4799       | 9.1 (7.1, 11.7) |
| Impotence                          | 157                              | 833        | 3.3 (2.8, 4.0)    | 143                              | 964        | 1.8 (0.9, 3.7)  |
| Kidney disease                     | 115                              | 651        | 2.6 (2.1, 3.3)    | 192                              | 1193       | 2.3 (1.3, 4.1)  |
| Other cancer, tumour or malignancy | 163                              | 842        | 3.4 (2.8, 4.0)    | 244                              | 1289       | 2.5 (1.4, 4.2)  |
| Traumatic brain injury             | 44                               | 302        | 1.2 (0.8, 1.8)    | 67                               | 633        | 1.2 (0.4, 3.5)  |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 5.12 Estimated prevalence of other conditions ever reported by Transitioned ADF and 2015 Regular ADF**



#### ***Other conditions ever reported by Transitioned ADF, by DVA client status***

Table 5.34 shows the estimated prevalence of other conditions ever reported by Transitioned ADF by DVA client status. DVA clients were significantly more likely to report hearing loss (26.4% vs 6.7%; OR 3.9, 95% CI 3.0, 5.2), impotence (5.5% vs 1.7%; OR 2.4, 95% CI 1.4, 3.9) and other cancer (5.1% vs 2.0%; OR 1.7, 95% CI 1.1, 2.6) compared with non-DVA clients.

**Table 5.34 Estimated prevalence of other conditions ever reported by Transitioned ADF, by DVA client status**

| Other condition                    | DVA client<br>(n = 10,615) |            |                   | Non-DVA client<br>(n = 11,275) |            |                |
|------------------------------------|----------------------------|------------|-------------------|--------------------------------|------------|----------------|
|                                    | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)     |
| Chronic fatigue syndrome           | 32                         | 186        | 1.8 (1.2, 2.6)    | 13                             | 111        | 1.0 (0.5, 2.0) |
| Diabetes                           | 77                         | 372        | 3.5 (2.8, 4.5)    | 36                             | 207        | 1.8 (1.2, 2.8) |
| Hearing loss                       | 530                        | 2800       | 26.4 (24.1, 28.8) | 113                            | 750        | 6.7 (5.3, 8.4) |
| Impotence                          | 114                        | 582        | 5.5 (4.5, 6.7)    | 29                             | 190        | 1.7 (1.0, 2.8) |
| Kidney disease                     | 73                         | 376        | 3.5 (2.8, 4.5)    | 34                             | 238        | 2.1 (1.4, 3.3) |
| Other cancer, tumour or malignancy | 111                        | 543        | 5.1 (4.2, 6.2)    | 36                             | 230        | 2.0 (1.4, 3.0) |
| Traumatic brain injury             | 25                         | 178        | 1.7 (1.1, 2.7)    | 13                             | 95         | 0.8 (0.4, 1.8) |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

#### ***Other conditions ever reported in Transitioned ADF, by transition status***

Table 5.35 shows the estimated prevalence of other conditions ever reported by Transitioned ADF by transition status. Ex-Serving ADF were significantly more likely to report chronic fatigue syndrome (2.1% vs 0.7%; OR 3.3, 95% CI 1.7, 6.2) and diabetes (3.0% vs 2.8%; OR 2.0, 95% CI 1.3, 3.2) than Active Reservists. Ex-Serving ADF were also

significantly more likely to report impotence than Active Reservists (4.2% vs 2.7%; OR 2.8, 95% CI 1.8, 4.5) and Inactive Reservists (4.2% vs 2.6%; OR 2.0, 95% CI 1.1, 3.4). Further, Ex-Serving ADF were significantly more likely to report hearing loss than Inactive Reservists (16.2% vs 13.3%; OR 1.4, 95% CI 1.1, 1.9), although this was a weak association.

**Table 5.35 Estimated prevalence of other conditions ever reported by Transitioned ADF, by transition status**

| Other condition                    | Ex-Serving<br>(n = 10,743) |            |                   | Inactive Reservists<br>(n = 7709) |            |                   | Active Reservists<br>(n = 6390) |            |                   |
|------------------------------------|----------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                                    | n                          | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Chronic fatigue syndrome           | 32                         | 222        | 2.1 (1.4, 3.1)    | 12                                | 83         | 1.1 (0.5, 2.2)    | 11                              | 46         | 0.7 (0.4, 1.2)    |
| Diabetes                           | 61                         | 310        | 3.0 (2.2, 3.9)    | 29                                | 167        | 2.2 (1.4, 3.3)    | 38                              | 176        | 2.8 (2.0, 3.7)    |
| Hearing loss                       | 295                        | 1744       | 16.2 (14.2, 18.5) | 171                               | 1022       | 13.3 (11.0, 15.9) | 245                             | 1144       | 17.9 (15.8, 20.2) |
| Impotence                          | 85                         | 456        | 4.2 (3.3, 5.4)    | 35                                | 203        | 2.6 (1.7, 4.0)    | 37                              | 174        | 2.7 (2.0, 3.8)    |
| Kidney disease                     | 46                         | 315        | 2.9 (2.0, 4.2)    | 30                                | 158        | 2.1 (1.3, 3.1)    | 38                              | 174        | 2.7 (2.0, 3.8)    |
| Other cancer, tumour or malignancy | 64                         | 344        | 3.2 (2.4, 4.3)    | 35                                | 189        | 2.5 (1.6, 3.7)    | 62                              | 299        | 4.7 (3.7, 6.0)    |
| Traumatic brain injury             | 22                         | 155        | 1.4 (0.9, 2.4)    | 11                                | 99         | 1.3 (0.6, 2.7)    | 11                              | 48         | 0.8 (0.4, 1.3)    |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

### ***Other conditions ever reported by Transitioned ADF, by discharge status***

Table 5.36 shows the estimated prevalence of other conditions ever reported by Transitioned ADF members by medical discharge status. Compared with non-medically discharged Transitioned ADF members, Transitioned ADF with a medical discharge were significantly more likely to be diagnosed with a number of other conditions.

Medically discharged Transitioned ADF were significantly more likely to report impotence (6.6% vs 2.5%; OR 3.5, 95% CI 2.3, 5.2), chronic fatigue syndrome (3.0% vs 1.0%; OR 2.8, 95% CI 1.5, 5.4), diabetes (4.1% vs 2.3%; OR 2.4, 95% CI 1.5, 3.8), hearing loss (21.8% vs 14.3%; OR 2.1, 95% CI 1.6, 2.7) and kidney disease (3.8% vs 2.3%; OR 1.9, 95% CI 1.1, 3.2) when compared with Transitioned ADF with a non-medical discharge.

**Table 5.36      Estimated prevalence of other conditions ever reported by Transitioned ADF, by medical discharge status**

| Other condition                    | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|------------------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                                    | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Chronic fatigue syndrome           | 23                              | 151        | 3.0 (1.9, 4.7)    | 32                    | 200        | 1.0 (0.7, 1.6)    |
| Diabetes                           | 46                              | 210        | 4.1 (3.1, 5.5)    | 82                    | 442        | 2.3 (1.8, 2.9)    |
| Hearing loss                       | 200                             | 1114       | 21.8 (18.8, 25.1) | 509                   | 2787       | 14.3 (12.9, 15.8) |
| Impotence                          | 60                              | 336        | 6.6 (4.9, 8.7)    | 96                    | 493        | 2.5 (2.0, 3.2)    |
| Kidney disease                     | 31                              | 192        | 3.8 (2.5, 5.6)    | 83                    | 455        | 2.3 (1.8, 3.0)    |
| Other cancer, tumour or malignancy | 42                              | 210        | 4.1 (3.0, 5.6)    | 119                   | 620        | 3.2 (2.6, 3.9)    |
| Traumatic brain injury             | 15                              | 104        | 2.0 (1.1, 3.6)    | 28                    | 194        | 1.0 (0.6, 1.6)    |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

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## 6 Respiratory health

### Transitioned ADF members compared with 2015 Regular ADF members

- Transitioned ADF members were significantly more likely to report many respiratory symptoms – for example, shortness of breath and phlegm from chest during winter – compared with 2015 Regular ADF members.
- Although there was no difference between Transitioned ADF and 2015 Regular ADF in the rates of self-reported asthma ever, of those who did report asthma ever Transitioned ADF were more likely to have had treatment in the preceding year and to have taken asthma medication in the preceding month when compared with 2015 Regular ADF.

### Among Transitioned ADF members

- Among Transitioned ADF, DVA clients were more likely to report most respiratory symptoms compared with non-DVA clients, but there were no differences in wheeze, nasal allergies or asthma ever.
- Ex-Serving ADF were more likely to report many respiratory symptoms compared with Active and Inactive Reservists but were not more likely to report asthma ever.
- Transitioned ADF who were medically discharged were more likely to report all respiratory symptoms than those who were non-medically discharged but were not more likely to report nasal allergies and asthma ever.
- Transitioned ADF with a medical discharge who had had asthma ever were more likely to report asthma in the preceding year or to have taken asthma medication in the preceding month compared with members with another type of discharge.

Refer to the glossary for definitions of key terms used in this section.

This chapter deals with self-reported respiratory health among Transitioned ADF members and 2015 Regular ADF members. In addition to a comparison of Transitioned ADF and the 2015 Regular ADF, results are reported according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge).

Self-reported information on respiratory symptoms and conditions was used to assess respiratory health, with each answer categorised as ‘yes’ or ‘no’. Respondents were asked if they had experienced the following respiratory symptoms either in the preceding 12 months or usually (except where otherwise specified):

- wheeze in the last 12 months
- wheeze with breathlessness
- wheeze present but not a cold
- woken by tightness in chest in last 12 months
- attack of shortness of breath in the last 12 months
  - attack of shortness of breath during the day when at rest – that is, spontaneous dyspnoea
  - attack of shortness of breath following strenuous activity – that is, post-exertional dyspnoea
  - woken by attack of shortness of breath – that is, nocturnal dyspnoea
- woken by attack of coughing in the last 12 months – that is, nocturnal cough
- morning cough
- day or night time cough
- morning sputum in winter
- disabled from walking by a condition other than heart or lung disease
- shortness of breath when hurrying on level ground or walking up slight hill
- shortness of breath with other people of the same age on level ground
- have to stop for breath when walking at your own pace on level ground
- any nasal allergies.

Participants also reported whether they had ever had asthma in their lifetime and whether:

- The asthma was confirmed by a doctor.
- They had an asthma attack in the preceding 12 months.
- They were currently taking any asthma medication.

For the purpose of this chapter, a more inclusive definition of ‘asthma ever’ was used: it includes all those who reported ever having had asthma in their lifetime, regardless of whether or not this was confirmed by a doctor. Confirmation by a doctor, having an attack in the preceding 12 months and whether they were taking medication for their asthma were calculated as a proportion of the subpopulation who endorsed ever having had asthma in their lifetime.

Logistic regressions were performed on individual symptoms and asthma ever and were adjusted for sex, age, rank, Service and smoking status. Because of the high number of significant findings, the results presented focus on those differences with the strongest association for the particular group breakdown.

## **6.1 Respiratory symptoms**

### **6.1.1 Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF and 2015 Regular ADF**

Table 6.1 and Figure 6.1 show the estimated prevalence of respiratory symptoms in the preceding 12 months in Transitioned ADF members and 2015 Regular ADF members. A number of symptoms were significantly more likely to be reported by Transitioned ADF compared with 2015 Regular ADF. 'Attack of shortness of breath during the day whilst at rest' was reported by 11.5% of Transitioned ADF compared with 6.9% of the 2015 Regular ADF (OR 1.6, 95% CI 1.0, 2.4). Transitioned ADF were more likely to report being 'woken by attack of shortness of breath' (8.5%) compared with 2015 Regular ADF (3.8%) (OR 2.2, 95% CI 1.4, 3.6). Transitioned ADF were significantly more likely to report 'phlegm from chest during day or at night during winter' than 2015 Regular ADF (16.5% vs 11.2%; OR 1.5, 95% CI 1.1, 2.1). Being 'disabled from walking by condition other than heart/lung disease' was reported by 6.6% of Transitioned ADF and 2.4% of 2015 Regular ADF (OR 2.5, 95% CI 1.3, 4.6). Transitioned ADF were significantly more likely to report 'shortness of breath' than 2015 Regular ADF (9.7% vs 5.1%; OR 1.8, 95% CI 1.1, 2.8) and significantly more likely to report 'Asthma in the last 12 months' than the 2015 Regular ADF (11.5% vs 5.8%; OR 2.5, 95% CI 1.7, 3.5). Transitioned ADF were also significantly more likely to report taking 'Asthma medication currently' than the 2015 Regular ADF (21.4% vs 13.4%; OR 1.9, 95% CI 1.2, 3.0). All the associations just noted were moderate.

### **6.1.2 Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by DVA client status**

Table 6.2 shows respiratory symptoms in the preceding 12 months among the Transitioned ADF according to DVA client status. DVA clients were significantly more likely to experience a number of symptoms when compared with non-DVA clients. The strongest association was found for 'disabled from walking by a condition other than heart/lung disease' (12.0% vs 1.4%; OR 8.3, 95% CI 4.8, 14.5). Numerous moderate associations were found, the strongest of these being reported here. DVA clients were significantly more likely to report being 'woken by attack of shortness of breath' (11.7% vs 5.2%; OR 2.4, 95% CI 1.7, 3.4), 'phlegm from chest in the morning during winter' (23.0% vs 13.4%; OR 2.1, 95% CI 1.6, 2.8) and 'shortness of breath' (14.1% vs 5.9%; OR 2.4, 95% CI 1.8, 3.3) compared with non-DVA clients.

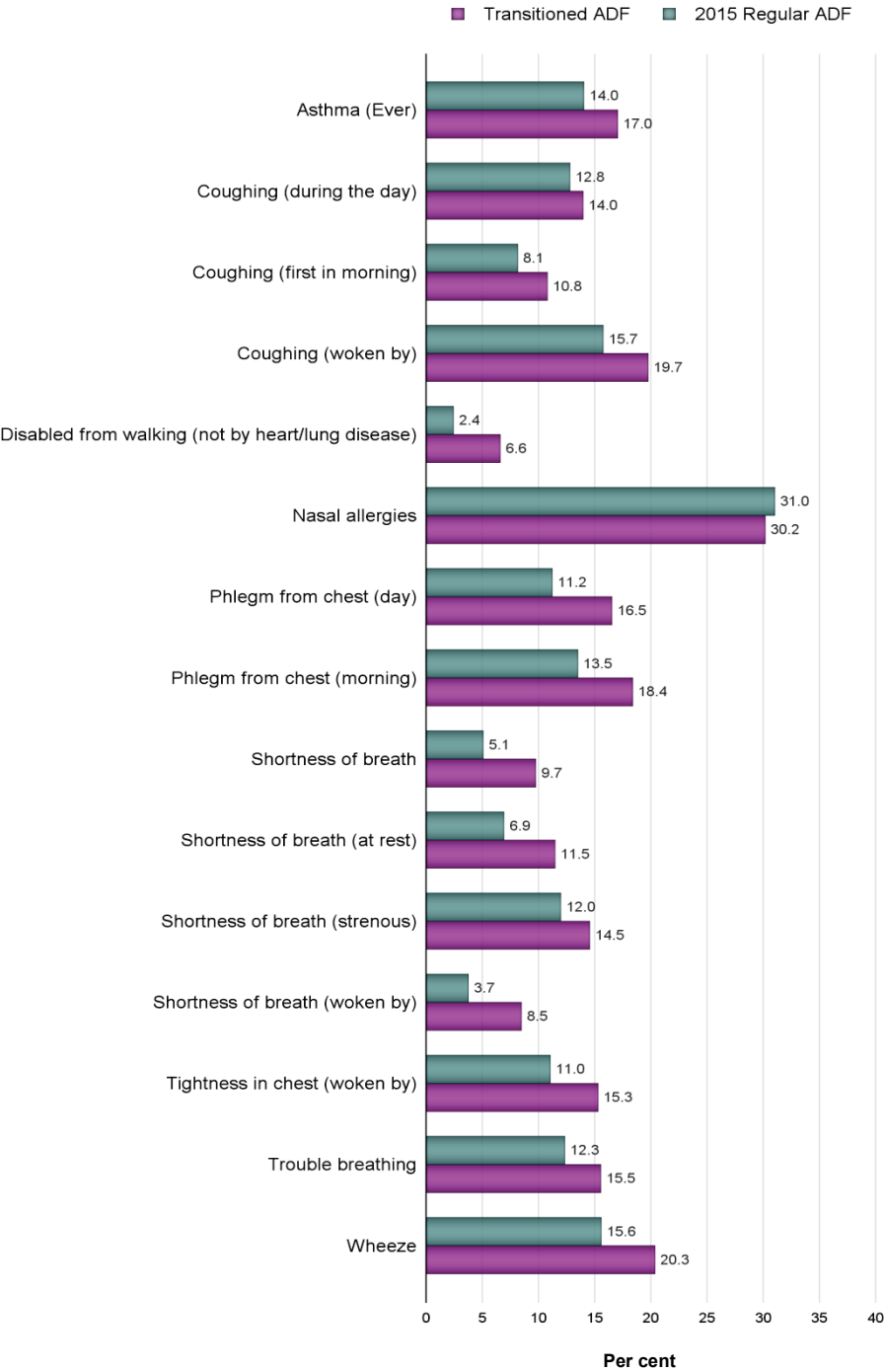
**Table 6.1 Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF and 2015 Regular ADF**

| Symptom/condition   | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|---|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|   | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Wheeze <sup>a</sup>   | 722                              | 5073       | 20.4 (18.7, 22.1) | 1145                             | 8173       | 15.6 (12.6, 19.1) |
| Wheeze with breathlessness  | 392                              | 2748       | 54.2 (49.5, 58.8) | 590                              | 3476       | 42.5 (32.0, 53.8) |
| Wheeze when cold not present  | 462                              | 3208       | 63.2 (58.6, 67.6) | 603                              | 3808       | 46.6 (35.6, 57.9) |
| Woken with tightness in chest   | 574                              | 3812       | 15.3 (13.9, 16.8) | 729                              | 5794       | 11.0 (8.4, 14.4)  |
| Attack of shortness of breath during the day whilst at rest                 | 422                              | 2858       | 11.5 (10.2, 12.8) | 432                              | 3623       | 6.9 (4.9, 9.6)    |
| Attack of shortness of breath following strenuous activity                  | 549                              | 3626       | 14.5 (13.2, 16.0) | 826                              | 6281       | 12.0 (9.3, 15.3)  |
| Woken by attack of shortness of breath                                      | 318                              | 2111       | 8.5 (7.4, 9.6)    | 321                              | 1966       | 3.8 (2.5, 5.6)    |
| Woken by attack of coughing   | 772                              | 4921       | 19.7 (18.2, 21.4) | 1430                             | 8262       | 15.7 (13.4, 18.4) |
| Cough first thing in the morning  | 389                              | 2688       | 10.8 (9.6, 12.1)  | 560                              | 4274       | 8.1 (5.8, 11.2)   |
| Cough during the day or at night  | 524                              | 3479       | 14.0 (12.6, 15.4) | 782                              | 6714       | 12.8 (9.8, 16.5)  |
| Phlegm from chest in morning during winter                                  | 600                              | 4580       | 18.4 (16.8, 20.1) | 994                              | 7082       | 13.5 (11.1, 16.3) |
| Phlegm from chest during day or at night during winter                      | 550                              | 4118       | 16.5 (15.0, 18.2) | 805                              | 5884       | 11.2 (8.9, 14.1)  |
| Phlegm on most days for as much as 3 months of a year for at least 2 years? | 296                              | 2280       | 55.2 (50.1, 60.6) | 370                              | 2055       | 34.9 (26.3, 44.7) |
| Trouble breathing <sup>a</sup>  | 624                              | 3871       | 15.5 (14.2, 17.0) | 940                              | 6472       | 12.3 (9.7, 15.6)  |
| Continuous trouble breathing  | 81                               | 444        | 11.5 (9.0, 14.5)  | 80                               | 837        | 12.9 (5.3, 28.3)  |
| Repeated trouble breathing, but always gets better                          | 117                              | 842        | 21.7 (17.9, 26.2) | 160                              | 1691       | 26.1 (15.1, 41.3) |
| Rare trouble breathing  | 423                              | 2549       | 65.9 (61.1, 70.3) | 697                              | 3930       | 60.7 (46.7, 73.2) |
| Disabled from walking by condition other than heart/lung disease            | 276                              | 1641       | 6.6 (5.8, 7.5)    | 200                              | 1271       | 2.4 (1.4, 4.2)    |
| Shortness of breath   | 403                              | 2427       | 9.7 (8.7, 10.9)   | 401                              | 2656       | 5.1 (3.4, 7.5)    |
| Nasal allergies   | 1135                             | 7520       | 30.2 (28.3, 32.1) | 2417                             | 16,281     | 31.0 (27.3, 35.0) |
| Asthma (ever) <sup>a</sup>  | 553                              | 4247       | 17.0 (15.5, 18.7) | 1045                             | 7359       | 14.0 (11.4, 17.2) |
| Asthma confirmed by doctor  | 502                              | 3815       | 89.8 (86.0, 92.7) | 951                              | 6605       | 89.8 (77.4, 95.7) |
| Asthma in last 12 months  | 80                               | 490        | 11.5 (8.9, 14.8)  | 107                              | 423        | 5.8 (4.3, 7.7)    |
| Asthma medication currently   | 146                              | 911        | 21.4 (17.8, 25.6) | 203                              | 989        | 13.4 (10.1, 17.7) |

a. Subcategories are calculated among those that answer 'yes' to the category.

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 6.1**      **Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF and 2015 Regular ADF**



**Table 6.2 Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by DVA client status**

| Symptom/condition   | DVA client<br>(n = 10,649) |               |                  | Non- DVA client<br>(n = 11,318) |               |                  |
|---|----------------------------|---------------|------------------|---------------------------------|---------------|------------------|
|   | n                          | Weighted<br>n | % (95% CI)       | n                               | Weighted<br>n | % (95% CI)       |
| Wheeze  | 405                        | 2431          | 22.8 (20.5,25.3) | 237                             | 2075          | 18.3 (15.8,21.2) |
| Woken with tightness in chest                               | 363                        | 2070          | 19.4 (17.4,21.7) | 151                             | 1265          | 11.2 (9.2,13.5)  |
| Attack of shortness of breath during the day whilst at rest | 269                        | 1578          | 14.8 (13.0,16.9) | 109                             | 942           | 8.3 (6.6,10.5)   |
| Attack of shortness of breath following strenuous activity  | 345                        | 2022          | 19.0 (16.9,21.3) | 152                             | 1269          | 11.2 (9.2,13.6)  |
| Woken by attack of shortness of breath                      | 215                        | 1249          | 11.7 (10.1,13.6) | 68                              | 587           | 5.2 (3.9,6.9)    |
| Woken by attack of coughing                                 | 458                        | 2538          | 23.8 (21.6,26.2) | 225                             | 1758          | 15.5 (13.3,18.1) |
| Cough first thing in the morning                            | 239                        | 1434          | 13.5 (11.7,15.5) | 114                             | 998           | 8.8 (7.0,11.0)   |
| Cough during the day or at night                            | 316                        | 1861          | 17.5 (15.5,19.7) | 152                             | 1251          | 11.1 (9.1,13.4)  |
| Phlegm from chest in morning during winter                  | 355                        | 2449          | 23.0 (20.6,25.6) | 177                             | 1517          | 13.4 (11.2,16.0) |
| Phlegm from chest during day or at night during winter      | 336                        | 2219          | 20.8 (18.5,23.4) | 151                             | 1382          | 12.2 (10.1,14.8) |
| Trouble breathing   | 397                        | 2168          | 20.4 (18.3,22.6) | 168                             | 1274          | 11.3 (9.3,13.5)  |
| Disabled from walking by condition                          | 223                        | 1278          | 12.0 (10.4,13.8) | 23                              | 163           | 1.4 (0.9,2.4)    |
| Shortness of breath   | 268                        | 1504          | 14.1 (12.4,16.1) | 94                              | 672           | 5.9 (4.6,7.6)    |
| Nasal allergies   | 583                        | 3375          | 31.7 (29.1,34.4) | 436                             | 3331          | 29.4 (26.4,32.6) |
| Asthma (ever) <sup>a</sup>                                  | 271                        | 1769          | 16.6 (14.5,18.9) | 219                             | 1977          | 17.5 (15.0,20.3) |
| Asthma confirmed by doctor                                  | 246                        | 1578          | 89.2 (83.2,93.3) | 197                             | 1774          | 89.7 (83.3,93.9) |
| Asthma in last 12 months                                    | 45                         | 207           | 11.7 (8.7,15.4)  | 25                              | 213           | 10.8 (6.7,16.9)  |
| Asthma medication currently                                 | 86                         | 443           | 25.1 (20.0,30.9) | 43                              | 377           | 19.1 (13.4,26.4) |

a. Subcategories are calculated among those that answer 'yes' to the category.

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 6.1.3 Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by transition status

Table 6.3 and Figure 6.2 show respiratory symptoms and conditions in the preceding 12 months among Transitioned ADF members according to transition status.

Ex-Serving ADF were significantly more likely to report being 'Disabled from walking by a condition other than heart/lung disease' compared with Active Reservists (11.1% vs 4.1%; OR 4.2, 95% CI 3.0, 5.7) and Inactive Reservists (11.1% vs 2.4%; OR 5.7, 95% CI 3.8, 8.4). Both were strong associations. A number of moderate associations were also observed. Ex-Serving ADF were significantly more likely to report being 'Woken by attack of shortness of breath' than Active Reservists (11.6% vs 6.2%; OR 2.3, 95% CI 1.5, 3.3) and Inactive Reservists (11.6% vs 6.1%; OR 2.0, 95% CI 1.3, 2.9). They were also significantly more likely to report an 'Attack of shortness of breath whilst at rest during the day' compared with Active Reservists (16% vs 7.5%; OR 2.5, 95% CI 1.8, 3.4) and Inactive Reservists (16.0% vs 8.6%; OR 1.9, 95% CI 1.4, 2.7).

**Table 6.3 Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by transition status**

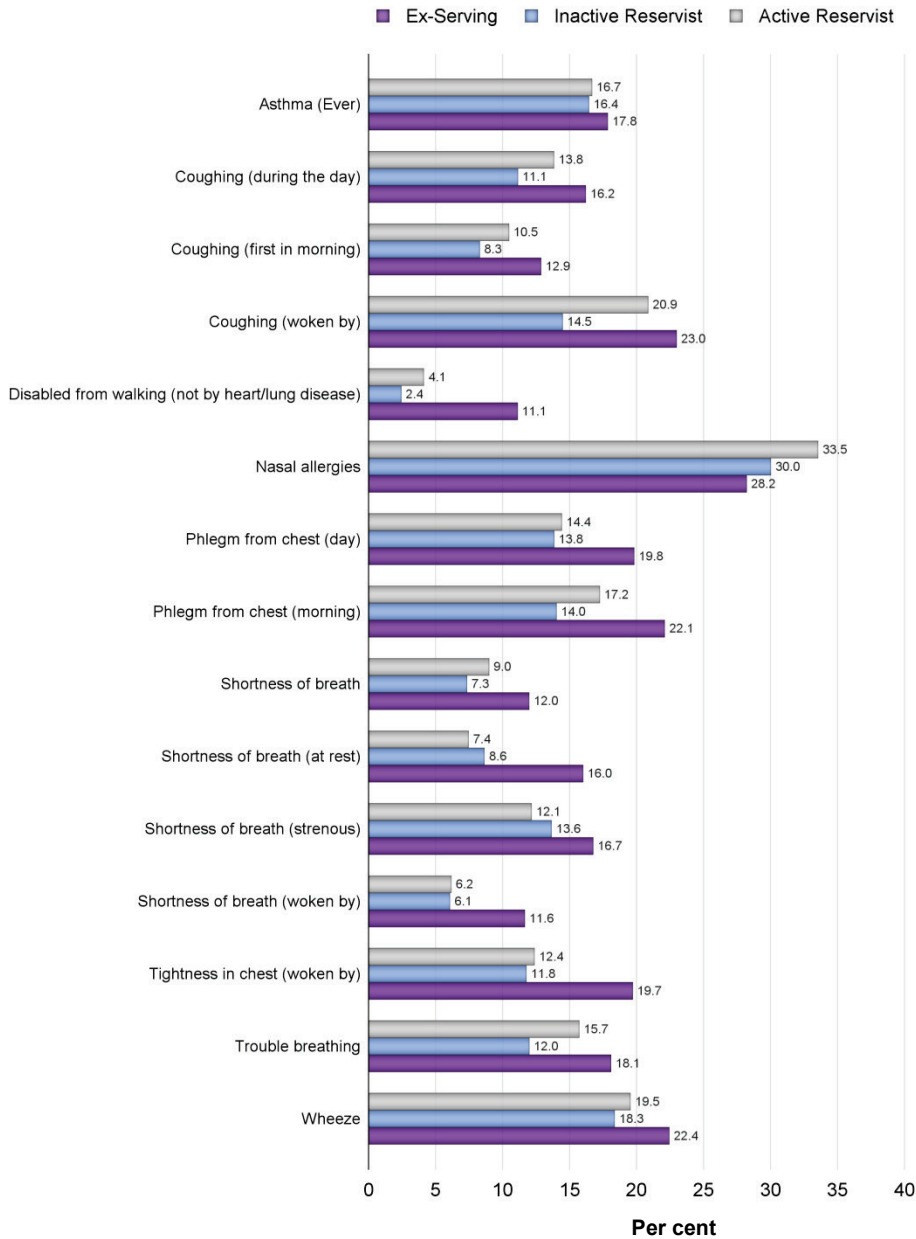
| Symptom/condition   | Ex-Serving ADF<br>(n = 10,733) |            |                   | Inactive Reservists<br>(n = 7738) |            |                   | Active Reservists<br>(n = 6372) |            |                   |
|---|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|   | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Wheeze <sup>a</sup>   | 319                            | 2407       | 22.4 (19.8, 25.3) | 178                               | 1419       | 18.3 (15.4, 21.8) | 224                             | 1244       | 19.5 (17.0, 22.4) |
| Wheeze with breathlessness  | 200                            | 1440       | 59.8 (52.8, 66.5) | 81                                | 646        | 45.6 (36.2, 55.2) | 110                             | 658        | 52.9 (45.3, 60.4) |
| Wheeze when cold not present  | 229                            | 1753       | 72.8 (66.3, 78.5) | 103                               | 751        | 52.9 (43.2, 62.4) | 130                             | 704        | 56.6 (48.8, 64.1) |
| Woken with tightness in chest   | 300                            | 2114       | 19.7 (17.3, 22.4) | 127                               | 910        | 11.8 (9.5, 14.5)  | 147                             | 788        | 12.4 (10.4, 14.7) |
| Attack of shortness of breath during the day whilst at rest                 | 239                            | 1716       | 16.0 (13.8, 18.5) | 92                                | 667        | 8.6 (6.6, 11.1)   | 91                              | 474        | 7.5 (6.0, 9.2)    |
| Attack of shortness of breath following strenuous activity                  | 266                            | 1797       | 16.8 (14.6, 19.1) | 139                               | 1055       | 13.6 (11.1, 16.7) | 144                             | 774        | 12.1 (10.2, 14.5) |
| Woken by attack of shortness of breath                                      | 182                            | 1250       | 11.6 (9.8, 13.8)  | 64                                | 468        | 6.1 (4.4, 8.2)    | 72                              | 392        | 6.2 (4.8, 7.9)    |
| Woken by attack of coughing   | 345                            | 2466       | 23.0 (20.4, 25.8) | 183                               | 1120       | 14.5 (12.1, 17.3) | 242                             | 1329       | 20.9 (18.2, 23.7) |
| Cough first thing in the morning  | 186                            | 1380       | 12.9 (10.8, 15.2) | 90                                | 641        | 8.3 (6.4, 10.6)   | 113                             | 667        | 10.5 (8.4, 12.9)  |
| Cough during the day or at night  | 243                            | 1738       | 16.2 (14.0, 18.7) | 134                               | 861        | 11.1 (9.0, 13.7)  | 147                             | 881        | 13.8 (11.5, 16.6) |
| Phlegm from chest in morning during winter                                  | 276                            | 2370       | 22.1 (19.4, 25.0) | 141                               | 1084       | 14.0 (11.4, 17.1) | 181                             | 1099       | 17.2 (14.6, 20.2) |
| Phlegm from chest during day or at night during winter                      | 262                            | 2126       | 19.8 (17.3, 22.6) | 140                               | 1071       | 13.8 (11.3, 16.9) | 147                             | 918        | 14.4 (11.9, 17.3) |
| Phlegm on most days for as much as 3 months of a year for at least 2 years? | 152                            | 1285       | 60.5 (53.0, 67.5) | 67                                | 520        | 48.6 (38.1, 59.3) | 77                              | 474        | 51.7 (41.5, 61.7) |
| Trouble breathing <sup>a</sup>  | 305                            | 1940       | 18.1 (15.9, 20.5) | 134                               | 927        | 12.0 (9.7, 14.7)  | 184                             | 1001       | 15.7 (13.4, 18.3) |
| Continuous trouble breathing  | 52                             | 287        | 14.8 (11.0, 19.7) | 13                                | 82         | 8.8 (4.5, 16.6)   | 16                              | 75         | 7.5 (4.7, 11.6)   |
| Repeated trouble breathing, but always gets better                          | 70                             | 497        | 25.6 (20.0, 32.2) | 22                                | 160        | 17.2 (10.6, 26.8) | 25                              | 185        | 18.5 (11.9, 27.6) |
| Rare trouble breathing  | 182                            | 1147       | 59.1 (52.3, 65.6) | 97                                | 657        | 70.9 (60.1, 79.7) | 143                             | 741        | 74.1 (65.4, 81.2) |
| Disabled from walking by condition other than heart/lung disease            | 177                            | 1192       | 11.1 (9.4, 13.1)  | 41                                | 188        | 2.4 (1.8, 3.3)    | 58                              | 261        | 4.1 (3.2, 5.2)    |
| Shortness of breath   | 214                            | 1284       | 12.0 (10.3, 13.9) | 82                                | 567        | 7.3 (5.6, 9.6)    | 106                             | 572        | 9.0 (7.3, 11.0)   |
| Nasal allergies   | 420                            | 3027       | 28.2 (25.4, 31.2) | 319                               | 2321       | 30.0 (26.5, 33.8) | 392                             | 2136       | 33.5 (30.3, 36.9) |

| Symptom/condition           | Ex-Serving ADF<br>(n = 10,733) |            |                   | Inactive Reservists<br>(n = 7738) |            |                   | Active Reservists<br>(n = 6372) |            |                   |
|-----------------------------|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                             | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Asthma (ever) <sup>a</sup>  | 234                            | 1914       | 17.8 (15.4, 20.5) | 144                               | 1271       | 16.4 (13.5, 19.8) | 175                             | 1062       | 16.7 (14.2, 19.5) |
| Asthma confirmed by doctor  | 206                            | 1633       | 85.3 (78.3, 90.4) | 133                               | 1174       | 92.3 (84.6, 96.4) | 163                             | 1008       | 94.9 (91.5, 97.0) |
| Asthma in last 12 months    | 41                             | 231        | 12.1 (8.5, 16.8)  | 15                                | 131        | 10.3 (5.4, 18.8)  | 24                              | 128        | 12.1 (8.0, 17.8)  |
| Asthma medication currently | 72                             | 426        | 22.3 (17.0, 28.6) | 26                                | 221        | 17.4 (10.8, 26.2) | 48                              | 263        | 24.8 (18.7, 32.1) |

a. Subcategories are calculated among those that answer 'yes' to the category.

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,733; Active Reservists = 6372; Inactive Reservists = 7738; Unknown = 89). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 6.2      Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by transition status**



**6.1.4 Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by discharge status**

Table 6.4 shows respiratory symptoms in the preceding 12 months in Transitioned ADF by medical discharge status. For all symptoms and conditions except nasal allergies and asthma ever, those with a medical discharge were significantly more likely to report the symptom than those with another type of discharge. Only the strongest associations are described here. Transitioned ADF with a medical discharge were significantly more likely to report being ‘Disabled from walking by a condition other than heart/lung disease’ (19.4% vs 3.3%; OR 8.0, 95% CI 5.7, 11.3) and ‘Shortness of breath’ (19.3% vs 7.4%; OR 3.2, 95% CI 2.4, 4.3) compared with those with another type of discharge.

A number of moderate associations were also found. Transitioned ADF with a medical discharge were significantly more likely to report an ‘Attack of shortness of breath during the day whilst at rest’ (21.8% vs 8.5%; OR 2.7, 95% CI 2.1, 3.6), being ‘Woken by attack of shortness of breath’ (16.4% vs 6.3%; OR 2.8, 95% CI 2.1, 3.9), ‘Trouble breathing’ (24.8% vs 13.2%; OR 2.3, 95% CI 1.8, 2.9) and ‘Asthma in the last 12 months’ (15.2% vs 10.4%; OR 1.9, 95% CI 1.0, 3.5) and to report taking ‘Asthma medication currently’ (29.0% vs 19.3%; OR 1.9, 95% CI 1.2, 3.1) when compared with those with another type of discharge.

**Table 6.4** Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by medical discharge status

| Symptom/condition  | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|--|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|  | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Wheeze   | 198                             | 1342       | 26.3 (22.7, 30.3) | 515                   | 3650       | 18.7 (16.9, 20.7) |
| Woken with tightness in chest                                    | 197                             | 1236       | 24.2 (20.8, 28.0) | 373                   | 2525       | 12.9 (11.4, 14.6) |
| Attack of shortness of breath during the day whilst at rest      | 164                             | 1114       | 21.8 (18.5, 25.6) | 252                   | 1664       | 8.5 (7.3, 9.9)    |
| Attack of shortness of breath following strenuous activity       | 182                             | 1154       | 22.6 (19.4, 26.2) | 364                   | 2436       | 12.5 (11.0, 14.1) |
| Woken by attack of shortness of breath                           | 133                             | 838        | 16.4 (13.6, 19.7) | 181                   | 1221       | 6.3 (5.2, 7.5)    |
| Woken by attack of coughing                                      | 218                             | 1458       | 28.5 (24.8, 32.6) | 546                   | 3376       | 17.3 (15.7, 19.1) |
| Cough first thing in the morning                                 | 119                             | 820        | 16.1 (13.1, 19.5) | 269                   | 1844       | 9.4 (8.2, 10.9)   |
| Cough during the day or at night                                 | 150                             | 1001       | 19.6 (16.4, 23.2) | 370                   | 2420       | 12.4 (10.9, 14.0) |
| Phlegm from chest in morning during winter                       | 177                             | 1473       | 28.8 (24.9, 33.1) | 418                   | 3040       | 15.6 (13.9, 17.5) |
| Phlegm from chest during day or at night during winter           | 173                             | 1336       | 26.2 (22.4, 30.3) | 371                   | 2700       | 13.8 (12.2, 15.6) |
| Trouble breathing  | 210                             | 1268       | 24.8 (21.5, 28.5) | 409                   | 2579       | 13.2 (11.8, 14.8) |
| Disabled from walking by condition other than heart/lung disease | 150                             | 991        | 19.4 (16.3, 22.9) | 125                   | 647        | 3.3 (2.7, 4.0)    |
| Shortness of breath  | 163                             | 988        | 19.3 (16.3, 22.8) | 239                   | 1435       | 7.4 (6.3, 8.6)    |
| Nasal allergies  | 249                             | 1577       | 30.9 (27.2, 34.9) | 873                   | 5843       | 29.9 (27.8, 32.2) |
| Asthma (ever) <sup>a</sup>                                       | 130                             | 941        | 18.4 (15.3, 22.0) | 417                   | 3257       | 16.7 (14.9, 18.6) |
| Asthma confirmed by doctor                                       | 116                             | 826        | 87.8 (79.3, 93.2) | 380                   | 2940       | 90.3 (85.7, 93.5) |
| Asthma in last 12 months   | 28                              | 143        | 15.2 (10.1, 22.2) | 51                    | 339        | 10.4 (7.5, 14.3)  |
| Asthma medication currently                                      | 47                              | 273        | 29.0 (21.1, 38.4) | 97                    | 629        | 19.3 (15.3, 24.1) |

a. Subcategories are calculated among those that answer 'yes' to the category.

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.



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## 7 Service-related injuries

### Transitioned ADF members compared with 2015 Regular ADF members

- Transitioned ADF members were slightly more likely to have reported any service-related injury compared with 2015 Regular ADF members. Approximately three-quarters of Transitioned ADF and two-thirds of 2015 Regular ADF reported having had a service-related injury.
- Transitioned ADF reported slightly more service-related injury types compared with 2015 Regular ADF. For example, Transitioned ADF and 2015 Regular ADF similarly reported zero, one and two injury types, whereas a greater proportion of Transitioned ADF reported three and four service-related injury types (4.9% and 1.1% respectively) compared with 2015 Regular ADF (3.2% and 0.3% respectively).
- The two most common service-related injury types reported in Transitioned ADF and 2015 Regular ADF were musculoskeletal injury (64.3% and 58.6%) and fracture/broken bone (30.0% and 27.9%).
- Overall, the pattern of service-related injury types in Transitioned ADF and 2015 Regular ADF was similar. Transitioned ADF were, however, significantly more likely to have reported heat stress, exhaustion or dehydration or a burn injury compared with 2015 Regular ADF members.
- In general, service-related injuries were more likely to have been sustained during training as opposed to on deployment.

### Among Transitioned ADF members

- The most common musculoskeletal injury sites reported (>20%) for Transitioned ADF were knee, spine, ankle, shoulder, neck and foot.
- Ex-Serving ADF were more likely to report any service-related injury than Active Reservists and were more likely to report three injury types compared with Inactive Reservists.
- DVA clients were more likely to report sustaining any type of injury and multiple injury types compared with non-DVA clients.
- Transitioned ADF who were medically discharged were more likely to report any injury and two or three injury types than those with another type of discharge.
- With the exception of burn injuries, Transitioned ADF who were medically discharged were more likely to experience every injury type than those with another type of discharge.

### Among the 2015 Regular ADF members

- The most common service-related musculoskeletal injury sites (reported by >20%) in 2015 Regular ADF were knee, shoulder, ankle, spine and neck.

Refer to the glossary for definitions of key terms used in this section.

This chapter looks at the different types of service-related injuries sustained during members' military career, as reported by Transitioned ADF members and 2015 Regular ADF members. Service-related injuries were assessed using five self-report items relating to different injury types: fractures; musculoskeletal injuries; heat stress, exhaustion and dehydration; effects of cold or exposure; and burn injuries (excluding sunburn). Respondents were asked whether they had ever reported and required time off work for each service-related injury type during their military career and, if so, how many times while on deployment and how many times while in training (these two categories were not mutually exclusive). The number of service-related injury types reported ever was also summed to provide a 'number of service-related injury types' summary variable ranging from zero to five.

The number of service-related injury types is reported first, then follows an examination of each injury type more specifically, including whether it occurred during deployment and/or training. In addition to comparing the Transitioned ADF and the 2015 Regular ADF, results are reported for Transitioned ADF according to DVA client status (DVA client, non-DVA client), transition status (Ex-Serving, Inactive Reservist, Active Reservist) and medical discharge status (medical discharge, non-medical discharge). Between-group comparisons were adjusted for sex, age, rank and Service.

## 7.1 Number of service-related injury types sustained during military career

### 7.1.1 Number of service-related injury types sustained during military career in Transitioned ADF compared with 2015 Regular ADF

Table 7.1 and Figure 7.1 show the number of service-related injury types sustained during their military career, as reported by Transitioned ADF members and 2015 Regular ADF members. The mean number of service-related injury types reported by Transitioned ADF was 1.11 (SE 0.02); for the 2015 Regular ADF it was 0.96 (SE 0.03). Similar proportions were reported for zero, one and two injury types. In contrast, a higher proportion of Transitioned ADF reported three and four service-related injury types (4.9% and 1.1% respectively) compared with 2015 Regular ADF (3.2% and 0.3% respectively).

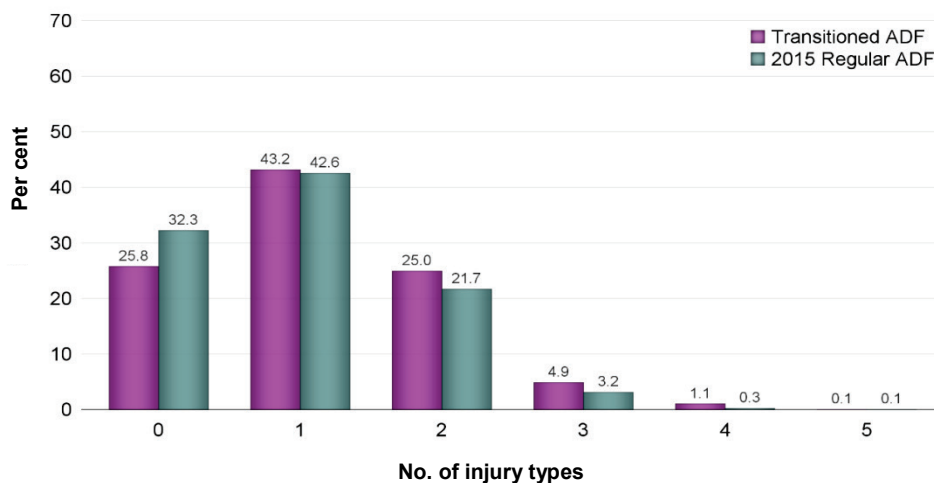
**Table 7.1** Estimated number of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF

| Number | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|--------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|        | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| 0      | 745                              | 6434       | 25.8 (23.9, 27.8) | 1886                             | 16,941     | 32.3 (28.4, 36.4) |
| 1      | 1495                             | 10,768     | 43.2 (41.1, 45.3) | 3185                             | 22,354     | 42.6 (38.4, 46.8) |
| 2      | 979                              | 6226       | 25.0 (23.3, 26.7) | 1836                             | 11,390     | 21.7 (18.5, 25.2) |
| 3      | 213                              | 1220       | 4.9 (4.2, 5.7)    | 327                              | 1654       | 3.2 (2.7, 3.7)    |
| 4      | 46                               | 268        | 1.1 (0.8, 1.5)    | 45                               | 133        | 0.3 (0.2, 0.3)    |
| 5      | a                                | ..         | ..                | a                                | ..         | ..                |

a. Cell size too small to be reported.

Note: Denominator – all 2015 Regular ADF and Transitioned ADF.

**Figure 7.1** Estimated number of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF



### 7.1.2 Number of service-related injury types sustained during military career in Transitioned ADF, by DVA client status

Table 7.2 shows the number of service-related injury types sustained during their military career, as reported by Transitioned ADF, according to DVA client status. DVA clients were less likely to report no service-related injuries (12.1%) compared with non-DVA clients (39.0%). Similarly, DVA clients were more likely to report two (34.3%) and three service-related injury types (7.0%) compared with non-DVA clients (two service-related injury types, 16.9%; three, 2.4%).

**Table 7.2 Estimated number of service-related injury types sustained during military career in Transitioned ADF, by DVA client status**

| Number | DVA client<br>(n = 10,643) |            |                   | Non-DVA client<br>(n = 11,251) |            |                   |
|--------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|        | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| 0      | 182                        | 1284       | 12.1 (10.2, 14.3) | 472                            | 4388       | 39.0 (35.6, 42.5) |
| 1      | 766                        | 4800       | 45.1 (42.3, 48.0) | 559                            | 4604       | 40.9 (37.6, 44.4) |
| 2      | 609                        | 3654       | 34.3 (31.7, 37.1) | 270                            | 1897       | 16.9 (14.6, 19.4) |
| 3      | 144                        | 746        | 7.0 (5.9, 8.4)    | 41                             | 271        | 2.4 (1.7, 3.5)    |
| 4      | 31                         | 147        | 1.4 (1.0, 2.0)    | 9                              | 91         | 0.8 (0.4, 1.8)    |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 7.1.3 Number of service-related injury types sustained during military career in Transitioned ADF, by transition status

Table 7.3 and Figure 7.2 show the number of service-related injury types sustained during their military career, as report by Transitioned ADF, according to transition status. There was little difference in the numbers reported by Ex-Serving, Inactive Reservists and Active Reservists overall, the only difference being observed for three injury types. Ex-Serving ADF (6.0%) were more likely to report three injury types compared with Inactive Reservists (3.2%).

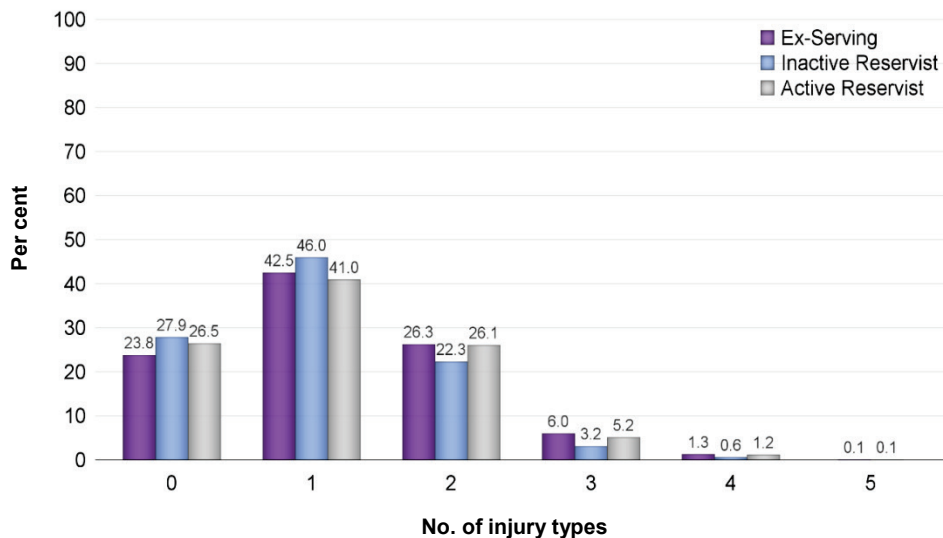
**Table 7.3 Estimated number of service-related injury types sustained during military career in the Transitioned ADF, by transition status**

| Number | Ex-Serving ADF<br>(n = 10,748) |            |                      | Inactive Reservists<br>(n = 7732) |            |                      | Active Reservists<br>(n = 6363) |            |                      |
|--------|--------------------------------|------------|----------------------|-----------------------------------|------------|----------------------|---------------------------------|------------|----------------------|
|        | n                              | Weighted n | % (95% CI)           | n                                 | Weighted n | % (95% CI)           | n                               | Weighted n | % (95% CI)           |
| 0      | 252                            | 2559       | 23.8<br>(20.9, 27.0) | 227                               | 2157       | 27.9<br>(24.2, 31.9) | 263                             | 1686       | 26.5<br>(23.3, 30.0) |
| 1      | 542                            | 4567       | 42.5<br>(39.2, 45.9) | 444                               | 3557       | 46.0<br>(41.9, 50.1) | 505                             | 2607       | 41.0<br>(37.7, 44.3) |
| 2      | 394                            | 2824       | 26.3<br>(23.6, 29.2) | 268                               | 1725       | 22.3<br>(19.3, 25.6) | 313                             | 1661       | 26.1<br>(23.3, 29.2) |
| 3      | 103                            | 645        | 6.0 (4.8, 7.5)       | 48                                | 244        | 3.2 (2.3, 4.3)       | 61                              | 328        | 5.2 (3.9, 6.8)       |
| 4      | 24                             | 141        | 1.3 (0.8, 2.1)       | 7                                 | 50         | 0.6 (0.2, 1.7)       | 15                              | 77         | 1.2 (0.8, 2.0)       |
| 5      | a                              | --         | --                   | a                                 | --         | --                   | a                               | --         | --                   |

a. Cell size too small to be reported.

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,748; Active Reservists = 6363; Inactive Reservists = 7732; Unknown = 88). Unknown are not included.

**Figure 7.2** Estimated proportions of number of service-related injury types sustained during military career in Transitioned ADF, by transition status



#### 7.1.4 Number of service-related injury types sustained during military career in Transitioned ADF, by discharge status

Table 7.4 shows the number of service-related injury types sustained during their military career, as reported by Transitioned ADF, according to medical discharge status. Transitioned ADF who were medically discharged were less likely to report no service-related injuries (11.6%) and were more likely to report two (31.3%) or three (9.0%) service-related injury types compared with those who had another type of discharge (zero injury types, 29.5%; two injury types, 23.3%; three injury types 3.7%).

**Table 7.4** Estimated number of service-related injury types sustained during military career in Transitioned ADF, by discharge status

| Number | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|--------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|        | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| 0      | 77                              | 593        | 11.6 (8.9, 14.8)  | 662                   | 5755       | 29.5 (27.3, 31.9) |
| 1      | 314                             | 2358       | 45.9 (41.6, 50.3) | 1167                  | 8307       | 42.6 (40.2, 45.1) |
| 2      | 238                             | 1609       | 31.3 (27.5, 35.4) | 731                   | 4542       | 23.3 (21.4, 25.3) |
| 3      | 77                              | 462        | 9.0 (7.0, 11.5)   | 134                   | 729        | 3.7 (3.1, 4.5)    |
| 4      | 20                              | 104        | 2.0 (1.2, 3.3)    | 25                    | 160        | 0.8 (0.5, 1.3)    |
| 5      | a                               | --         | --                | a                     | --         | --                |

a. Cell size too small to be reported.

Note: Denominator – Transitioned ADF cohort.

## 7.2 Types of service-related injury

### 7.2.1 Type of service-related injury sustained during military career in Transitioned ADF compared with 2015 Regular ADF

Table 7.5 and Figure 7.3 show the types of service-related injury sustained during their military career requiring time off work among Transitioned ADF members compared with the 2015 Regular ADF and the proportions that occurred on deployment and in training.

#### *Any service-related injury*

Transitioned ADF were significantly more likely to have reported any service-related injury compared with the 2015 Regular ADF, although the association was weak (74.2% vs 67.7%; OR 1.4, 95% CI 1.0, 1.8).

#### *Fracture/broken bone*

Overall, there were no significant differences between Transitioned ADF and 2015 Regular ADF in sustaining any type of fracture. Both groups reported more fractures during training (Transitioned ADF, 45.1%; 2015 Regular ADF, 42.7%) than while on deployment (Transitioned ADF, 12.6%; 2015 Regular ADF, 11.4%).

#### *Musculoskeletal injury*

Transitioned ADF were more likely to experience a musculoskeletal injury of the foot (21.8%), pelvis (4.7%) and spine (44.5%) compared with the 2015 Regular ADF (foot, 17.3%; pelvis, 2.9%; spine, 36.8%). Regression analyses revealed, however, that, overall, there were no differences between Transitioned ADF and 2015 Regular ADF in the rates of any type of musculoskeletal injury. Again, both groups reported sustaining more musculoskeletal injuries during training (Transitioned ADF, 59.5%; 2015 Regular ADF, 55.6%) than while on deployment (Transitioned ADF, 27.8%; 2015 Regular ADF, 26.5%).

#### *Heat stress, exhaustion, dehydration*

Transitioned ADF were significantly more likely to have reported heat stress, exhaustion or dehydration compared with the 2015 Regular ADF (12.1% vs 6.1%; OR 2.2, 95% CI 1.5, 3.1); this was a moderate association. Once again, both groups were more likely to experience this type of injury during training (Transitioned ADF, 60.6%; 2015 Regular ADF, 65.9%) than while on deployment (Transitioned ADF, 29.4%; 2015 Regular ADF, 31.7%).

**Table 7.5**      **Estimated proportions of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF**

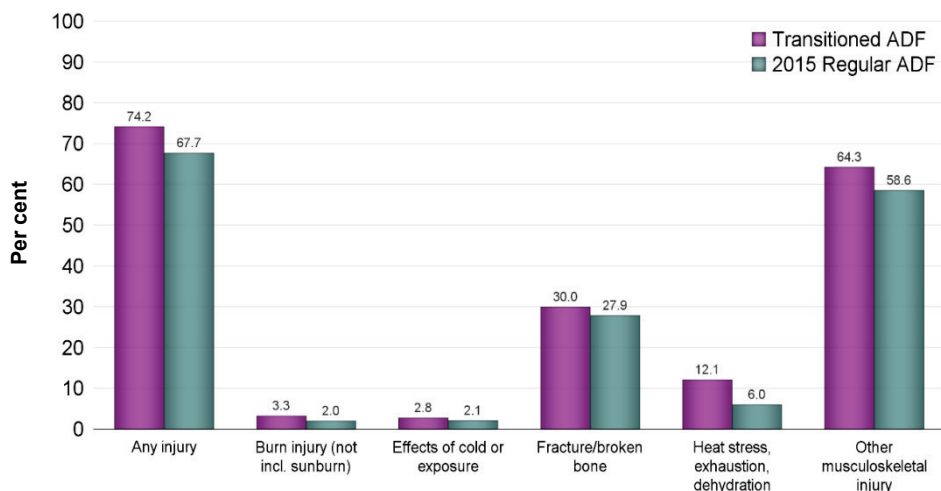
| Injury type                          | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|--------------------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                                      | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Any injury <sup>a</sup>              | 2737                             | 18,498     | 74.2 (72.2, 76.1) | 5398                             | 35,559     | 67.7 (63.6, 71.6) |
| Fracture/broken bone                 | 1183                             | 7475       | 30.0 (28.2, 31.9) | 2305                             | 14,644     | 27.9 (24.4, 31.7) |
| Ankle                                | 294                              | 1744       | 23.3 (20.5, 26.4) | 554                              | 3257       | 22.2 (17.8, 27.5) |
| Elbow                                | 133                              | 781        | 10.5 (8.5, 12.8)  | 229                              | 1181       | 8.1 (6.2, 10.4)   |
| Femur                                | 32                               | 205        | 2.7 (1.8, 4.2)    | 42                               | 170        | 1.2 (0.8, 1.7)    |
| Foot                                 | 270                              | 1713       | 22.9 (20.1, 26.0) | 532                              | 3131       | 21.4 (17.4, 26.0) |
| Head                                 | 140                              | 770        | 10.3 (8.5, 12.4)  | 236                              | 1232       | 8.4 (6.5, 10.9)   |
| Hip                                  | 40                               | 276        | 3.7 (2.6, 5.3)    | 56                               | 232        | 1.6 (1.1, 2.3)    |
| Knee                                 | 297                              | 1910       | 25.6 (22.5, 28.8) | 501                              | 2661       | 18.2 (13.6, 23.8) |
| Neck                                 | 84                               | 457        | 6.1 (4.8, 7.8)    | 108                              | 755        | 5.2 (2.9, 8.9)    |
| Pelvis                               | 22                               | 155        | 2.1 (1.3, 3.34)   | 36                               | 151        | 1.0 (0.7, 1.5)    |
| Shoulder                             | 228                              | 1199       | 16.0 (13.8, 18.5) | 420                              | 2378       | 16.2 (11.8, 21.9) |
| Spine                                | 165                              | 927        | 12.4 (10.4, 14.7) | 197                              | 1986       | 13.6 (8.2, 21.6)  |
| Other                                | 131                              | 844        | 11.3 (9.2, 13.8)  | 304                              | 1317       | 9.0 (7.5, 10.8)   |
| Fracture/broken bone sustained       |                                  |            |                   |                                  |            |                   |
| During deployment                    | 175                              | 945        | 12.6 (10.8, 14.8) | 270                              | 1675       | 11.4 (7.3, 17.4)  |
| During training                      | 542                              | 3375       | 45.1 (41.6, 48.7) | 990                              | 6257       | 42.7 (35.8, 50.0) |
| Musculoskeletal Injury               | 2423                             | 16,019     | 64.3 (62.2, 66.3) | 4714                             | 30,757     | 58.6 (54.4, 62.7) |
| Ankle                                | 1175                             | 7128       | 44.5 (42.1, 47.0) | 2247                             | 13,210     | 43.0 (37.9, 48.2) |
| Elbow                                | 403                              | 2355       | 14.7 (13.1, 16.5) | 666                              | 3653       | 11.9 (9.4, 15.0)  |
| Femur                                | 73                               | 461        | 2.9 (2.2, 3.8)    | 125                              | 669        | 2.2 (1.5, 3.3)    |
| Foot                                 | 600                              | 3489       | 21.8 (19.9, 23.8) | 1016                             | 5314       | 17.3 (14.9, 19.9) |
| Head                                 | 294                              | 1637       | 10.2 (8.9, 11.7)  | 397                              | 2675       | 8.7 (6.2, 12.1)   |
| Hip                                  | 316                              | 2008       | 12.5 (11.0, 14.2) | 513                              | 2739       | 8.9 (6.3, 12.5)   |
| Knee                                 | 1528                             | 9324       | 58.2 (55.7, 60.7) | 2898                             | 18,669     | 60.7 (55.4, 65.8) |
| Neck                                 | 722                              | 3805       | 23.8 (21.9, 25.7) | 1214                             | 7181       | 23.4 (19.2, 28.1) |
| Pelvis                               | 116                              | 753        | 4.7 (3.8, 5.8)    | 197                              | 897        | 2.9 (2.4, 3.5)    |
| Shoulder                             | 1124                             | 6723       | 42.0 (39.6, 44.4) | 2107                             | 13,685     | 44.5 (39.2, 49.9) |
| Spine                                | 1176                             | 7123       | 44.5 (42.0, 46.9) | 1962                             | 11,313     | 36.8 (32.2, 41.7) |
| Other                                | 167                              | 1185       | 7.4 (6.2, 8.9)    | 299                              | 2960       | 9.6 (6.4, 14.3)   |
| Musculoskeletal Injury sustained     |                                  |            |                   |                                  |            |                   |
| During deployment                    | 708                              | 4456       | 27.8 (25.7, 30.1) | 1329                             | 8152       | 26.5 (22.2, 31.3) |
| During training                      | 1444                             | 9531       | 59.5 (57.0, 61.9) | 2666                             | 17,087     | 55.6 (50.1, 60.9) |
| Heat stress, exhaustion, dehydration | 447                              | 3021       | 12.1 (10.9, 13.5) | 593                              | 3174       | 6.1 (4.7, 7.8)    |
| Sustained during deployment          | 125                              | 888        | 29.4 (24.2, 35.2) | 173                              | 1005       | 31.7 (22.3, 42.9) |
| Sustained during training            | 269                              | 1829       | 60.6 (54.8, 66.0) | 378                              | 2093       | 65.9 (55.2, 75.3) |
| Effects of cold or exposure          | 115                              | 697        | 2.8 (2.3, 3.5)    | 210                              | 1127       | 2.2 (1.6, 2.9)    |
| Sustained during deployment          | 20                               | 97         | 13.9 (8.9, 21.2)  | 32                               | 163        | 14.5 (8.8, 22.8)  |
| Sustained during training            | 72                               | 414        | 59.4 (48.2, 69.8) | 116                              | 586        | 52.0 (37.6, 66.1) |

| Injury type                 | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|-----------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                             | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Burn injury (excl. sunburn) | 128                              | 821        | 3.3 (2.7, 4.1)    | 221                              | 1070       | 2.0 (1.7, 2.4)    |
| Sustained during deployment | 21                               | 158        | 19.3 (11.8, 29.8) | 39                               | 196        | 18.3 (12.4, 26.3) |
| Sustained during training   | 53                               | 318        | 38.7 (29.0, 49.5) | 78                               | 375        | 35.0 (27.6, 43.3) |

a. Groups are not mutually exclusive and therefore do not sum to 100%.

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 7.3** Estimated proportions of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF



### ***Cold/exposure***

There were no significant differences between Transitioned ADF and 2015 Regular ADF in relation to the effects of cold and exposure. Both groups were more likely to experience this type of injury during training (Transitioned ADF, 59.4%; 2015 Regular ADF, 52.0%) than during deployment (Transitioned ADF, 13.9%; 2015 Regular ADF, 14.5%).

### ***Burn injury***

Transitioned ADF were 80% more likely to have reported a burn injury compared with 2015 Regular ADF (3.3% vs 2.0%; OR 1.8, 95% CI 1.4, 2.4); this was a moderate association. There was little difference in the rates of burn injury during training (Transitioned ADF, 38.7%; 2015 Regular ADF, 35.0%) compared with during deployment (Transitioned ADF, 19.3%; 2015 Regular ADF, 18.3%).

### 7.2.2 Types of service-related injuries sustained during military career in Transitioned ADF, by DVA client status

Table 7.6 shows the types of service-related injuries sustained during their military career among Transitioned ADF according to DVA client status. Only the strongest associations determined by logistic regression analyses are reported. DVA clients were significantly more likely to report sustaining any type of injury compared with non-DVA clients (87.9% vs 61.0%; OR 4.0, 95% CI 3.1, 5.2) and, more specifically, were also more likely to report a musculoskeletal injury compared with non-DVA clients (79.0% vs 49.7%; OR 3.4, 95% CI 2.7, 4.2).

**Table 7.6 Estimated proportions of service-related injury types sustained during military career in Transitioned ADF, by DVA client status**

| Injury type                          | DVA client<br>(n = 10,643) |            |                   | Non-DVA client<br>(n = 11,251) |            |                   |
|--------------------------------------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|                                      | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Any injury                           | 1553                       | 9359       | 87.9 (85.7, 89.9) | 879                            | 6863       | 61.0 (57.5, 64.4) |
| Fracture/broken bone                 | 713                        | 4086       | 38.4 (35.7, 41.2) | 335                            | 2460       | 21.9 (19.3, 24.7) |
| Sustained during deployment          | 119                        | 595        | 5.6 (4.6, 6.8)    | 35                             | 239        | 2.1 (1.4, 3.2)    |
| Sustained during training            | 351                        | 2074       | 19.5 (17.3, 21.8) | 130                            | 917        | 8.2 (6.6, 10.1)   |
| Musculoskeletal Injury               | 1410                       | 8413       | 79.0 (76.5, 81.4) | 742                            | 5594       | 49.7 (46.3, 53.2) |
| Sustained during deployment          | 463                        | 2621       | 24.6 (22.3, 27.1) | 164                            | 1242       | 11.0 (9.1, 13.3)  |
| Sustained during training            | 889                        | 5375       | 50.5 (47.7, 53.4) | 402                            | 3042       | 27.0 (24.1, 30.2) |
| Heat stress, exhaustion, dehydration | 274                        | 1596       | 15.0 (13.2, 17.0) | 125                            | 1048       | 9.3 (7.5, 11.5)   |
| Sustained during deployment          | 89                         | 516        | 4.9 (3.8, 6.2)    | 28                             | 301        | 2.7 (1.7, 4.3)    |
| Sustained during training            | 167                        | 973        | 9.1 (7.7, 10.8)   | 74                             | 604        | 5.4 (4.0, 7.1)    |
| Effects of cold or exposure          | 72                         | 400        | 3.8 (2.9, 4.9)    | 27                             | 206        | 1.8 (1.2, 2.9)    |
| Sustained during deployment          | 15                         | 65         | 0.6 (0.4, 1.0)    | a                              | --         | --                |
| Sustained during training            | 44                         | 240        | 2.3 (1.7, 3.1)    | 19                             | 126        | 1.1 (0.7, 1.9)    |
| Burn injury (excl. sunburn)          | 86                         | 499        | 4.7 (3.7, 6.0)    | 29                             | 266        | 2.4 (1.5, 3.7)    |
| Sustained during deployment          | 13                         | 93         | 0.9 (0.5, 1.7)    | 8                              | 66         | 0.6 (0.3, 1.3)    |
| Sustained during training            | 40                         | 229        | 2.2 (1.5, 3.1)    | 12                             | 85         | 0.8 (0.4, 1.5)    |

a. Cell size too small to be reported.

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 7.2.3 Service-related injury types sustained during military career in Transitioned ADF, by transition status

Table 7.7 and Figure 7.4 show service-related injury types sustained during their military career among Transitioned ADF according to transition status. A number of associations were found, but only the strongest of these are reported here.

**Table 7.7** Estimated proportions of service-related injury types sustained during military career in Transitioned ADF, by transition status

| Injury type                 | Ex-Serving<br>(n = 10,748) |            |                   | Inactive Reservists<br>(n = 7732) |            |                   | Active Reservists<br>(n = 6363) |            |                   |
|-----------------------------|----------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                             | n                          | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Any injury                  | 1066                       | 8190       | 76.2 (73.0, 79.1) | 767                               | 5575       | 72.1 (68.1, 75.8) | 895                             | 4677       | 73.5 (70.0, 76.7) |
| Fracture/broken bone        | 460                        | 3199       | 29.8 (26.9, 32.8) | 339                               | 2217       | 28.7 (25.3, 32.3) | 378                             | 2023       | 31.8 (28.7, 35.0) |
| Ankle                       | 136                        | 809        | 25.3 (20.9, 30.3) | 65                                | 439        | 19.8 (14.8, 25.9) | 93                              | 496        | 24.5 (20.0, 29.7) |
| Elbow                       | 42                         | 255        | 8.0 (5.5, 11.4)   | 38                                | 252        | 11.3 (7.7, 16.4)  | 51                              | 266        | 13.2 (9.6, 17.7)  |
| Femur                       | 19                         | 133        | 4.2 (2.4, 7.0)    | 7                                 | 49         | 2.2 (0.8, 5.9)    | 6                               | 22         | 1.1 (0.6, 2.2)    |
| Foot                        | 116                        | 825        | 25.8 (21.1, 31.1) | 82                                | 513        | 23.1 (17.9, 29.3) | 71                              | 370        | 18.3 (14.3, 23.1) |
| Head                        | 58                         | 315        | 9.9 (7.5, 13.0)   | 36                                | 222        | 10.0 (6.7, 14.8)  | 45                              | 229        | 11.3 (8.3, 15.2)  |
| Hip                         | 21                         | 143        | 4.5 (2.8, 7.1)    | 13                                | 96         | 4.3 (2.1, 8.7)    | 6                               | 37         | 1.8 (0.8, 4.3)    |
| Knee                        | 136                        | 919        | 28.7 (23.9, 34.1) | 70                                | 499        | 22.5 (17.0, 29.2) | 89                              | 474        | 23.4 (18.8, 28.7) |
| Neck                        | 40                         | 191        | 6.0 (4.3, 8.3)    | 20                                | 143        | 6.5 (3.6, 11.3)   | 23                              | 120        | 5.9 (4.0, 8.6)    |
| Pelvis                      | 11                         | 67         | 2.1 (1.1, 3.9)    | #                                 | --         | --                | 6                               | 47         | 2.3 (1.0, 5.3)    |
| Shoulder                    | 92                         | 508        | 15.9 (12.4, 20.1) | 59                                | 318        | 14.4 (10.6, 19.2) | 76                              | 370        | 18.3 (14.5, 22.7) |
| Spine                       | 84                         | 484        | 15.1 (11.9, 19.0) | 35                                | 200        | 9.0 (6.0, 13.3)   | 45                              | 240        | 11.9 (8.5, 16.3)  |
| Other                       | 47                         | 328        | 10.3 (7.2, 14.4)  | 36                                | 261        | 11.8 (7.9, 17.1)  | 47                              | 251        | 12.4 (9.0, 17.0)  |
| Fracture/broken bone        |                            |            |                   |                                   |            |                   |                                 |            |                   |
| Sustained during deployment | 85                         | 428        | 13.4 (10.5, 16.9) | 44                                | 268        | 12.1 (8.4, 17.1)  | 44                              | 240        | 11.8 (8.9, 15.6)  |
| Sustained during training   | 222                        | 1509       | 47.2 (41.4, 53.0) | 164                               | 1055       | 47.6 (40.6, 54.7) | 156                             | 811        | 40.1 (34.3, 46.2) |
| Musculoskeletal Injury      | 955                        | 7168       | 66.7 (63.3, 69.9) | 653                               | 4647       | 60.1 (56.0, 64.1) | 808                             | 4167       | 65.5 (61.9, 68.9) |
| Ankle                       | 457                        | 2988       | 41.7 (38.0, 45.5) | 313                               | 2155       | 46.4 (41.4, 51.4) | 402                             | 1972       | 47.3 (43.4, 51.3) |
| Elbow                       | 156                        | 1033       | 14.4 (11.9, 17.3) | 96                                | 583        | 12.6 (9.8, 16.0)  | 151                             | 738        | 17.7 (15.0, 20.8) |
| Femur                       | 37                         | 313        | 4.4 (3.0, 6.4)    | 18                                | 74         | 1.6 (1.1, 2.4)    | 18                              | 74         | 1.8 (1.2, 2.7)    |
| Foot                        | 250                        | 1533       | 21.4 (18.6, 24.5) | 149                               | 943        | 20.3 (16.7, 24.4) | 201                             | 1013       | 24.3 (21.1, 27.8) |
| Head                        | 136                        | 755        | 10.5 (8.6, 12.8)  | 67                                | 423        | 9.1 (6.7, 12.2)   | 91                              | 458        | 11.0 (8.8, 13.6)  |
| Hip                         | 153                        | 1131       | 15.8 (13.2, 18.8) | 67                                | 413        | 8.9 (6.6, 11.9)   | 95                              | 459        | 11.0 (8.9, 13.6)  |

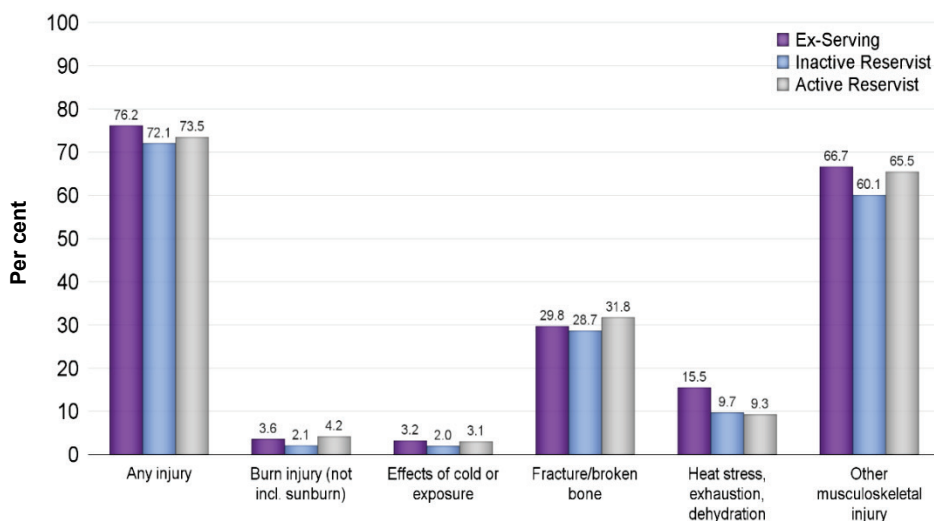
| Injury type                          | Ex-Serving<br>(n = 10,748) |            |                   | Inactive Reservists<br>(n = 7732) |            |                   | Active Reservists<br>(n = 6363) |            |                   |
|--------------------------------------|----------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                                      | n                          | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Knee                                 | 598                        | 4069       | 56.8 (52.8, 60.7) | 395                               | 2545       | 54.8 (49.6, 59.8) | 528                             | 2672       | 64.1 (60.2, 67.9) |
| Neck                                 | 294                        | 1594       | 22.2 (19.6, 25.1) | 171                               | 986        | 21.2 (17.7, 25.3) | 257                             | 1225       | 29.4 (26.2, 32.8) |
| Pelvis                               | 53                         | 371        | 5.2 (3.8, 7.1)    | 36                                | 235        | 5.1 (3.3, 7.6)    | 27                              | 147        | 3.5 (2.3, 5.4)    |
| Shoulder                             | 455                        | 2999       | 41.8 (38.1, 45.7) | 297                               | 1890       | 40.7 (35.9, 45.6) | 369                             | 1823       | 43.7 (39.9, 47.7) |
| Spine                                | 493                        | 3254       | 45.4 (41.6, 49.3) | 306                               | 2031       | 43.7 (38.8, 48.7) | 373                             | 1813       | 43.5 (39.7, 47.4) |
| Other                                | 79                         | 579        | 8.1 (6.2, 10.4)   | 38                                | 295        | 6.4 (4.2, 9.50)   | 50                              | 311        | 7.5 (5.4, 10.3)   |
| Musculoskeletal Injury               |                            |            |                   |                                   |            |                   |                                 |            |                   |
| Sustained during deployment          | 296                        | 1894       | 26.4 (23.2, 29.9) | 185                               | 1387       | 29.8 (25.3, 34.9) | 224                             | 1163       | 27.9 (24.4, 31.7) |
| Sustained during training            | 612                        | 4507       | 62.9 (58.9, 66.7) | 386                               | 2783       | 59.9 (54.8, 64.8) | 444                             | 2224       | 53.4 (49.3, 57.4) |
| Heat stress, exhaustion, dehydration | 227                        | 1671       | 15.5 (13.4, 18.0) | 108                               | 753        | 9.7 (7.7, 12.3)   | 110                             | 591        | 9.3 (7.6, 11.4)   |
| Sustained during deployment          | 60                         | 411        | 24.6 (18.3, 32.2) | 31                                | 274        | 36.4 (24.7, 50.1) | 33                              | 199        | 33.7 (23.2, 46.1) |
| Sustained during training            | 141                        | 1041       | 62.3 (54.1, 69.9) | 69                                | 472        | 62.7 (49.8, 73.9) | 58                              | 313        | 53.0 (42.4, 63.3) |
| Effects of cold or exposure          | 51                         | 349        | 3.2 (2.3, 4.5)    | 28                                | 154        | 2.0 (1.3, 3.0)    | 36                              | 194        | 3.1 (2.1, 4.5)    |
| Sustained during deployment          | 7                          | 40         | 0.6 (0.2, 1.3)    | 6                                 | 26         | 0.4 (0.2, 0.8)    | a                               | ..         | ..                |
| Sustained during training            | 30                         | 200        | 57.2 (40.2, 72.7) | 16                                | 89         | 57.8 (36.8, 76.3) | 26                              | 126        | 64.7 (41.8, 82.4) |
| Burn injury (excl. sunburn)          | 57                         | 389        | 3.6 (2.6, 5.0)    | 24                                | 165        | 2.1 (1.3, 3.6)    | 47                              | 267        | 4.2 (3.1, 5.7)    |
| Sustained during deployment          | 10                         | 77         | 19.8 (9.4, 37.2)  | a                                 | ..         | ..                | 8                               | 47         | 17.8 (9.0, 32.1)  |
| Sustained during training            | 23                         | 129        | 33.0 (20.6, 48.4) | 13                                | 115        | 69.9 (47.5, 85.6) | 17                              | 74         | 27.9 (17.1, 42.0) |

a. Cell size too small to be reported.

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,748; Active Reservists = 6363; Inactive Reservists = 7732; Unknown = 88). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

Overall, Ex-Serving ADF were significantly more likely to report any injury than Active Reservists (76.2% vs 73.5%; OR 1.5, 95% CI 1.2, 2.0). More specifically, Ex-Serving ADF were also significantly more likely to have reported heat stress, exhaustion or dehydration than Active Reservists (15.5% vs 9.3%; OR 1.9, 95% CI 1.4, 2.6) and Inactive Reservists (9.7%; OR 1.7, 95% CI 1.3, 2.4). Finally, Ex-Serving ADF were significantly more likely to have reported cold or exposure than Inactive Reservists (3.2% vs 2.0%; OR 1.8, 95% CI 1.1, 2.9).

**Figure 7.4** Estimated proportions of types of service-related injuries sustained during military career in Transitioned ADF, by transition status



#### 7.2.4 Service-related injury types sustained during military career in Transitioned ADF, by discharge status

Table 7.8 shows service-related injury types in Transitioned ADF by medical discharge status. Those who were medically discharged were more likely to experience any injury than those who were not medically discharged (88.5% vs 70.5%; OR 3.4 95% CI 2.5, 4.8).

A number of moderate associations in relation to specific injury types were also found. Compared with those who were non-medically discharged, Transitioned ADF with a medical discharge were significantly more likely to have reported a fracture/broken bone (35.9% vs 28.3%; OR 1.6, 95% CI 1.2, 1.9), a musculoskeletal injury (79.6% vs 60.3%; OR 2.8, 95% CI 2.1, 3.6), heat stress, exhaustion or dehydration (20.5% vs 9.8%; OR 2.3, 95% CI 1.8, 3.1) and cold or exposure (3.1% vs 2.4%; OR 2.1, 95% CI 1.3, 3.4).

**Table 7.8**      **Estimated proportions of service-related injury types sustained during military career in Transitioned ADF, by medical discharge status**

| Injury type                          | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|--------------------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                                      | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Any injury                           | 652                             | 4545       | 88.5 (85.2, 91.1) | 2058                  | 13,742     | 70.5 (68.1, 72.8) |
| Fracture/broken bone                 | 288                             | 1844       | 35.9 (32.0, 40.0) | 880                   | 5508       | 28.3 (26.2, 30.4) |
| Sustained during deployment          | 56                              | 285        | 15.5 (11.6, 20.2) | 116                   | 641        | 11.6 (9.5, 14.1)  |
| Sustained during training            | 144                             | 912        | 49.5 (42.7, 56.2) | 389                   | 2369       | 43.0 (38.9, 47.2) |
| Musculoskeletal Injury               | 592                             | 4087       | 79.6 (75.7, 82.9) | 1810                  | 11,750     | 60.3 (57.8, 62.7) |
| Sustained during deployment          | 186                             | 1077       | 26.3 (22.6, 30.5) | 514                   | 3292       | 16.9 (15.3, 18.7) |
| Sustained during training            | 387                             | 2661       | 65.1 (60.4, 69.6) | 1042                  | 6735       | 57.3 (54.4, 60.2) |
| Heat stress, exhaustion, dehydration | 161                             | 1053       | 20.5 (17.3, 24.1) | 279                   | 1919       | 9.8 (8.5, 11.4)   |
| Sustained during deployment          | 42                              | 245        | 23.3 (16.7, 31.6) | 81                    | 613        | 32.0 (25.2, 39.6) |
| Sustained during training            | 101                             | 689        | 65.4 (56.4, 73.4) | 163                   | 1121       | 58.4 (50.9, 65.6) |
| Effects of cold or exposure          | 88                              | 596        | 3.1 (2.4, 4.0)    | 79                    | 463        | 2.4 (1.8, 3.1)    |
| Sustained during deployment          | 6                               | 35         | 15.3 (6.1, 33.3)  | 14                    | 62         | 13.4 (8.2, 21.2)  |
| Sustained during training            | 21                              | 142        | 61.8 (42.0, 78.3) | 50                    | 269        | 57.9 (44.4, 70.4) |
| Burn injury (excl. sunburn)          | 40                              | 225        | 4.4 (3.1, 6.2)    | 88                    | 596        | 3.1 (2.4, 4.0)    |
| Sustained during deployment          | 6                               | 35         | 15.7 (6.5, 33.4)  | 15                    | 123        | 20.6 (11.6, 34.1) |
| Sustained during training            | 18                              | 103        | 46.1 (29.5, 63.6) | 35                    | 215        | 36.0 (24.6, 49.3) |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.



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## 8 Pain intensity and disability

### Transitioned ADF members compared with 2015 Regular ADF members

- The majority of Transitioned ADF members and 2015 Regular ADF members reported experiencing some pain intensity and disability; only 11.8% of Transitioned ADF and 10.1% of 2015 Regular ADF reported being pain free.
- Low pain intensity was experienced by 53.2% of Transitioned ADF and 60.9% of 2015 Regular ADF and high pain intensity by 19.7% of Transitioned ADF and 14.1% of 2015 Regular ADF.
- Transitioned ADF and 2015 Regular ADF were not significantly different in relation to pain intensity and disability groupings.

### Among Transitioned ADF members

- In total, 7.6% of DVA clients reported being pain free compared with 15.8% of non-DVA clients. DVA clients were significantly more likely to report high pain intensity and disability as opposed to no pain when compared with non-DVA clients.
- Ex-Serving ADF members were significantly more likely to report high pain intensity and disability as opposed to no pain when compared with both Active Reservists and Inactive Reservists.
- Being pain free was reported by 6.0% of medically discharged Transitioned ADF and 13.4% of those discharged for another reason. Medically discharged ADF reported greater levels of pain at the higher end of the spectrum: 19.9% reported Grade III 'high disability – moderately limiting' (compared with 9.0% among those who were discharged for another reason) and 25.9% reported Grade IV 'high disability – severely limiting' (compared with 3.8% among those who were discharged for another reason). Those with a medical discharge were significantly more likely to report high pain intensity and disability as opposed to no pain compared with those who were discharged for another reason.

Refer to the glossary for definitions of key terms used in this section.

The following chapter examines pain intensity and disability in the Transitioned ADF and the 2015 Regular ADF. In addition to comparing the Transitioned ADF and the 2015 Regular ADF, results are reported according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge). Between-group comparisons were adjusted for sex, age, rank and Service.

Chronic pain intensity in the preceding six months was assessed with three items rated on a 10-point scale. A further three items assessed the degree of disability associated with that pain (also rated on a 10-point scale) and one item measured the number of days in the preceding six months in which pain resulted in functional impairment. Based on an algorithm developed by Von Korff et al. (1992), scores on these seven items were categorised into the following grades of pain intensity and disability:

- Grade 0 – ‘pain free’
- Grade I – ‘low disability – low intensity’
- Grade II – ‘low disability – high intensity’
- Grade III – ‘high disability – moderately limiting’
- Grade IV – ‘high disability – severely limiting’.

For the purpose of between-group logistic regression analysis, these grades were further collapsed into ‘high’ (Grades IV or III), ‘low’ (Grades II or I) and ‘none’ (Grade 0).

## **8.1 Pain intensity and disability in the preceding six months in Transitioned ADF members compared with 2015 Regular ADF members**

Table 8.1 and Figures 8.1 and 8.2 show the proportion of responses across the pain intensity and disability grades in the preceding six months among Transitioned ADF and 2015 Regular ADF. Similar proportions of Transitioned ADF (11.8%) and 2015 Regular ADF (10.1%) reported being pain free (Grade 0). Overall, however, a greater proportion of Transitioned ADF scored in the higher pain intensity and disability categories (Grade II, 12.0%; Grade III, 11.4%; Grade IV, 8.3%) than the 2015 Regular ADF cohort (Grade II, 9.0%; Grade III, 8.7%; Grade IV, 5.4%).

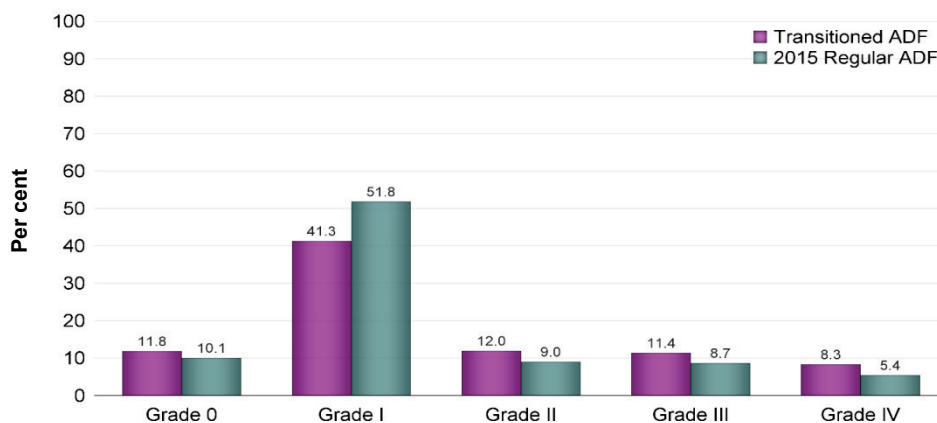
When the pain index was collapsed into three categories there were no significant differences between the Transitioned ADF and the 2015 Regular ADF.

**Table 8.1**      **Estimated pain intensity and disability in the preceding six months in the Transitioned ADF and 2015 Regular ADF cohorts**

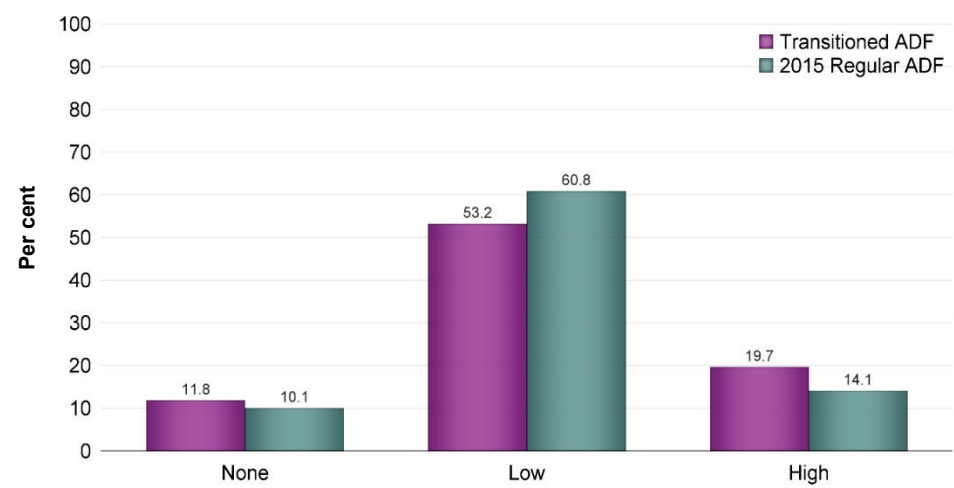
| Grade   | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|---|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|   | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Grade 0 - 'pain free'                               | 360                              | 2946       | 11.8 (10.4, 13.3) | 711                              | 5279       | 10.1 (7.7, 13.1)  |
| Grade I - 'low disability – low intensity'          | 1488                             | 10,285     | 41.3 (39.2, 43.3) | 3907                             | 27,209     | 51.8 (47.8, 55.8) |
| Grade II - 'low disability – high intensity'        | 448                              | 2981       | 12.0 (10.7, 13.4) | 778                              | 4735       | 9.0 (7.0, 11.6)   |
| Grade III - 'high disability – moderately limiting' | 401                              | 2837       | 11.4 (10.1, 12.8) | 627                              | 4557       | 8.7 (6.5, 11.6)   |
| Grade IV - 'high disability – severely limiting'    | 321                              | 2069       | 8.3 (7.4, 9.4)    | 377                              | 2845       | 5.4 (3.9, 7.5)    |
| <b>Collapsed grouping</b>                           |                                  |            |                   |                                  |            |                   |
| None – Grade 0                                      | 360                              | 2946       | 11.8 (10.4, 13.3) | 711                              | 5279       | 10.1 (7.7, 13.1)  |
| Low – Grade II or Grade I                           | 1936                             | 13,266     | 53.2 (51.1, 55.3) | 4685                             | 31,944     | 60.9 (56.7, 64.8) |
| High – Grade IV or Grade III                        | 722                              | 4906       | 19.7 (18.2, 21.3) | 1004                             | 7402       | 14.1 (11.4, 17.3) |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 11,688 (weighted) participants (2015 Regular ADF = 7874; Transitioned ADF = 3814) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 8.1**      **Estimated pain intensity and disability in the preceding six months in the Transitioned ADF and 2015 Regular ADF cohorts**



**Figure 8.2**      **Estimated pain severity in the preceding six months in the Transitioned ADF and 2015 Regular ADF cohorts**



**8.2      Transitioned ADF members, by DVA client status**

Table 8.2 shows estimates of pain intensity and disability in the preceding six months for Transitioned ADF members according to DVA client status. DVA clients were less likely to report being pain free (Grade 0 – 7.6%) compared with non-DVA clients (15.8%). Similarly, DVA clients were less likely to report Grade I disability (34.1%) than non-DVA clients (50.4%). For the Grade II, III and IV categories the reverse was observable: compared with non-DVA clients, DVA clients were more likely to report Grade II pain intensity and disability (15.8% vs 7.9%), Grade III pain intensity and disability (16.0% vs 6.5%) and Grade IV pain intensity and disability (13.4% vs 2.5%).

Logistic regression using the collapsed pain intensity and disability variables showed DVA clients were significantly more likely to report high pain intensity than non-DVA clients (29.4% vs 9.0%; OR 6.3, 95% CI 4.2, 9.5).

**Table 8.2**      **Estimated pain intensity and disability in the preceding six months in Transitioned ADF by DVA client status**

| Grade   | DVA client<br>(n = 10,670) |            |                   | Non-DVA client<br>(n = 11,265) |            |                   |
|---|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|   | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Grade 0 – 'pain free'                               | 107                        | 805        | 7.6 (6.0, 9.5)    | 209                            | 1774       | 15.8 (13.4, 18.4) |
| Grade I – 'low disability – low intensity'          | 629                        | 3640       | 34.1 (31.5, 36.8) | 716                            | 5675       | 50.4 (46.9, 53.9) |
| Grade II – 'low disability – high intensity'        | 282                        | 1681       | 15.8 (13.8, 17.9) | 116                            | 894        | 7.9 (6.3, 10.0)   |
| Grade III – 'high disability – moderately limiting' | 275                        | 1708       | 16.0 (14.0, 18.2) | 78                             | 736        | 6.5 (5.0, 8.6)    |
| Grade IV – 'high disability – severely limiting'    | 244                        | 1431       | 13.4 (11.7, 15.3) | 34                             | 282        | 2.5 (1.7, 3.7)    |
| Collapsed grouping                                  |                            |            |                   |                                |            |                   |
| None – Grade 0                                      | 107                        | 805        | 7.6 (6.0, 9.5)    | 209                            | 1774       | 15.8 (13.4, 18.4) |
| Low – Grade II or Grade I                           | 911                        | 5320       | 49.9 (47.0, 52.7) | 832                            | 6569       | 58.3 (54.8, 61.7) |
| High – Grade IV or Grade III                        | 519                        | 3139       | 29.4 (27.0, 32.0) | 112                            | 1019       | 9.0 (7.2, 11.3)   |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 8.3      Transitioned ADF members, by transition status

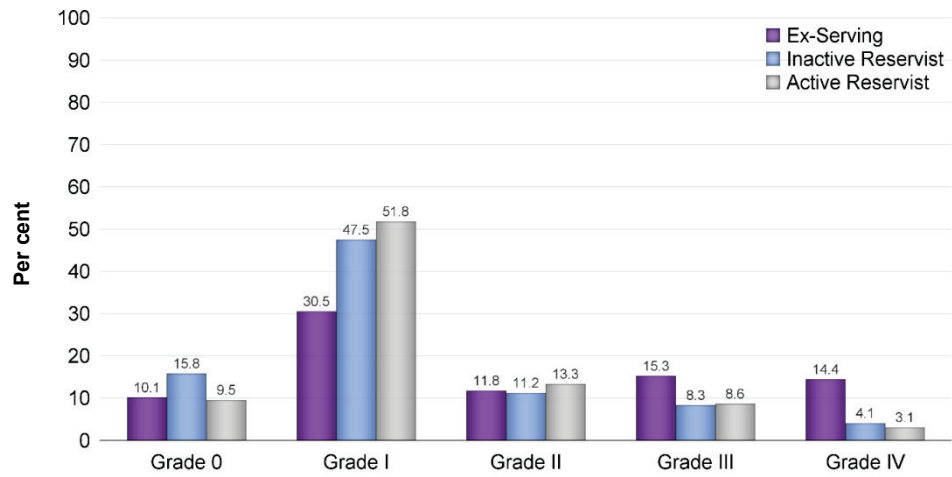
Table 8.3 and Figures 8.3 and 8.4 show self-reported pain intensity and disability in the preceding six months among Transitioned ADF members by transition status. A greater proportion of Ex-Serving ADF members (14.4%) reported Grade IV pain intensity and disability than Active Reservists (3.1%) and Inactive Reservists (4.1%). Logistic regression analysis using the collapsed grouping showed that, compared with Active Reservists (11.7%), Ex-Serving ADF members (29.7%) were significantly more likely to report high-intensity pain (Grade III or IV) as opposed to no pain (Grade 0) (OR 2.9, 95% CI 2.0, 4.3). This was a moderate association. Ex-Serving ADF (29.7%) were also significantly more likely to report high pain as opposed to no pain compared with Inactive Reservists (12.4%) (OR 4.2, 95% CI 2.8, 6.4). This was a strong association (see Annex B for detailed description of the strength of the association and individual odds ratios).

**Table 8.3** Estimated pain intensity and disability in the preceding six months in Transitioned ADF, by transition status

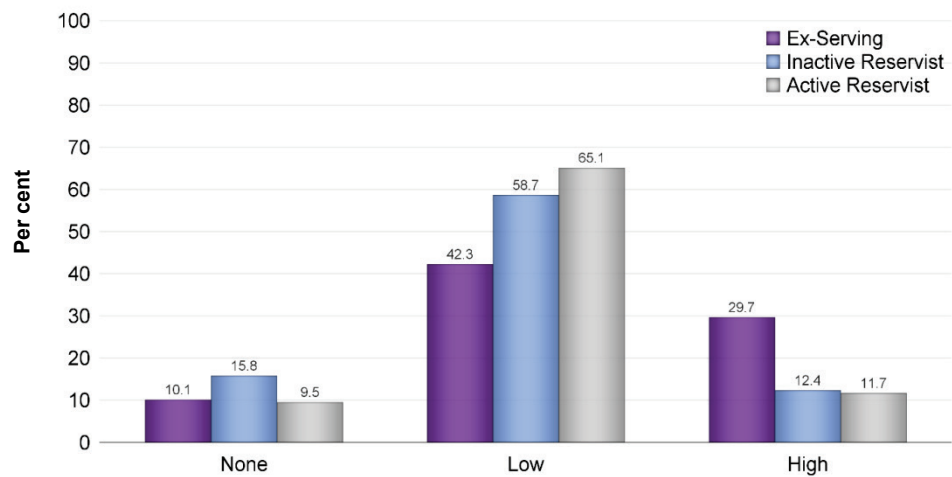
| Grade   | Ex-Serving ADF<br>(n = 10,904) |            |                   | Inactive Reservists<br>(n = 7509) |            |                   | Active Reservists<br>(n = 6401) |            |                   |
|---|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|   | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Grade 0 'pain free'                                 | 115                            | 1094       | 10.1 (8.2, 12.5)  | 131                               | 1218       | 15.8 (12.9, 19.2) | 112                             | 607        | 9.5 (7.7, 11.8)   |
| Grade I – 'low disability – low intensity'          | 392                            | 3292       | 30.5 (27.5, 33.8) | 486                               | 3660       | 47.5 (43.4, 51.6) | 603                             | 3295       | 51.8 (48.1, 55.4) |
| Grade II – 'low disability – high intensity'        | 165                            | 1267       | 11.8 (9.8, 14.1)  | 128                               | 865        | 11.2 (9.0, 13.9)  | 155                             | 849        | 13.3 (11.1, 16.0) |
| Grade III – 'high disability – moderately limiting' | 204                            | 1645       | 15.3 (13.0, 17.8) | 85                                | 640        | 8.3 (6.3, 10.8)   | 111                             | 550        | 8.6 (7.1, 10.5)   |
| Grade IV – 'high disability – severely limiting'    | 235                            | 1557       | 14.4 (12.5, 16.6) | 47                                | 313        | 4.1 (2.8, 5.8)    | 38                              | 195        | 3.1 (2.2, 4.3)    |
| Collapsed grouping                                  |                                |            |                   |                                   |            |                   |                                 |            |                   |
| None – Grade 0                                      | 115                            | 1094       | 10.1 (8.2, 12.5)  | 131                               | 1218       | 15.8 (12.8, 19.3) | 112                             | 607        | 9.5 (7.7, 11.8)   |
| Low – Grade II or Grade I                           | 557                            | 4559       | 42.3 (39.0, 45.7) | 614                               | 4525       | 58.7 (54.4, 62.8) | 758                             | 4143       | 65.1 (61.6, 68.5) |
| High – Grade IV or Grade III                        | 439                            | 3201       | 29.7 (26.9, 32.7) | 132                               | 953        | 12.4 (9.9, 15.2)  | 149                             | 744        | 11.7 (9.9, 13.7)  |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,904; Active Reservists = 6401; Inactive Reservists = 7509; Unknown = 118). Unknown are not included. A total of 1018 (weighted) participants (Ex-Serving ADF = 441, Active = 260, Inactive = 309) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 8.3**      **Estimated pain intensity and disability in the preceding six months in Transitioned ADF, by transition status**



**Figure 8.4**      **Estimated pain severity in the preceding six months in Transitioned ADF, by transition status**



## 8.4 Transitioned ADF, by discharge status

Table 8.4 shows estimates of pain intensity and disability in Transitioned ADF in the preceding six months by medical discharge status. Transitioned ADF with a medical discharge (6.0%) were less likely to report no pain (Grade 0) when compared with Transitioned ADF with another type of discharge (13.4%). This was also the case for participants reporting Grade I pain and disability (medical discharge, 18.2%; non-medical discharge, 47.4%). For the higher grades, the trend was reversed: Transitioned ADF with a medical discharge were more likely to report Grade III pain and disability (19.9% vs 9.0%) or Grade IV pain and disability (25.9% vs 3.8%) compared with those with another type of discharge.

Logistic regression analysis using the collapsed grouping variables showed that medically discharged Transitioned ADF were significantly more likely to report high pain as opposed to no pain when compared with non-medically discharged Transitioned ADF (45.8% vs 12.8%; OR 8.2, 95% CI 5.3, 12.8). This was a strong association.

**Table 8.4** Estimated pain intensity and disability in the preceding six months in Transitioned ADF, by medical discharge status

| Grade   | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|---|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|   | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Grade 0 – pain free                                 | 38                              | 307        | 6.0 (4.3, 8.4)    | 320                   | 2609       | 13.4 (11.7, 15.2) |
| Grade I – 'low disability – low intensity'          | 146                             | 935        | 18.2 (15.2, 21.7) | 1325                  | 9246       | 47.4 (45.0, 49.9) |
| Grade II – 'low disability – high intensity'        | 93                              | 594        | 11.6 (9.1, 14.6)  | 354                   | 2384       | 12.2 (10.8, 13.9) |
| Grade III – 'high disability – moderately limiting' | 137                             | 1022       | 19.9 (16.6, 23.7) | 261                   | 1763       | 9.0 (7.8, 10.5)   |
| Grade IV – 'high disability – severely limiting'    | 200                             | 1328       | 25.9 (22.4, 29.8) | 120                   | 733        | 3.8 (3.1, 4.6)    |
| <b>Collapsed grouping</b>                           |                                 |            |                   |                       |            |                   |
| None – Grade 0                                      | 38                              | 307        | 6.0 (4.3, 8.4)    | 320                   | 2609       | 13.4 (11.7, 15.2) |
| Low – Grade II or Grade I                           | 239                             | 1529       | 29.8 (26.1, 33.8) | 1679                  | 11,630     | 59.6 (57.2, 62.0) |
| High – Grade IV or Grade III                        | 337                             | 2350       | 45.8 (41.6, 50.2) | 381                   | 2496       | 12.8 (11.3, 14.4) |

Notes: Denominator – Transitioned ADF cohort. A total of 3712 (weighted) participants (medical discharge = 942; other = 2770) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

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## 9 Insomnia severity

### Transitioned ADF members compared with 2015 Regular ADF members

- Approximately half of Transitioned ADF members (47.3%) and nearly 60% of 2015 Regular ADF members (58.0%) reported no clinically significant insomnia in the preceding two weeks.
- Overall, Transitioned ADF were significantly more likely to report insomnia compared with 2015 Regular ADF.
- Transitioned ADF were more likely than 2015 Regular ADF to report moderate (16.2% vs 7.9%) and severe (5.6% vs 1.6%) insomnia.

### Among Transitioned ADF members

- Over one-third (37.0%) of Transitioned ADF members who were DVA clients and more than half (58.3%) of non-DVA clients reported no clinically significant insomnia.
- DVA clients were significantly more likely to report insomnia than non-DVA clients.
- More than one-third of Ex-Serving ADF (37.6%) and more than half of Inactive Reservists (54.0%) and Active Reservists (56.1%) reported no clinically significant insomnia.
- Ex-Serving ADF were significantly more likely to report insomnia than Active Reservists and Inactive Reservists.
- About one-fifth (21.1%) of medically discharged and half (54.1%) of non-medically discharged Transitioned ADF reported no clinically significant insomnia.
- Transitioned ADF who were medically discharged were significantly more likely to report insomnia compared with those who were non-medically discharged.

Refer to the glossary for definitions of key terms used in this section.

This chapter reports the estimated prevalence of current insomnia (in the preceding two weeks) among Transitioned ADF members and 2015 Regular ADF members. In addition to comparing the results for these two cohorts, results are reported for Transitioned ADF according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge). Between-group comparisons were adjusted for sex, age, rank and Service.

Self-perceived insomnia was assessed using the Insomnia Severity Index (Bastien et al., 2001). This index comprises seven items assessing the severity of sleep-onset and sleep-maintenance difficulties, satisfaction with current sleep pattern, interference with daily functioning, noticeability of impairment attributed to the sleep problem, and degree of distress or concern caused by the sleep problem.

The type and severity of insomnia in the preceding two weeks were assessed using three items rated on a five-point scale with the response options of none, mild, moderate, severe and very severe:

- difficulty falling asleep
- difficulty staying asleep
- problems waking up too early.

The severity of impairment associated with insomnia was assessed using four items scored on five-point scales:

- satisfaction with current sleep pattern
- interference with daily functioning
- noticeability to others of sleep-related impairment
- level of worry/distress regarding the current sleep problems.

Self-reported insomnia severity was calculated as the sum of all seven items, with totals ranging from zero to 28. The total scores were then categorised as ‘No clinically significant insomnia’ (0–7), ‘sub-threshold insomnia’ (8–14), ‘Clinical insomnia (moderate severity)’ (15–21) or ‘Clinical insomnia (severe)’ (22–28) (Morin et al., 2011).

For the purpose of analysis, these categories were further dichotomised into ‘No insomnia’ (no clinically significant insomnia or sub-threshold insomnia) or ‘Insomnia’ (clinical insomnia (moderate severity) or clinical insomnia (severe)).

## **9.1 Transitioned ADF members compared with 2015 Regular ADF members**

Table 9.1 and Figure 9.1 show the estimated proportions of Transitioned ADF members and 2015 Regular ADF members in each insomnia severity category in the preceding two weeks. Overall, 2015 Regular ADF members were more likely to report no clinically significant insomnia (58.0%) than Transitioned ADF members (47.3%) and Transitioned ADF were more likely to report clinical insomnia (moderate severity) (16.2%) or clinical insomnia (severe) (5.6%) than 2015 Regular ADF (7.9% and 1.6% respectively).

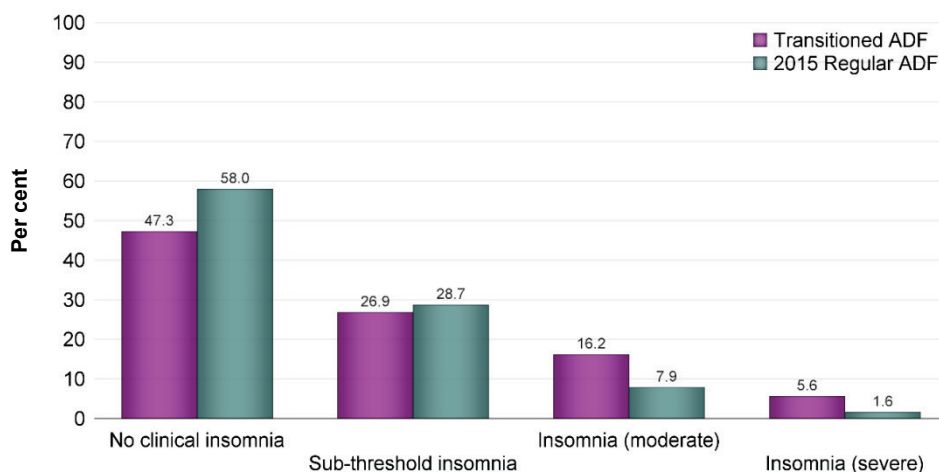
Logistic regressions examining the dichotomised insomnia severity variable showed that Transitioned ADF were significantly more likely to report insomnia than 2015 Regular ADF (21.8% vs 9.5%; OR 2.5, 95% CI 1.8, 3.5). This was a moderate association.

**Table 9.1 Estimated insomnia severity in the preceding two weeks in the Transitioned ADF and 2015 Regular ADF cohorts**

| Severity   | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|--|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|  | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| 0–7 = No clinically significant insomnia                                       | 1916                             | 11,783     | 47.3 (45.5, 49.1) | 4954                             | 30,438     | 58.0 (54.3, 61.6) |
| 8–14 = Sub-threshold insomnia  | 1151                             | 6695       | 26.9 (25.3, 28.5) | 2235                             | 15,071     | 28.7 (25.4, 32.2) |
| 15–21 = Clinical insomnia (moderate severity)                                  | 678                              | 4039       | 16.2 (14.9, 17.6) | 656                              | 4153       | 7.9 (6.2, 10.1)   |
| 22–28 = Clinical insomnia (severe)   | 252                              | 1398       | 5.6 (4.9, 6.4)    | 122                              | 843        | 1.6 (0.8, 3.1)    |
| Dichotomised grouping  |                                  |            |                   |                                  |            |                   |
| No insomnia = no clinically significant insomnia or sub-threshold insomnia     | 3067                             | 18,477     | 74.1 (72.5, 75.7) | 7189                             | 45,509     | 86.7 (83.9, 89.1) |
| Insomnia = clinical insomnia (moderate severity) or clinical insomnia (severe) | 930                              | 5437       | 21.8 (20.4, 23.3) | 778                              | 4996       | 9.5 (7.5, 12.0)   |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 3013 (weighted) participants (2015 Regular ADF=1995; Transitioned ADF = 1018) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 9.1 Estimated insomnia severity in the preceding two weeks in the Transitioned ADF and 2015 Regular ADF cohorts**



## 9.2 Transitioned ADF, by DVA client status

Table 9.2 shows insomnia severity in the preceding two weeks for Transitioned ADF by DVA client status. DVA clients were more likely to report sub-threshold clinical insomnia (29.8%) compared with non-DVA clients (24.3%). They were also more likely to report clinical insomnia (moderate severity) (20.2%) and clinical insomnia (severe) (9.6%) compared with non-DVA clients (10.9% and 1.6% respectively). Non-DVA clients, however, were more likely to report no clinically significant insomnia (58.3%) compared with DVA clients (37.0%).

Logistic regression analysis showed that DVA clients were significantly more likely to report insomnia than non-DVA clients (30.0% vs 12.5%; OR 3.1, 95% CI 2.4, 3.8). This was a strong association.

**Table 9.2 Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by DVA client status**

| Severity   | DVA client<br>(n = 10,670) |            |                   | Non-DVA client<br>(n = 11,265) |            |                   |
|--|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|  | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| 0–7 = No clinically significant insomnia                                       | 727                        | 3802       | 37.0 (34.6, 39.5) | 970                            | 6582       | 58.3 (55.3, 61.2) |
| 8–14 = Sub-threshold insomnia  | 596                        | 3058       | 29.8 (27.5, 32.2) | 407                            | 2746       | 24.3 (21.8, 27.0) |
| 15–21 = Clinical insomnia (moderate severity)                                  | 420                        | 2078       | 20.2 (18.3, 22.3) | 157                            | 1230       | 10.9 (9.1, 13.0)  |
| 22–28 = Clinical insomnia (severe)   | 190                        | 989        | 9.6 (8.3, 11.2)   | 30                             | 182        | 1.6 (1.1, 2.5)    |
| Dichotomised grouping  |                            |            |                   |                                |            |                   |
| No insomnia = no clinically significant insomnia or sub-threshold insomnia     | 1323                       | 6859       | 66.8 (64.4, 69.1) | 1377                           | 9328       | 82.6 (80.1, 84.8) |
| Insomnia = clinical insomnia (moderate severity) or clinical insomnia (severe) | 610                        | 3067       | 30.0 (27.7, 32.2) | 187                            | 1412       | 12.5 (10.6, 14.7) |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

## 9.3 Transitioned ADF, by transition status

Table 9.3 and Figure 9.2 show self-reported insomnia severity in the preceding two weeks in Transitioned ADF by transition status. There were no differences between the groups in the proportion reporting sub-threshold insomnia, but Ex-Serving ADF members (31.3%) were more likely to report moderate or severe insomnia than Inactive Reservists (14.5%) and Active Reservists (14.1%).

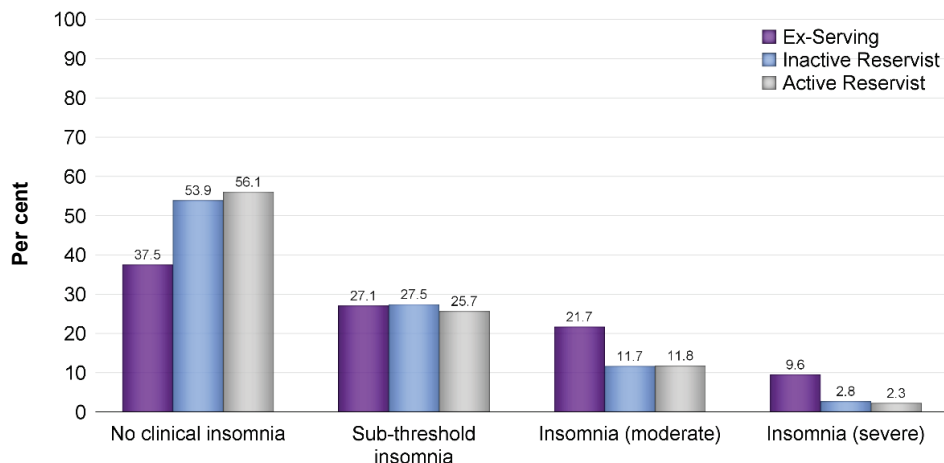
Logistic regressions performed on the dichotomised groupings showed moderate to strong effects: Ex-Serving ADF members were significantly more likely to report any insomnia compared with Active Reservists (31.3% vs 14.1%; OR 3.0, 95% CI 2.3, 3.9) and Inactive Reservists (14.5%; OR 2.8, 95% CI 2.2, 3.5).

**Table 9.3 Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by transition status**

| Severity                              | Ex-Serving ADF<br>(n = 10,904) |            |                   | Inactive Reservists<br>(n = 7509) |            |                   | Active Reservists<br>(n = 6401) |            |                   |
|---------------------------------------|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                                       | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| No clinically significant insomnia    | 529                            | 4094       | 37.6 (34.7, 40.5) | 629                               | 4051       | 54.0 (50.4, 57.5) | 753                             | 3591       | 56.1 (53.0, 59.2) |
| Sub-threshold insomnia                | 446                            | 2955       | 27.1 (24.6, 29.8) | 331                               | 2061       | 27.5 (24.4, 30.7) | 367                             | 1646       | 25.7 (23.2, 28.4) |
| Clinical insomnia (moderate severity) | 392                            | 2371       | 21.8 (19.5, 24.1) | 144                               | 880        | 11.7 (9.7, 14.2)  | 138                             | 755        | 11.8 (9.8, 14.2)  |
| Clinical insomnia (severe)            | 181                            | 1042       | 9.6 (8.1, 11.2)   | 37                                | 207        | 2.8 (1.9, 4.0)    | 34                              | 149        | 2.3 (1.7, 3.2)    |
| Dichotomised grouping                 |                                |            |                   |                                   |            |                   |                                 |            |                   |
| No insomnia                           | 975                            | 7049       | 64.7 (61.9, 67.3) | 960                               | 6112       | 81.4 (78.5, 84.0) | 1120                            | 5237       | 81.8 (79.1, 84.2) |
| Insomnia                              | 573                            | 3414       | 31.3 (28.8, 33.9) | 181                               | 1087       | 14.5 (12.2, 17.1) | 172                             | 904        | 14.1 (12.0, 16.6) |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,904; Active Reservists = 6401; Inactive Reservists = 7509; Unknown = 118). Unknown are not included. A total of 1018 (weighted) participants (Ex-Serving ADF = 441; Active = 260 Inactive = 309) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 9.2** Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by transition status



## 9.4 Transitioned ADF, by discharge status

Table 9.4 shows insomnia severity in Transitioned ADF by medical discharge status. Transitioned ADF with a medical discharge were less likely (21.1%) to report no clinically significant insomnia when compared with those with another type of discharge (54.1%). Sub-threshold insomnia did not differ between groups, although those with a medical discharge were more likely to report moderate severity clinical insomnia (30.9%) or severe clinical insomnia (17.2%) than those without a medical discharge (12.3% and 2.5% respectively).

Logistic regression analysis showed that medically discharged Transitioned ADF were significantly more likely to report any insomnia than those discharged for another reason (48.1% vs 14.8%; OR 5.3, 95% CI 4.3, 6.5). This was a strong association.

**Table 9.4** Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by discharge status

| Severity                              | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|---------------------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                                       | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| No clinically significant insomnia    | 169                             | 1084       | 21.1 (18.1, 24.5) | 1725                  | 10,510     | 54.1 (52.0, 56.3) |
| Sub-threshold insomnia                | 246                             | 1455       | 28.3 (25.0, 31.9) | 893                   | 5162       | 26.6 (24.8, 28.5) |
| Clinical insomnia (moderate severity) | 287                             | 1587       | 30.9 (27.6, 34.4) | 383                   | 2395       | 12.3 (11.0, 13.9) |
| Clinical insomnia (severe)            | 154                             | 885        | 17.2 (14.6, 20.3) | 96                    | 483        | 2.5 (2.0, 3.1)    |
| Dichotomised grouping                 |                                 |            |                   |                       |            |                   |
| No insomnia                           | 415                             | 2540       | 49.4 (45.7, 53.2) | 2618                  | 15,672     | 80.7 (79.0, 82.4) |
| Insomnia                              | 441                             | 2473       | 48.1 (44.4, 51.9) | 479                   | 2878       | 14.8 (13.4, 16.4) |

Notes: Denominator – Transitioned ADF cohort. A total of 1018 (weighted) participants (Medical discharge = 125; Other = 863) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

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## 10 Lifestyle risk factors

### Transitioned ADF members compared with 2015 Regular ADF members

- Nearly half of Transitioned ADF members (45.5%) and 2015 Regular ADF (49.1%) members reported a body mass index in the pre-obese range, and about one-quarter of Transitioned ADF (26.8%) and 2015 Regular ADF (27.5%) reported a BMI in the obese range.
- About one-quarter of Transitioned ADF (26.1%) and 2015 Regular ADF (27.4%) reported a BMI within the normal range.
- Transitioned ADF members were significantly less likely to be physically active at a health-enhancing level compared with 2015 Regular ADF members.
- Similar proportions of Transitioned ADF (15.2%) and 2015 Regular ADF (14.1%) were current smokers.

### Among Transitioned ADF members

- A greater proportion of Transitioned ADF members who were DVA clients were classified as being obese and being less active than non-DVA clients.
- A greater proportion of Ex-Serving ADF were classified as being obese and being current smokers than Active and Inactive Reservists; they were also more likely to be physically inactive than Active Reservists.
- A greater proportion of Transitioned ADF members with a medical discharge were classified as obese, being inactive or minimally active, and being a current smoker compared with those with a non-medical discharge.

Refer to the glossary for definitions of key terms used in this section.

This chapter discusses a range of health risk behaviours and factors among Transitioned ADF members and 2015 Regular ADF members. In addition to a comparison of these two cohorts, results are reported for Transitioned ADF according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge). Where logistic regression models were used they were adjusted for sex, age, rank and Service.

Three self-report indicators of current and future health were assessed: self-reported BMI to assess healthy weight, self-reported physical activity, and self-reported smoking.

## 10.1 Body mass index

BMI was calculated as a function of respondents' self-reported weight and height – weight (kg) / (height (m)<sup>2</sup>). Based on guidelines from the Australian Government Department of Health (Department of Health, 2017), BMI scores were categorised as underweight (<18.5 kg/m<sup>2</sup>), normal (18.5–24.9 kg/m<sup>2</sup>), pre-obese (25–29.9 kg/m<sup>2</sup>), obese class 1 (30–34.9 kg/m<sup>2</sup>), obese class 2 (35–39.9 kg/m<sup>2</sup>) and obese class 3 (>40 kg/m<sup>2</sup>). For the purpose of regression analysis, these categories were collapsed into normal/underweight, pre-obese or obese (obese classes 1, 2 and 3).

### 10.1.1 Current BMI in Transitioned ADF members compared with 2015 Regular ADF members

Table 10.1 and Figures 10.1 and 10.2 show the estimated proportions of Transitioned ADF and 2015 Regular ADF currently in each BMI category. The proportion categorised as underweight was very low, although there were more Transitioned ADF members (0.7%) than 2015 Regular ADF members (0.1%) in this category. The two groups had similar proportions in the normal range (Transitioned ADF, 26.1%; 2015 Regular ADF, 27.4%) and in the pre-obese range, but Transitioned ADF members were more likely to be categorised as obese class 2 (6.1%) or class 3 (1.1%) than 2015 Regular ADF members (2.6% and 0.1%, respectively).

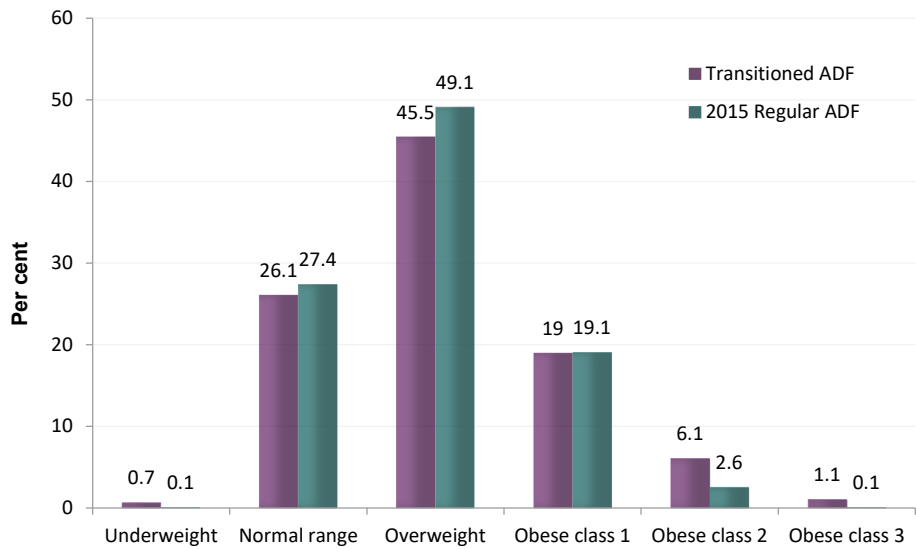
Logistic regression models showed that there were no significant differences between Transitioned ADF and 2015 Regular ADF in BMI overall.

**Table 10.1 Estimated proportions of current classification of body mass index in Transitioned ADF and 2015 Regular ADF**

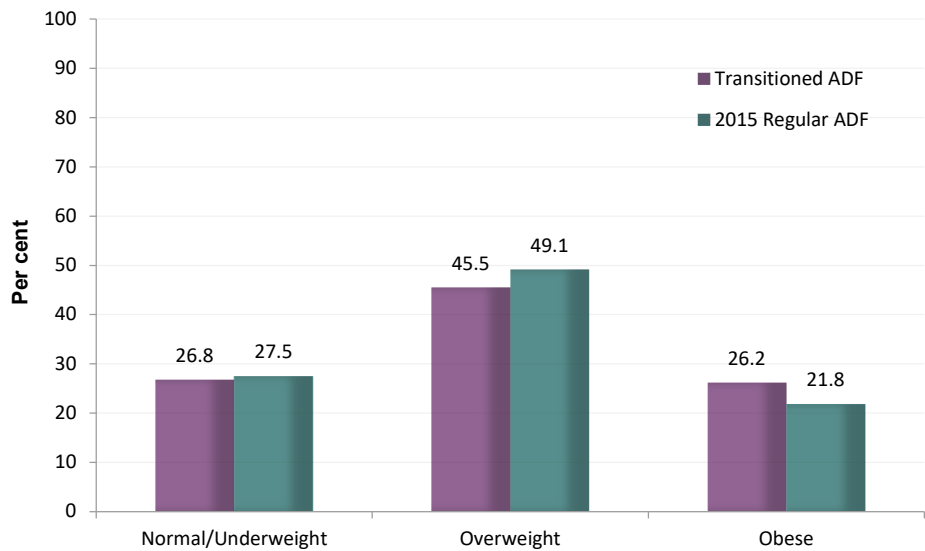
| BMI category              | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|---------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                           | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Underweight               | 15                               | 168        | 0.7 (0.4, 1.2)    | 13                               | 65         | 0.1 (0.1, 0.3)    |
| Normal                    | 795                              | 6510       | 26.1 (24.2, 28.1) | 1876                             | 14,373     | 27.4 (23.6, 31.5) |
| Pre-obese                 | 1542                             | 11,345     | 45.5 (43.3, 47.7) | 3506                             | 25,772     | 49.1 (44.8, 53.4) |
| Obese class 1             | 728                              | 4730       | 19.0 (17.4, 20.6) | 1414                             | 10,023     | 19.1 (16.0, 22.7) |
| Obese class 2             | 212                              | 1512       | 6.1 (5.1, 7.2)    | 187                              | 1371       | 2.6 (1.7, 4.0)    |
| Obese class 3             | 43                               | 285        | 1.1 (0.8, 1.7)    | 20                               | 68         | 0.1 (0.1, 0.2)    |
| <b>Collapsed grouping</b> |                                  |            |                   |                                  |            |                   |
| Normal/underweight        | 810                              | 6678       | 26.8 (24.9, 28.8) | 1889                             | 14,438     | 27.5 (23.7, 31.6) |
| Pre-obese                 | 1542                             | 11,345     | 45.5 (43.3, 47.7) | 3506                             | 25,772     | 49.1 (44.8, 53.4) |
| Obese                     | 983                              | 6527       | 26.2 (24.4, 28.0) | 1621                             | 11,461     | 21.8 (18.6, 25.5) |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 1,211 (weighted) participants (Transitioned ADF = 382; 2015 Regular ADF = 829) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 10.1**      **Estimated proportions of classification of current body mass index in Transitioned ADF and 2015 Regular ADF**



**Figure 10.2**      **Estimated proportions of classification of current BMI in Transitioned ADF and 2015 Regular ADF, using collapsed grouping**



### 10.1.2 Current body mass index in Transitioned ADF, by DVA client status

Table 10.2 shows current BMI by DVA client status for Transitioned ADF. Non-DVA clients were more likely to be classified as normal (31.7%) than DVA clients (19.1%). DVA clients were more likely to be classified as obese class 1 and obese class 2 (23.4% and 8.1% respectively) than non-DVA clients (obese class 1, 14.9%; obese class 2, 4.0%).

Overall, DVA clients were significantly more likely to be classified as obese (32.9%) than non-DVA clients (19.8%) (OR 2.2, 95% CI 1.7, 2.9) but were less likely to be normal/underweight (19.6%) than non-DVA clients (32.6%).

**Table 10.2 Estimated proportions of current classification of body mass index in Transitioned ADF, by DVA client status**

| BMI category              | DVA client<br>(n = 10,776) |            |                   | Non-DVA client<br>(n = 11,249) |            |                   |
|---------------------------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|                           | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Underweight               | 7                          | 55         | 0.5 (0.2, 1.2)    | 6                              | 100        | 0.9 (0.4, 2.1)    |
| Normal range              | 311                        | 2062       | 19.1 (16.9, 21.6) | 374                            | 3567       | 31.7 (28.5, 35.2) |
| Pre-obese                 | 764                        | 4895       | 45.4 (42.5, 48.4) | 616                            | 5270       | 46.8 (43.3, 50.4) |
| Obese class 1             | 441                        | 2524       | 23.4 (21.2, 25.8) | 222                            | 1675       | 14.9 (12.7, 17.4) |
| Obese class 2             | 130                        | 871        | 8.1 (6.6, 9.9)    | 65                             | 450        | 4.0 (2.9, 5.5)    |
| Obese class 3             | 26                         | 152        | 1.4 (0.9, 2.2)    | 11                             | 100        | 0.9 (0.4, 1.9)    |
| <b>Collapsed grouping</b> |                            |            |                   |                                |            |                   |
| Normal/underweight        | 318                        | 2116       | 19.6 (17.4, 22.1) | 380                            | 3667       | 32.6 (29.3, 36.1) |
| Pre-obese                 | 764                        | 4895       | 45.4 (42.5, 48.4) | 616                            | 5270       | 46.8 (43.3, 50.4) |
| Obese                     | 597                        | 3547       | 32.9 (30.3, 35.6) | 298                            | 2224       | 19.8 (17.2, 22.6) |

Notes: Denominator – all 2015 Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 10.1.3 Current body mass index in Transitioned ADF, by transition status

Table 10.3 and Figures 10.3 and 10.4 show current BMI in the Transitioned ADF cohort by transition status. Few Transitioned ADF members scored in the underweight category, but a larger proportion of Inactive Reservists (1.2%) were underweight compared with Ex-Serving ADF (0.5%) and Active Reservists (0.4%). Similar proportions of each transition group reported a normal BMI (Ex-Serving ADF, 26.8%; Active Reservists, 25.6%; Inactive Reservists, 25.8%). A smaller proportion of Ex-Serving ADF (40.6%) were pre-obese compared with Active (49.3%) and Inactive Reservists (48.9%), but Ex-Serving ADF members were more likely to score in the obese class 2 category (9.3%) and obese class 3 category (1.9%) than Active (2.6% and 0.3%) and Inactive Reservists (4.6% and 0.8%).

Logistic regression models applied to the collapsed grouping variables found that Ex-Serving ADF were significantly more likely to be obese than Active Reservists (30.1% vs 22.5%; OR 2.1, 95% CI 1.5, 2.8) and Inactive Reservists (23.8%; OR 1.4, 95% CI 1.1, 2.0).

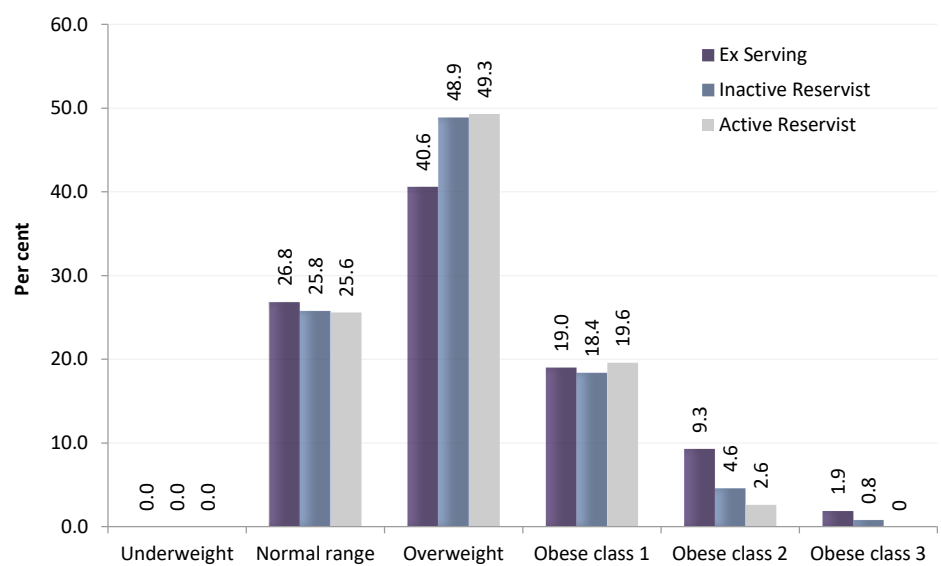
**Table 10.3** Estimated proportions of current classification of body mass index in Transitioned ADF cohort, by transition status

| BMI category              | Ex-Serving ADF<br>(n = 10,663) |            |                   | Inactive Reservists<br>(n = 7779) |            |                   | Active Reservists<br>(n = 6396) |            |                   |
|---------------------------|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                           | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Underweight               | a                              | --         | --                | a                                 | --         | --                | a                               | ..         | ..                |
| Normal range              | 297                            | 2857       | 26.8 (23.7, 30.1) | 234                               | 2004       | 25.8 (22.2, 29.7) | 262                             | 1639       | 25.6 (22.5, 29.1) |
| Pre-obese                 | 497                            | 4332       | 40.6 (37.2, 44.1) | 476                               | 3802       | 48.9 (44.7, 53.1) | 563                             | 3154       | 49.3 (45.8, 52.9) |
| Obese class 1             | 288                            | 2021       | 19.0 (16.6, 21.6) | 195                               | 1433       | 18.4 (15.5, 21.7) | 242                             | 1254       | 19.6 (17.1, 22.3) |
| Obese class 2             | 132                            | 988        | 9.3 (7.5, 11.4)   | 46                                | 357        | 4.6 (3.1, 6.7)    | 33                              | 163        | 2.6 (1.8, 3.6)    |
| Obese class 3             | 31                             | 203        | 1.9 (1.2, 2.9)    | 7                                 | 61         | 0.8 (0.3, 2.1)    | a                               | ..         | ..                |
| <b>Collapsed grouping</b> |                                |            |                   |                                   |            |                   |                                 |            |                   |
| Normal/underweight        | 302                            | 2905       | 27.2 (24.2, 30.6) | 239                               | 2097       | 27.0 (23.3, 31.0) | 267                             | 1667       | 26.1 (22.9, 29.5) |
| Pre-obese                 | 497                            | 4332       | 40.6 (37.2, 44.1) | 476                               | 3802       | 48.9 (44.7, 53.1) | 563                             | 3154       | 49.3 (45.8, 52.9) |
| Obese                     | 451                            | 3212       | 30.1 (27.2, 33.2) | 248                               | 1851       | 23.8 (20.5, 27.4) | 280                             | 1438       | 22.5 (19.9, 25.3) |

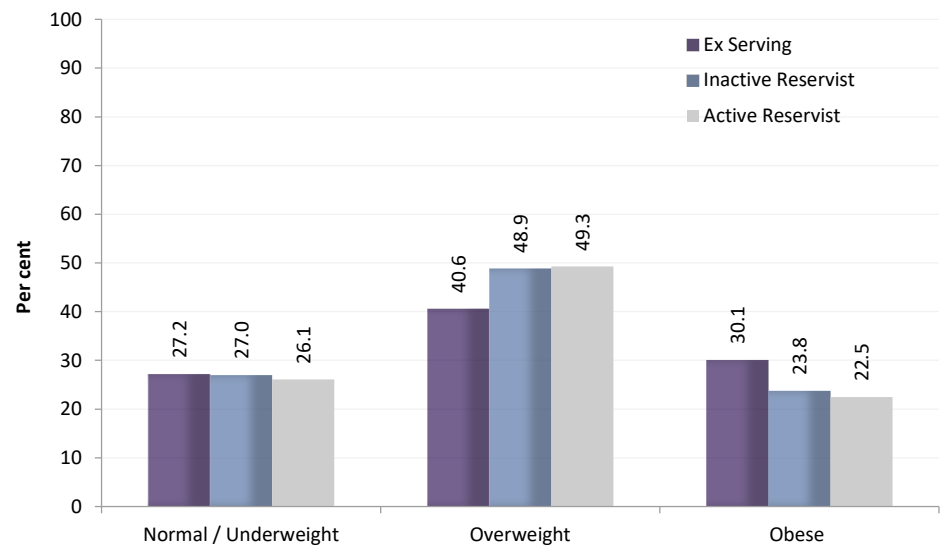
a. Cell size too small to be reported.

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 10.3**    **Estimated proportions of current classification of body mass index in Transitioned ADF, by transition status**



**Figure 10.4**    **Estimated proportions of current classification of BMI in Transitioned ADF, by transition status**



### 10.1.4 Current body mass index in Transitioned ADF, by discharge status

Table 10.4 shows current BMI among Transitioned ADF for those with a medical discharge and those with another type of discharge. The latter were more likely to fall within a normal-range BMI (27.5% vs 20.0%) or be classified as pre-obese (47.5% vs 37.8%) than those with a medical discharge. Those with a medical discharge were more likely to be obese class 2 (12.9%) and obese class 3 (3.2%) than those with another type of discharge (4.3% and 0.6% respectively).

When examined according to the collapsed grouping categories, Transitioned ADF with a medical discharge were significantly more likely to be obese than those with another type of discharge (39.2% vs 22.9%; OR 1.6, 95% CI 1.2, 2.2).

**Table 10.4 Estimated proportions of current BMI in Transitioned ADF, by medical discharge status**

| BMI category              | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|---------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                           | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Underweight               | a                               | --         | --                | 12                    | 128        | 0.7 (0.3, 1.3)    |
| Normal range              | 140                             | 1031       | 20.0 (16.8, 23.7) | 648                   | 5362       | 27.5 (25.3, 29.9) |
| Pre-obese                 | 253                             | 1946       | 37.8 (33.6, 42.2) | 1270                  | 9256       | 47.5 (45.0, 50.1) |
| Obese class 1             | 181                             | 1183       | 23.0 (19.6, 26.8) | 541                   | 3500       | 18.0 (16.3, 19.8) |
| Obese class 2             | 90                              | 665        | 12.9 (10.2, 16.2) | 121                   | 843        | 4.3 (3.4, 5.5)    |
| Obese class 3             | 27                              | 167        | 3.2 (2.1, 4.9)    | 16                    | 118        | 0.6 (0.3, 1.2)    |
| <b>Collapsed grouping</b> |                                 |            |                   |                       |            |                   |
| Normal/underweight        | 143                             | 1070       | 20.8 (17.5, 24.5) | 660                   | 5490       | 28.2 (25.9, 30.6) |
| Pre-obese                 | 253                             | 1946       | 37.8 (33.6, 42.2) | 1270                  | 9256       | 47.5 (45.0, 50.1) |
| Obese                     | 298                             | 2014       | 39.2 (35.0, 43.5) | 678                   | 4461       | 22.9 (21.0, 25.0) |

a. Cell size too small to be reported.

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

## 10.2 Physical activity

Self-reported level of physical exercise in the preceding seven days was assessed using the International Physical Activity Questionnaire, a three-item scale measuring the number of days exercised in the preceding week, as well as the number of minutes on those days during which respondents engaged in walking, moderate exercise and vigorous exercise.

The responses were converted into a single score using the algorithm recommended for the use of this scale

([http://www.institutferran.org/documentos/scoring\\_short\\_ipaq\\_april04.pdf](http://www.institutferran.org/documentos/scoring_short_ipaq_april04.pdf)). Scores on the scale are categorised as inactive (insufficiently active), minimally active (sufficiently active) or HEPA (health-enhancing physical activity) active.

- *Inactive (Category 1).* This is the lowest level of physical activity. Individuals who do not meet the criteria for Category 2 or Category 3 are considered 'insufficiently active'.
- *Minimally active (Category 2).* The minimum pattern of activity to be classified as 'sufficiently active' is any one of three criteria:
  - three or more days of vigorous activity of at least 20 minutes per day
  - or
  - five or more days of moderate-intensity activity or walking of at least 30 minutes per day
  - or
  - five or more days of any combination of walking, moderate-intensity activity or vigorous-intensity activity achieving a minimum of at least 600 MET (metabolic equivalent) minutes per week.
- *HEPA active (Category 3).* There are two criteria for classification as HEPA active:
  - vigorous-intensity activity on at least three days achieving a minimum of at least 1500 MET minutes per week
  - or
  - seven or more days of any combination of walking, moderate-intensity activity or vigorous-intensity activity achieving a minimum of at least 3000 MET minutes per week.

### **10.2.1 Physical activity in the preceding seven days in Transitioned ADF compared with 2015 Regular ADF**

Table 10.5 and Figure 10.5 show levels of physical activity in the preceding seven days reported by Transitioned ADF members and 2015 Regular ADF members. A greater proportion of 2015 Regular ADF members (56.4%) were classed as HEPA active compared with Transitioned ADF members (47.5%). More Transitioned ADF (19.7%) were 'inactive' than 2015 Regular ADF (15.1%). Similar proportions of 2015 Regular (21.6%) and Transitioned ADF members (20.9%) were minimally active.

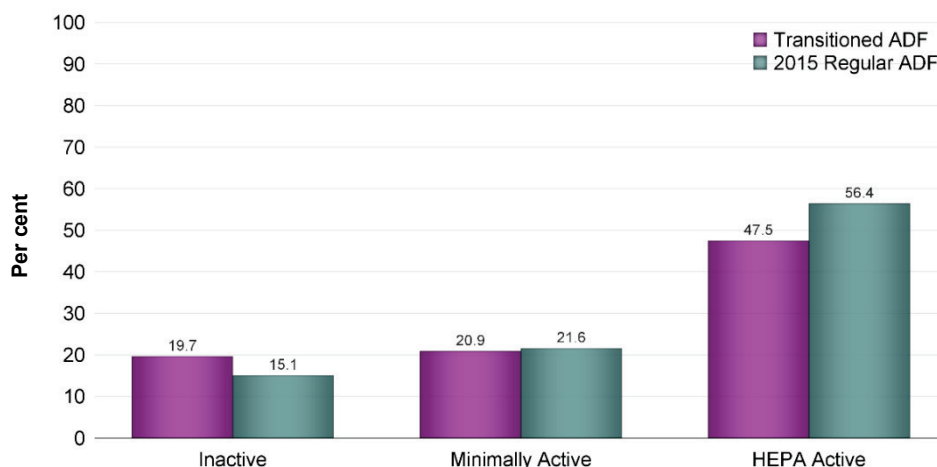
Logistic regression analysis showed that Transitioned ADF were significantly more likely to be inactive than HEPA active when compared with 2015 Regular ADF (19.7% vs 15.1%; OR 1.6, 95% CI 1.2, 2.3); this was a moderate association.

**Table 10.5** Estimated prevalence of physical activity in the preceding seven days in Transitioned ADF and 2015 Regular ADF

| Categorised physical activity level | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|-------------------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                                     | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Inactive                            | 752                              | 4909       | 19.7 (18.1, 21.4) | 1181                             | 7930       | 15.1 (12.4, 18.3) |
| Minimally active                    | 828                              | 5213       | 20.9 (19.3, 22.6) | 1791                             | 11,351     | 21.6 (18.5, 25.2) |
| HEPA active                         | 1506                             | 11,840     | 47.5 (45.4, 50.0) | 3871                             | 29,630     | 56.4 (52.3, 60.5) |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 6,560 (weighted) participants (2015 Regular ADF = 3,590; Transitioned ADF = 2,970) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 10.5** Estimated prevalence of physical activity in the preceding seven days in Transitioned ADF and 2015 Regular ADF



### 10.2.2 Physical activity level in the preceding seven days in Transitioned ADF, by DVA client status

Table 10.6 shows physical activity levels in the preceding seven days among Transitional ADF members by DVA client status. Non-DVA clients were more likely to be classified as HEPA active (52.4%) than DVA clients (42.2%).

Logistic regression analysis performed on the collapsed grouping variables for inactive as opposed to HEPA active members by DVA client status found no significant differences other than Transitioned ADF DVA clients being slightly more likely to be inactive (as opposed to HEPA active) compared with non-DVA clients (22.4% vs 18.2%; OR 1.3, 95% CI 1.0, 1.6).

**Table 10.6 Estimated physical activity level in preceding seven days in Transitioned ADF, by DVA client status**

| Categorised physical activity level | DVA client<br>(n = 10,656) |            |                   | Non-DVA client<br>(n = 11,268) |            |                   |
|-------------------------------------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|                                     | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Inactive                            | 425                        | 2388       | 22.4 (20.2, 24.8) | 255                            | 2053       | 18.2 (15.7, 21.0) |
| Minimally active                    | 402                        | 2205       | 20.7 (18.6, 22.9) | 339                            | 2370       | 21.0 (18.5, 23.8) |
| HEPA active                         | 675                        | 4494       | 42.2 (39.3, 45.1) | 657                            | 5898       | 52.4 (48.9, 55.8) |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 10.2.3 Physical activity level in the preceding seven days in Transitioned ADF, by transition status

Table 10.7 and Figure 10.6 show levels of physical activity in the preceding seven days in Transitioned ADF members by transition status. Overall, levels of physical activity were similar among the three transitioned groups. Highly comparable proportions of all three groups were classed as inactive (Ex-Serving ADF, 19.7%; Inactive Reservists, 19.7%; Active Reservists, 19.9%). Slightly greater proportions of Active (48.7%) and Inactive Reservists (49.9%) were HEPA active compared with Ex-Serving ADF (45.3%). Finally, Active Reservists (23.6%) were marginally more likely to be minimally active compared with Ex-Serving ADF members (19.0%) and Inactive Reservists (20.9%).

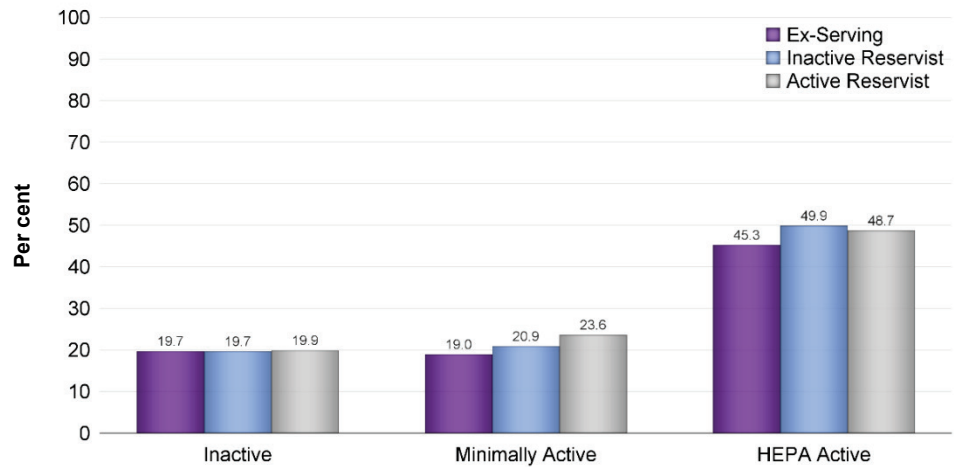
While similar proportions of Ex-Serving ADF (19.7%) and Active Reservists (19.9%) were classed as inactive (as opposed to HEPA active), logistic regression analysis adjusted for sex, age, rank and Service showed Ex-Serving ADF were significantly more likely to be inactive (as opposed to HEPA active) than Active Reservists (OR 1.4, 95% CI 1.1, 1.9). This was a weak association.

**Table 10.7 Estimated prevalence of physical activity level in the preceding seven days in Transitioned ADF, by transition status**

| Categorised physical activity level | Ex-Serving ADF<br>(n = 10,800) |            |                      | Inactive Reservists<br>(n = 7651) |            |                      | Active Reservists<br>(n = 6370) |            |                      |
|-------------------------------------|--------------------------------|------------|----------------------|-----------------------------------|------------|----------------------|---------------------------------|------------|----------------------|
|                                     | n                              | Weighted n | % (95% CI)           | n                                 | Weighted n | % (95% CI)           | n                               | Weighted n | % (95% CI)           |
| Inactive                            | 290                            | 2129       | 19.7<br>(17.3, 22.4) | 214                               | 1506       | 19.7<br>(16.7, 23.1) | 247                             | 1269       | 19.9<br>(17.4, 22.7) |
| Minimally active                    | 292                            | 2047       | 19.0<br>(16.6, 21.6) | 222                               | 1600       | 20.9<br>(17.9, 24.3) | 308                             | 1505       | 23.6<br>(21.1, 26.3) |
| HEPA active                         | 528                            | 4891       | 45.3<br>(42.0, 48.7) | 457                               | 3818       | 49.9<br>(45.8, 54.0) | 517                             | 3104       | 48.7<br>(45.3, 52.2) |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,800; Active Reservists = 6370; Inactive Reservists = 7651; Unknown = 111). Unknown are not included. A total of 2970 (weighted) participants (Ex-Serving ADF = 1733; Active = 492; Inactive = 727; Unknown = 18) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 10.6**    **Estimated prevalence of physical activity in the preceding seven days in Transitioned ADF, by transition status**



**10.2.4 Physical activity level in the preceding seven days in Transitioned ADF, by discharge status**

Table 10.8 shows physical activity levels in the preceding seven days among Transitioned ADF by medical discharge status. Those with another type of discharge were more likely to be classified as HEPA active (50.72%) than those with a medical discharge (34.4%). Those with a medical discharge were more likely to be classified as inactive (24.3%) relative to those with another type of discharge (18.7%).

Logistic regressions using collapsed grouping variables found that medically discharged members were significantly more likely to be inactive (as opposed to HEPA active) than non-medically discharged members (24.3% vs 18.7%; OR 2.0, 95% CI 1.5, 2.7); this was a moderate association. While a slightly smaller proportion of medically discharged members (20.0%) were classified as minimally active compared with non-medically discharged members (21.0%), logistic regression analysis adjusted for sex, age, rank and Service showed Ex-Serving ADF were significantly more likely to be minimally active (as opposed to HEPA active) than non-medically discharged members (OR 1.6, 95% CI 1.2, 2.1). This was a moderate association.

**Table 10.8 Estimated physical activity level in the preceding seven days in Transitioned ADF, by medical discharge status**

| Categorised physical activity level | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|-------------------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                                     | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Inactive                            | 189                             | 1240       | 24.3 (20.8, 28.1) | 561                   | 3651       | 18.7 (17.0, 20.6) |
| Minimally active                    | 165                             | 1021       | 20.0 (16.9, 23.4) | 655                   | 4097       | 21.0 (19.2, 22.9) |
| HEPA active                         | 224                             | 1755       | 34.4 (30.3, 38.7) | 1261                  | 9890       | 50.7 (48.3, 53.1) |

Notes: Denominator – Transitioned ADF cohort. A total of 2955 (weighted) participants (medical discharge = 1092; other = 1863) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

## 10.3 Smoking status

Smoking status was assessed with four items covering whether the respondent currently smoked, had ever tried smoking, ever smoked a full cigarette, cigar or pipe, and had smoked the equivalent of 100 cigarettes in their lifetime. Participants were classed as a ‘current smoker’, ‘former smoker’ (had smoked at least 100 cigarettes in their lifetime but does not currently smoke), ‘tried smoking’ (had smoked a full cigarette or equivalent but had not smoked at least 100 cigarettes) or ‘non-smoker’ (had never smoked a full cigarette or equivalent).

### 10.3.1 Smoking status in Transitioned ADF compared with 2015 Regular ADF

Table 10.9 and Figures 10.7 and 10.8 show smoking status among Transitioned ADF members and 2015 Regular ADF members. Similar proportions of Transitioned ADF and 2015 Regular ADF were current smokers (15.2% and 14.1% respectively) or had tried smoking (23.1% and 24.4% respectively). A slightly greater proportion of Transitioned ADF compared with 2015 Regular ADF (30.8% vs 27.1%) were former smokers, and 2015 Regular ADF members (33.9%) were more likely to be non-smokers than Transitioned ADF members (29.5%).

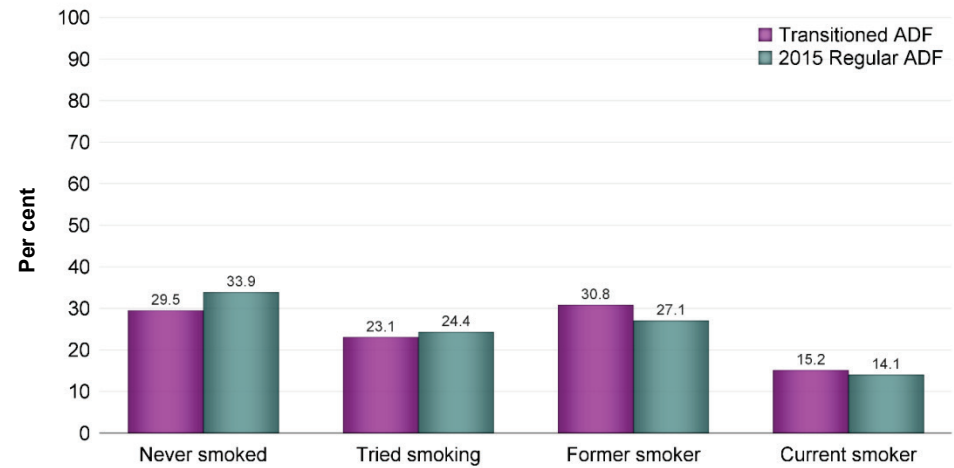
Logistic regression using the collapsed groupings found no significant differences between Transitioned ADF and 2015 Regular ADF in smoking status.

**Table 10.9 Estimated prevalence of smoking in Transitioned ADF and 2015 Regular ADF**

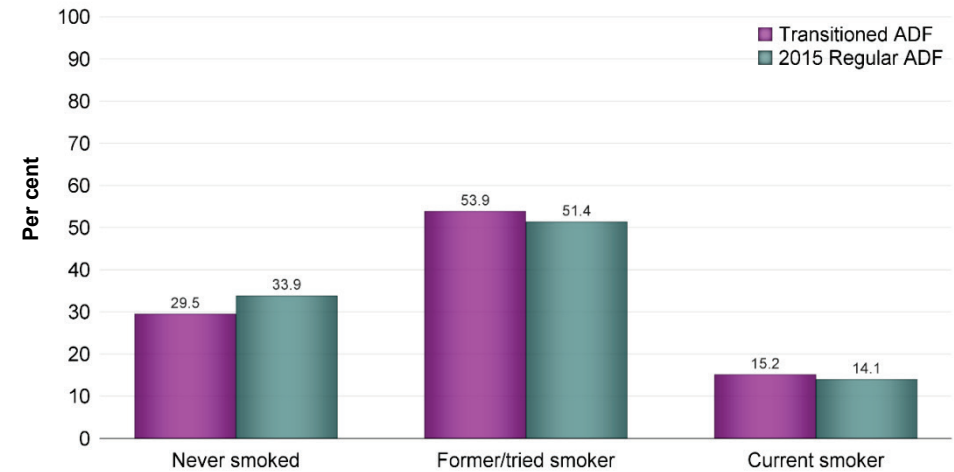
| Smoking status              | Transitioned ADF<br>(n = 24,932) |            |                  | 2015 Regular ADF<br>(n = 52,500) |            |                  |
|-----------------------------|----------------------------------|------------|------------------|----------------------------------|------------|------------------|
|                             | n                                | Weighted n | % (95% CI)       | n                                | Weighted n | % (95% CI)       |
| Current smoker              | 546                              | 3783       | 15.2 (13.8,16.7) | 931                              | 7377       | 14.1 (11.5,17.1) |
| Former smoker               | 1282                             | 7687       | 30.8 (29.1,32.6) | 2299                             | 14,203     | 27.1 (24.0,30.4) |
| Tried smoking               | 821                              | 5756       | 23.1 (21.4,24.8) | 1934                             | 12,784     | 24.4 (21.4,27.6) |
| Never smoker                | 1200                             | 7364       | 29.5 (27.1,31.3) | 2655                             | 17,791     | 33.9 (30.4,37.5) |
| <b>Collapsed grouping</b>   |                                  |            |                  |                                  |            |                  |
| Current smoker              | 546                              | 3783       | 15.2 (13.8,16.7) | 931                              | 7377       | 14.1 (11.5,17.1) |
| Former smoker/tried smoking | 2103                             | 13,443     | 53.9 (52.0,55.9) | 4233                             | 26,987     | 51.4 (47.7,55.1) |
| Never smoker                | 1200                             | 7364       | 29.5 (27.8,31.3) | 2655                             | 17,791     | 33.9 (30.4,37.5) |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 10.7** Estimated prevalence of smoking in Transitioned ADF and 2015 Regular ADF



**Figure 10.8** Estimated prevalence of smoking status in Transitioned ADF and 2015 Regular ADF (using categorised grouping)



**10.3.2 Smoking status in Transitioned ADF, by DVA client status**

Table 10.10 shows smoking status among Transitioned ADF members by DVA client status. There were no differences in smoking status between DVA clients and non-DVA clients. Logistic regression analysis using the collapsed variables also found no significant between-group differences.

**Table 10.10 Estimated prevalence of smoking status in Transitioned ADF and 2015 Regular ADF, by DVA client status**

| Smoking status              | DVA client<br>(n = 10,435) |            |                   | Non-DVA client<br>(n = 11,155) |            |                   |
|-----------------------------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|                             | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Current smoker              | 299                        | 1692       | 16.2 (14.4, 18.2) | 187                            | 1613       | 14.5 (12.3, 17.0) |
| Former smoker               | 658                        | 3460       | 33.2 (30.7, 35.7) | 470                            | 3277       | 29.4 (26.6, 32.3) |
| Tried smoking               | 362                        | 2253       | 21.6 (19.4, 24.0) | 366                            | 2806       | 25.2 (22.5, 28.1) |
| Never smoker                | 562                        | 2911       | 27.9 (25.6, 30.3) | 474                            | 3288       | 29.5 (26.7, 32.4) |
| <b>Collapsed grouping</b>   |                            |            |                   |                                |            |                   |
| Current smoker              | 299                        | 1692       | 16.2 (14.4, 18.2) | 187                            | 1613       | 14.5 (12.3, 17.0) |
| Former smoker/tried smoking | 1020                       | 5713       | 54.7 (52.1, 57.4) | 836                            | 6082       | 54.5 (51.3, 57.7) |
| Never smoker                | 562                        | 2911       | 27.9 (25.6, 30.3) | 474                            | 3288       | 29.5 (26.7, 32.4) |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 10.3.3 Smoking status in Transitioned ADF, by transition status

Table 10.11 and Figures 10.9 and 10.10 show smoking status in Transitioned ADF by transition status. Overall, a higher proportion of Ex-Serving ADF members (18.4%) were current smokers compared with Inactive (13.9%) and Active Reservists (10.7%). Ex-Serving ADF were also slightly more likely to be non-smokers (29.7%) compared with Inactive Reservists (27.1%), but they were slightly less likely to be non-smokers compared with Active Reservists (32.3%).

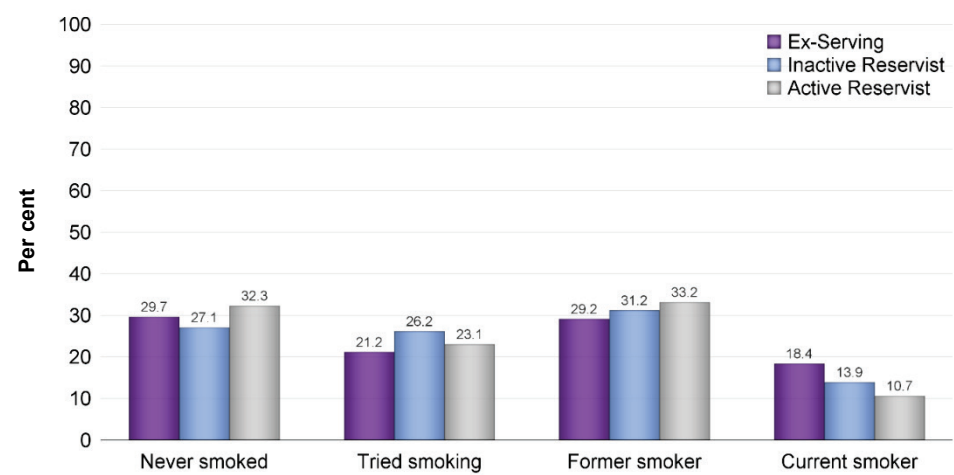
Logistic regression analysis found Ex-Serving ADF were significantly more likely to be current smokers (as opposed to never smokers) compared with Active Reservists (18.4% vs 10.7%; OR 1.7, 95% CI 1.2, 2.4); this was a moderate association.

**Table 10.11** Estimated prevalence of smoking status in Transitioned ADF, by transition status

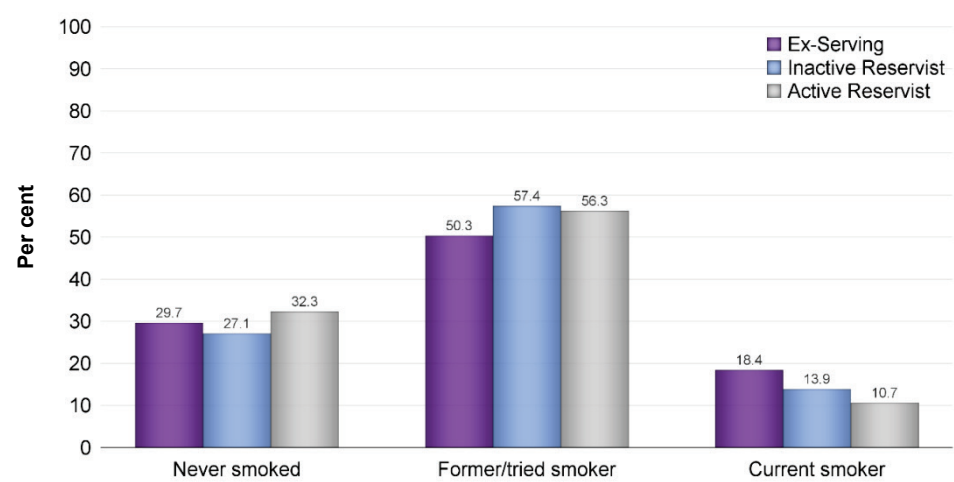
| Smoking status              | Ex-Serving ADF<br>(n = 10,910) |            |                   | Inactive Reservists<br>(n = 7478) |            |                   | Active Reservists<br>(n = 6427) |            |                   |
|-----------------------------|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                             | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Current smoker              | 271                            | 2008       | 18.4 (16.1, 20.9) | 145                               | 1039       | 13.9 (11.5, 16.8) | 126                             | 684        | 10.7 (8.8, 12.8)  |
| Former smoker               | 473                            | 3181       | 29.2 (26.5, 32.0) | 366                               | 2335       | 31.2 (27.9, 34.8) | 437                             | 2133       | 33.2 (30.3, 36.2) |
| Tried smoking               | 286                            | 2312       | 21.2 (18.7, 23.9) | 260                               | 1957       | 26.2 (22.9, 29.7) | 274                             | 1482       | 23.1 (20.3, 26.1) |
| Never smoker                | 452                            | 3236       | 29.7 (26.9, 32.6) | 320                               | 2027       | 27.1 (24.0, 30.5) | 424                             | 2078       | 32.3 (29.4, 35.4) |
| <b>Collapsed grouping</b>   |                                |            |                   |                                   |            |                   |                                 |            |                   |
| Current smoker              | 271                            | 2008       | 18.4 (16.1, 20.9) | 145                               | 1039       | 13.9 (11.5, 16.8) | 126                             | 684        | 10.7 (8.8, 12.8)  |
| Former smoker/Tried smoking | 759                            | 5493       | 50.4 (47.3, 53.4) | 626                               | 4293       | 57.4 (53.7, 61.0) | 711                             | 3616       | 56.3 (53.0, 59.4) |
| Never smoker                | 452                            | 3q236      | 29.7 (26.9, 32.6) | 320                               | 2027       | 27.1 (24.0, 30.5) | 424                             | 2078       | 32.3 (29.4, 35.4) |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,910; Active Reservists = 6427; Inactive Reservists = 7478; Unknown = 117). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 10.9    Estimated prevalence of smoking in Transitioned ADF, by transition status**



**Figure 10.10    Estimated prevalence of smoking status in Transitioned ADF, by transition status (using categorised grouping)**



**10.3.4    Smoking status in Transitioned ADF, by discharge status**

Table 10.12 shows smoking status among Transitioned ADF members by medical discharge status. Transitioned ADF with a medical discharge were more likely to be current smokers than those who had another type of discharge (22.2% vs 13.1%). In the case of the collapsed groupings, overall those with a medical discharge (46.5%) were less likely to report being a former smoker or having tried smoking than those without a medical discharge (55.8%).

Logistic regression analysis performed on the collapsed groupings found that medically discharged Transitioned ADF members were significantly more likely to be current smokers (as opposed to never having smoked) than non-medically discharged members (22.2% vs 13.1%; OR 1.6, 95% CI 1.2, 2.2); this was a moderate association.

**Table 10.12 Estimated prevalence of smoking in Transitioned ADF, by medical discharge status**

| Smoking status              | Medical Discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|-----------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                             | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Current smoker              | 172                             | 1155       | 22.2 (19.0, 25.8) | 364                   | 2533       | 13.1 (11.6, 14.7) |
| Former smoker               | 247                             | 1433       | 27.6 (24.2, 31.2) | 1021                  | 6147       | 31.7 (29.7, 33.8) |
| Tried smoking               | 142                             | 984        | 18.9 (16.0, 22.3) | 668                   | 4665       | 24.1 (22.2, 26.1) |
| Never smoked                | 258                             | 1573       | 30.2 (26.7, 34.0) | 933                   | 5739       | 29.6 (27.6, 31.7) |
| <b>Collapsed grouping</b>   |                                 |            |                   |                       |            |                   |
| Current smoker              | 172                             | 1155       | 22.2 (19.0, 25.8) | 364                   | 2533       | 13.1 (11.6, 14.7) |
| Former smoker/Tried smoking | 389                             | 2418       | 46.5 (42.6, 50.4) | 1689                  | 10,812     | 55.8 (53.6, 58.1) |
| Never smoked                | 258                             | 1573       | 30.2 (26.7, 34.0) | 933                   | 5739       | 29.6 (27.6, 31.7) |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.



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## 11 Self-perceived health and quality of life

### Transitioned ADF members compared with 2015 Regular ADF members

- More than one-third of Transitioned ADF members (35.0%) and almost one-quarter of 2015 Regular ADF members (23.7%) perceived their health to be fair–poor. Transitioned ADF were significantly more likely to perceive their health as fair–poor compared with 2015 Regular ADF.
- Transitioned ADF were significantly more likely to report dissatisfaction with their health (40.1%) compared with 2015 Regular ADF (30.1%).
- Approximately two-thirds (62.8%) of Transitioned ADF rated their quality of life as good – very good compared with 72.0% of 2015 Regular ADF. Transitioned ADF were significantly more likely to perceive their quality of life as poor compared with 2015 Regular ADF.
- For self-perceived satisfaction with life, there were no differences between Transitioned ADF and 2015 Regular ADF.
- Nearly half of Transitioned ADF members (48.7%) and 58.2% of 2015 Regular ADF members reported their physical health as good–excellent. Reporting poor–fair physical health as opposed to good–excellent was significantly higher among Transitioned ADF compared with 2015 Regular ADF.

### Among Transitioned ADF members

- Compared with non-DVA clients, Transitioned ADF members who were DVA clients were more likely to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poor–fair physical health and lower quality of life.
- Ex-Serving ADF were more likely to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poor–fair physical health, and lower quality of life compared with Active and Inactive Reservists.
- Medically discharged Transitioned ADF members were more likely to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poor–fair physical health and lower quality of life compared with non-medically discharged members.

Refer to the glossary for definitions of key terms used in this section.

This chapter explores overall self-perceived health and quality of life among Transitioned ADF members and 2015 Regular ADF members, using five items – self-perceived health, satisfaction with health, quality of life, satisfaction with life in the preceding year, and self-reported physical health in the preceding year.

In addition to this comparison of Transitioned ADF and 2015 Regular ADF, further results are reported for Transitioned ADF according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge). Between-group comparisons were adjusted for sex, age, rank and Service.

## 11.1 Self-perceived health in general

Self-perceived health in general was assessed with a single survey question – ‘In general, how would you say your health is?’ – that was scored on a five-point scale (excellent to poor). For the purpose of analysis, the five-point scale was dichotomised into ‘excellent–good’ versus ‘fair–poor’.

### 11.1.1 Transitioned ADF members compared with 2015 Regular ADF members

Table 11.1 and Figure 11.1 show the estimated prevalence of each level of self-perceived health in general in Transitioned ADF members compared with the 2015 Regular ADF members. The majority of both Transitioned ADF (64.9%) and 2015 Regular ADF (76.3%) reported their health to be excellent, very good or good. The 2015 Regular ADF were more likely to report that their health was very good (31.3%) or good (35.9%) compared with the Transitioned ADF (26.4% very good, 29.6% good). Transitioned ADF members were more likely to perceive their health as poor (11.2%) compared with 2015 Regular ADF (2.9%).

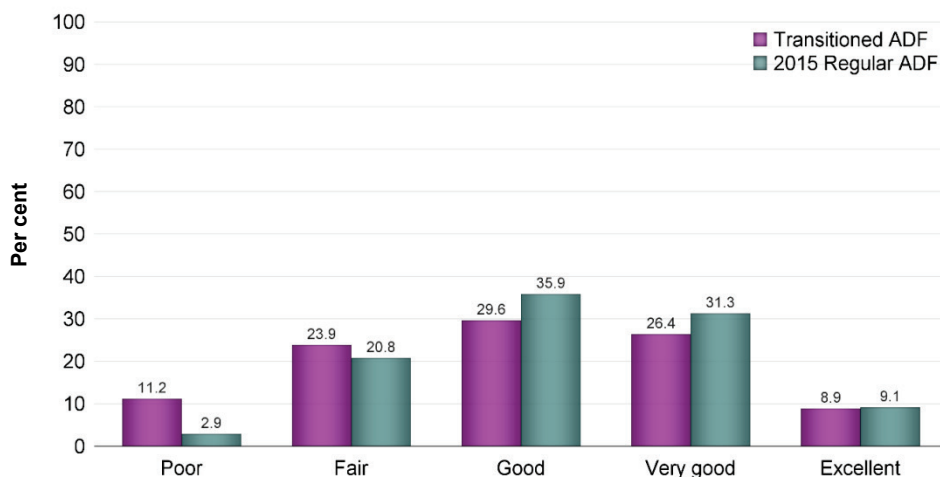
Logistic regression analysis performed on the dichotomised self-perceived health grouping revealed a moderate association, Transitioned ADF being significantly more likely to report fair–poor self-perceived health (as opposed to excellent–good) compared with 2015 Regular ADF (35.0% vs 23.7%; OR 1.5, 95% CI 1.2, 1.9).

**Table 11.1 Estimated prevalence of self-perceived health in general in Transitioned ADF and 2015 Regular ADF**

| Health status                | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|------------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                              | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Excellent                    | 332                              | 2216       | 8.9 (7.8, 10.1)   | 764                              | 4794       | 9.1 (7.4, 11.2)   |
| Very good                    | 1067                             | 6577       | 26.4 (24.8, 28.1) | 2880                             | 16,415     | 31.3 (28.3, 34.4) |
| Good                         | 1204                             | 7389       | 29.6 (28.0, 31.4) | 2905                             | 18,825     | 35.9 (32.4, 39.4) |
| Fair                         | 1056                             | 5949       | 23.9 (22.4, 25.4) | 1416                             | 10,913     | 20.8 (17.7, 24.2) |
| Poor                         | 494                              | 2780       | 11.2 (10.1, 12.3) | 260                              | 1528       | 2.9 (2.0, 4.3)    |
| <b>Dichotomised grouping</b> |                                  |            |                   |                                  |            |                   |
| Excellent–good               | 2603                             | 16,182     | 64.9 (63.3, 66.5) | 6549                             | 40,034     | 76.3 (72.8, 79.4) |
| Fair–poor                    | 1550                             | 8729       | 35.0 (33.4, 36.6) | 1676                             | 12,441     | 23.7 (20.5, 27.2) |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 46 (weighted) participants (2015 Regular ADF = 25; Transitioned ADF = 21) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 11.1** Estimated prevalence of self-perceived health in general in Transitioned ADF and 2015 Regular ADF



### 11.1.2 Self-perceived health in general in Transitioned ADF, by DVA client status

Table 11.2 shows self-perceived health in general in Transitioned ADF members by DVA client status. DVA clients were less likely to report their health as excellent (3.9%) compared with non-DVA clients (14.2%). DVA clients were also more likely to perceive their health as poor (16.2%) compared with non-DVA clients (4.7%).

Logistic regression on the dichotomised grouping showed a strong association: DVA clients were significantly more likely to report low self-perceived health (fair–poor) than non-DVA clients (50.4% vs 19.5%; OR 4.2, 95% CI 3.4, 5.0).

**Table 11.2** Estimated prevalence of self-perceived health in general in Transitioned ADF, by DVA client status

| Self-perceived health        | DVA client<br>(n = 10,266) |            |                   | Non-DVA client<br>(n = 11,293) |            |                   |
|------------------------------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|                              | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Excellent                    | 76                         | 399        | 3.9 (3.0, 5.1)    | 223                            | 1598       | 14.2 (12.1, 16.4) |
| Very good                    | 369                        | 1919       | 18.7 (16.8, 20.8) | 575                            | 3955       | 35.0 (32.2, 38.0) |
| Good                         | 544                        | 2775       | 27.0 (24.8, 29.3) | 500                            | 3517       | 31.2 (28.4, 34.0) |
| Fair                         | 666                        | 3508       | 34.2 (31.8, 36.6) | 259                            | 1671       | 14.8 (12.9, 17.0) |
| Poor                         | 345                        | 1666       | 16.2 (14.6, 18.0) | 71                             | 533        | 4.7 (3.6, 6.2)    |
| <b>Dichotomised grouping</b> |                            |            |                   |                                |            |                   |
| Excellent–good               | 989                        | 5093       | 49.6 (47.1, 52.1) | 1298                           | 9071       | 80.3 (77.9, 82.6) |
| Fair–poor                    | 1011                       | 5173       | 50.4 (47.9, 52.9) | 330                            | 2204       | 19.5 (17.3, 21.9) |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### **11.1.3 Self-perceived health in general in Transitioned ADF, by transition status**

Table 11.3 and Figure 11.2 show responses for the estimated prevalence of self-perceived health in general among the Transitioned ADF by transition status. Ex-Serving ADF were more likely to perceive their health as poor (19.6%) compared with Active (3.5%) and Inactive Reservists (5.2%).

Logistic regression analysis performed on the dichotomised grouping of self-perceived health showed Ex-Serving ADF were significantly more likely to report low self-perceived health (fair–poor) compared with Active Reservists (50.5% vs 20.6%; OR 5.2, 95% CI 4.2, 6.3) and significantly more likely than Inactive Reservists to report such a perception (24.7%; OR 3.6, 95% CI 2.9, 4.4). Both were strong associations.

### **11.1.4 Self-perceived health in general in Transitioned ADF, by discharge status**

Table 11.4 shows responses for self-perceived health in general in Transitioned ADF by discharge status (medical discharge or other type of discharge). Transitioned respondents who were medically discharged were more likely to report their health as poor (34.2%) and less likely to report their health as excellent (1.1%) compared with those with another type of discharge (5.2% poor, 11.0% excellent).

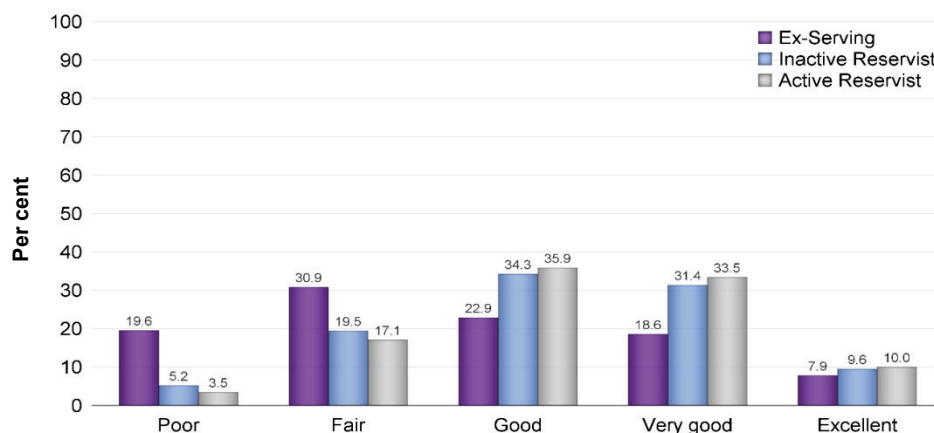
Logistic regression analysis performed on the dichotomised grouping showed a strong association: medically discharged ADF were significantly more likely to report low self-perceived health (fair–poor) than those with another type of discharge (73.6% vs 25.1%; OR 9.3, 95% CI 7.5, 11.5).

**Table 11.3 Self-perceived health in general in Transitioned ADF, by transition status**

| Health status                | Ex-Serving ADF<br>(n = 10,904) |            |                   | Inactive Reservists<br>(n = 7509) |            |                   | Active Reservists<br>(n = 6401) |            |                   |
|------------------------------|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                              | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Excellent                    | 97                             | 857        | 7.9 (6.3, 9.8)    | 110                               | 717        | 9.6 (7.6, 11.9)   | 125                             | 642        | 10.0 (8.2, 12.2)  |
| Very good                    | 252                            | 2029       | 18.6 (16.3, 21.1) | 358                               | 2358       | 31.4 (28.1, 34.9) | 452                             | 2142       | 33.5 (30.6, 36.5) |
| Good                         | 340                            | 2497       | 22.9 (20.5, 25.5) | 396                               | 2575       | 34.3 (31.0, 37.8) | 463                             | 2299       | 35.9 (33.0, 39.0) |
| Fair                         | 542                            | 3367       | 30.9 (28.3, 33.6) | 253                               | 1462       | 19.5 (16.9, 22.3) | 256                             | 1096       | 17.1 (15.2, 19.3) |
| Poor                         | 378                            | 2135       | 19.6 (17.6, 21.8) | 66                                | 394        | 5.2 (3.9, 7.0)    | 47                              | 221        | 3.5 (2.5, 4.8)    |
| <b>Dichotomised grouping</b> |                                |            |                   |                                   |            |                   |                                 |            |                   |
| Excellent–good               | 689                            | 5383       | 49.4 (46.5, 52.2) | 864                               | 5649       | 75.2 (72.2, 78.1) | 1040                            | 5084       | 79.4 (77.1, 81.6) |
| Fair–poor                    | 920                            | 5503       | 50.5 (47.6, 53.3) | 319                               | 1856       | 24.7 (21.9, 27.8) | 303                             | 1317       | 20.6 (18.4, 22.9) |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,904; Active Reservists = 6401; Inactive Reservists = 7509; Unknown = 118). Unknown are not included. A total of 21 (weighted) participants (Ex-Serving ADF = 18; Inactive = 3) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 11.2** Estimated proportions of self-perceived health in general in Transitioned ADF, by transition status



**Table 11.4** Estimated prevalence of self-perceived health in general in Transitioned ADF, by discharge status

| Self-perceived health status | Medical discharge (n = 5138) |            |                   | Non-medical discharge (n = 19,413) |            |                   |
|------------------------------|------------------------------|------------|-------------------|------------------------------------|------------|-------------------|
|                              | n                            | Weighted n | % (95% CI)        | n                                  | Weighted n | % (95% CI)        |
| Excellent                    | 8                            | 56         | 1.1 (0.5, 2.4)    | 320                                | 2130       | 11.0 (9.6, 1.5)   |
| Very good                    | 43                           | 255        | 5.0 (3.6, 6.9)    | 1006                               | 6185       | 32.0(29.9, 33.9)  |
| Good                         | 154                          | 1043       | 20.3 (17.3, 23.7) | 1033                               | 6212       | 32.0 (30.0, 34.0) |
| Fair                         | 361                          | 2028       | 39.5 (35.9, 43.2) | 687                                | 3865       | 19.9 (18.3, 21.6) |
| Poor                         | 316                          | 1756       | 34.2 (30.7, 37.8) | 173                                | 999        | 5.2 (4.3, 6.1)    |
| <b>Dichotomised grouping</b> |                              |            |                   |                                    |            |                   |
| Excellent–good               | 205                          | 1354       | 26.4 (23.1, 29.9) | 2359                               | 14,528     | 74.8 (73.0, 76.6) |
| Fair–poor                    | 677                          | 3783       | 73.6 (70.1, 76.9) | 860                                | 4864       | 25.1 (23.3, 26.9) |

Notes: Denominator – Transitioned ADF cohort. A total of 21 (weighted) participants (medical discharge = 0; other = 21) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

## 11.2 Self-perceived satisfaction with health

Self-perceived satisfaction with health was assessed by a single item – ‘How satisfied are you with your health?’ – scored on a five-point scale ranging from ‘very dissatisfied’ to ‘very satisfied’. Responses were collapsed into ‘dissatisfied’, ‘neither’ and ‘satisfied’ for the purpose of logistic regression analysis.

### 11.2.1 Satisfaction with health in Transitioned ADF members compared with 2015 Regular ADF members

Table 11.5 and Figure 11.3 show the estimated proportions of self-perceived satisfaction with health among Transitioned ADF members and 2015 Regular ADF members. Transitioned ADF were more likely to report that they were very dissatisfied

with their health (12.9%) compared with 2015 Regular ADF (4.2%). A higher proportion of 2015 Regular ADF were satisfied with their health (39.9%) compared with Transitioned ADF (30.8%). All other response categories were similar for the two groups.

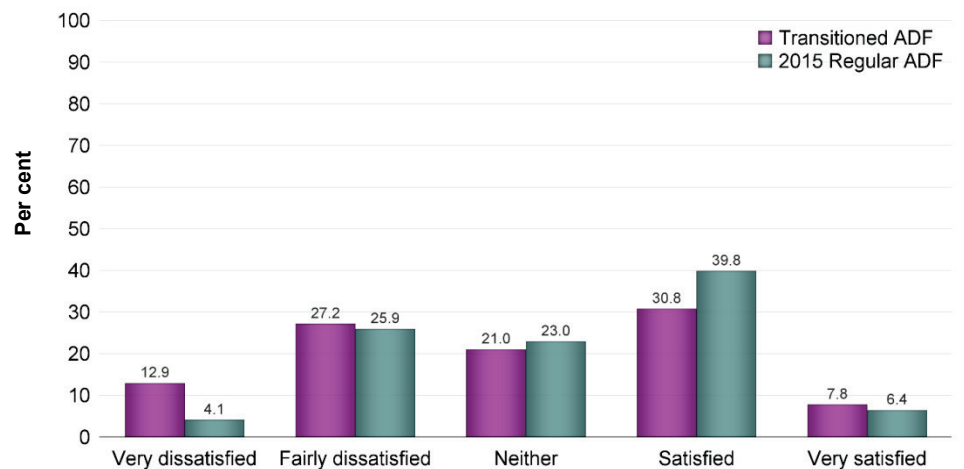
Regression analysis of the collapsed grouping revealed a weak association. Transitioned ADF were significantly more likely to report dissatisfaction with their health (as opposed to satisfaction) compared with 2015 Regular ADF (40.1% vs 30.1%; OR 1.4, 95% CI 1.2, 1.8).

**Table 11.5      Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF and 2015 Regular ADF**

| Satisfaction level        | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|---------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                           | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Very dissatisfied         | 553                              | 3222       | 12.9 (11.8, 14.1) | 387                              | 2177       | 4.2 (3.0, 5.8)    |
| Fairly dissatisfied       | 1204                             | 6775       | 27.2 (25.6, 28.8) | 2027                             | 13,617     | 25.9 (22.8, 29.3) |
| Neither                   | 836                              | 5241       | 21.0 (19.5, 22.6) | 1716                             | 12,052     | 23.0 (19.9, 26.3) |
| Satisfied                 | 1247                             | 7677       | 30.8 (29.1, 32.5) | 3383                             | 20,919     | 39.9 (36.5, 43.3) |
| Very satisfied            | 301                              | 1944       | 7.8 (6.8, 8.9)    | 687                              | 3384       | 6.5 (5.3, 7.8)    |
| <b>Collapsed grouping</b> |                                  |            |                   |                                  |            |                   |
| Dissatisfied              | 1757                             | 9997       | 40.1 (38.4, 41.8) | 2414                             | 15,794     | 30.1 (26.8, 33.5) |
| Neither                   | 836                              | 5241       | 21.0 (19.5, 22.6) | 1716                             | 12,052     | 23.0 (19.9, 26.3) |
| Satisfied                 | 1548                             | 9621       | 38.6 (36.8, 40.4) | 4070                             | 24,303     | 46.3 (42.8, 49.8) |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 424 (weighted) participants (2015 Regular ADF = 351; Transitioned ADF = 73) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 11.3      Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF and 2015 Regular ADF**



### 11.2.2 Self-perceived satisfaction with health in Transitioned ADF, by DVA client status

Table 11.6 shows self-perceived satisfaction with health in Transitioned ADF by DVA client status. DVA clients were more likely to report being very dissatisfied with their health (17.6%) compared with non-DVA clients (7.1%). DVA clients were also less likely to report being very satisfied with their health (4.4%) compared with non-DVA clients (11.2%).

Analysis of the collapsed grouping showed a strong association. Transitioned ADF members who were DVA clients were significantly more likely to report dissatisfaction with their health (as opposed to satisfaction) than non-DVA clients (52.5% vs 27.4%; OR 3.4, 95% CI 2.8, 4.2).

**Table 11.6 Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF, by DVA client status**

| Satisfaction level        | DVA client<br>(n = 10,266) |            |                   | Non-DVA client<br>(n = 11,293) |            |                   |
|---------------------------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|                           | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Satisfaction with health  |                            |            |                   |                                |            |                   |
| Very dissatisfied         | 356                        | 1809       | 17.6 (15.8, 19.6) | 109                            | 798        | 7.1 (5.6, 8.8)    |
| Fairly dissatisfied       | 701                        | 3585       | 34.9 (32.6, 37.4) | 357                            | 2297       | 20.3 (18.1, 22.8) |
| Neither                   | 388                        | 1994       | 19.4 (17.5, 21.5) | 337                            | 2472       | 21.9 (19.5, 24.6) |
| Satisfied                 | 460                        | 2397       | 23.4 (21.2, 25.6) | 644                            | 4416       | 39.1 (36.2, 42.1) |
| Very satisfied            | 87                         | 454        | 4.4 (3.4, 5.7)    | 177                            | 1267       | 11.2 (9.4, 13.3)  |
| <b>Collapsed grouping</b> |                            |            |                   |                                |            |                   |
| Dissatisfied              | 1057                       | 5394       | 52.5 (50.1, 55.0) | 466                            | 3096       | 27.4 (24.9, 30.1) |
| Neither                   | 388                        | 1994       | 19.4 (17.5, 21.5) | 337                            | 2472       | 21.9 (19.5, 24.6) |
| Satisfied                 | 547                        | 2851       | 27.8 (25.5, 30.1) | 821                            | 5683       | 50.3 (47.3, 53.3) |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 11.2.3 Self-perceived satisfaction with health in Transitioned ADF, by transition status

Table 11.7 and Figure 11.4 show the estimated prevalence proportions of self-perceived satisfaction with health in Transitioned ADF by transition status. A larger proportion of Ex-Serving ADF (20.9%) were very dissatisfied with their health compared with Inactive (7.7%) and Active Reservists (5.5%).

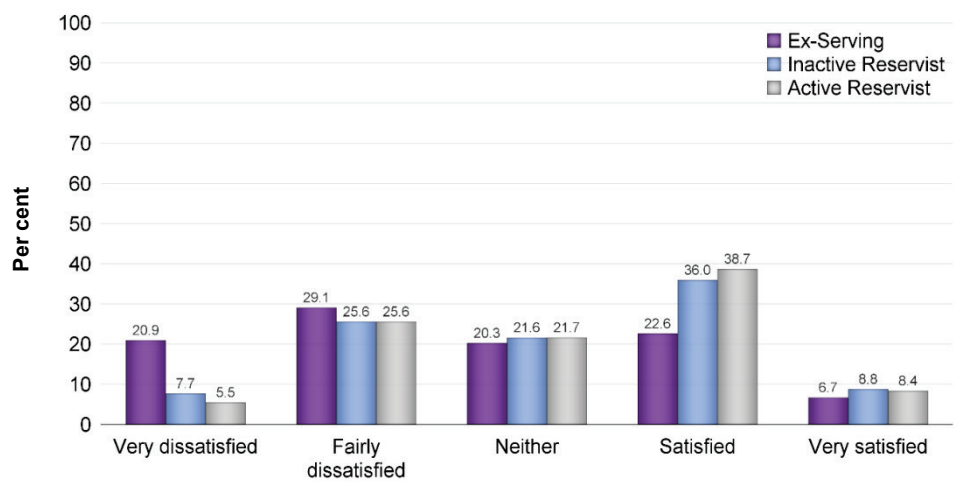
Logistic regression analysis was performed on the collapsed grouping variables. Ex-Serving ADF were significantly more likely to report dissatisfaction with their health (as opposed to satisfaction) when compared with Active Reservists (50.1% vs 31.1%; OR 3.1, 95% CI 2.5, 3.8) and Inactive Reservists (33.3%; OR 2.5, 95% CI 2.0, 3.2) (see Annex B for a detailed description of the strength of the associations and individual odds ratios).

**Table 11.7**      **Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF, by transition status**

| Satisfaction level        | Ex-Serving ADF<br>(n = 10,904) |            |                   | Inactive Reservists<br>(n = 7509) |            |                   | Active Reservists<br>(n = 6401) |            |                   |
|---------------------------|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                           | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Very dissatisfied         | 387                            | 2283       | 20.9 (18.8, 23.2) | 87                                | 578        | 7.7 (6.0, 9.9)    | 78                              | 349        | 5.5 (4.3, 6.9)    |
| Fairly dissatisfied       | 517                            | 3177       | 29.1 (26.7, 31.7) | 330                               | 1924       | 25.6 (22.7, 28.8) | 350                             | 1640       | 25.6 (23.1, 28.4) |
| Neither                   | 291                            | 2208       | 20.3 (17.9, 22.8) | 259                               | 1624       | 21.6 (18.9, 24.7) | 282                             | 1387       | 21.7 (19.2, 24.4) |
| Satisfied                 | 318                            | 2466       | 22.6 (20.2, 25.3) | 405                               | 2700       | 36.0 (32.6, 39.5) | 519                             | 2477       | 38.7 (35.7, 41.8) |
| Very satisfied            | 89                             | 732        | 6.7 (5.3, 8.5)    | 100                               | 658        | 8.8 (6.9, 11.1)   | 111                             | 536        | 8.4 (6.8, 10.2)   |
| <b>Collapsed grouping</b> |                                |            |                   |                                   |            |                   |                                 |            |                   |
| Dissatisfied              | 904                            | 5460       | 50.1 (47.3, 52.9) | 417                               | 2502       | 33.3 (30.1, 36.7) | 428                             | 1990       | 31.1 (28.4, 34.0) |
| Neither                   | 291                            | 2208       | 20.3 (17.9, 22.8) | 259                               | 1624       | 21.6 (18.9, 24.7) | 282                             | 1387       | 21.7 (19.2, 24.4) |
| Satisfied                 | 407                            | 3198       | 29.3 (26.7, 32.2) | 505                               | 3358       | 44.7 (41.2, 48.3) | 630                             | 3013       | 47.1 (44.0, 50.2) |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,904; Active Reservists = 6401; Inactive Reservists = 7509; Unknown = 118). Unknown are not included. A total of 73 (weighted) participants (Ex-Serving ADF = 37; Active Reservists = 11; Inactive Reservists = 25) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 11.4    Self-perceived satisfaction with health in Transitioned ADF, by transition status**



**11.2.4 Self-perceived satisfaction with health in Transitioned ADF, by discharge status**

Table 11.8 shows self-perceived satisfaction with health in Transitioned ADF by discharge status. Those with a medical discharge were more likely to report being very dissatisfied with their health (34.0%) compared with those with another type of discharge (7.5%).

Logistic regression analysis performed on the collapsed grouping variables found that Transitioned ADF with a medical discharge were significantly more likely to report dissatisfaction with their health (as opposed to satisfaction) than non-medically discharged ADF (72.4% vs 31.7%; OR 10.0, 95% CI 7.6, 13.2). This was a strong association.

**Table 11.8** Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF, by discharge status

| Satisfaction level        | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|---------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                           | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Very dissatisfied         | 316                             | 1748       | 34.0 (30.6, 37.6) | 232                   | 1449       | 7.5 (6.4, 8.7)    |
| Fairly dissatisfied       | 333                             | 1972       | 38.4 (34.8, 42.1) | 855                   | 4696       | 24.2 (22.5, 26.0) |
| Neither                   | 136                             | 847        | 16.5 (13.8, 19.6) | 691                   | 4331       | 22.3 (20.6, 24.2) |
| Satisfied                 | 82                              | 493        | 9.6 (7.6, 12.1)   | 1148                  | 7038       | 36.3 (34.2, 38.4) |
| Very satisfied            | 11                              | 64         | 1.3 (0.6, 2.5)    | 287                   | 1846       | 9.5 (8.3, 10.9)   |
| <b>Collapsed grouping</b> |                                 |            |                   |                       |            |                   |
| Dissatisfied              | 649                             | 3720       | 72.4 (68.9, 75.7) | 1087                  | 6145       | 31.7 (29.7, 33.6) |
| Neither                   | 136                             | 847        | 16.5 (13.8, 19.6) | 691                   | 4331       | 22.3 (20.6, 24.2) |
| Satisfied                 | 93                              | 557        | 10.9 (8.7, 13.5)  | 1435                  | 8885       | 45.8 (43.6, 47.9) |

Notes: Denominator – Transitioned ADF cohort. A total of 73 (weighted) participants (medical discharge = 13; other = 53) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

## 11.3 Self-perceived quality of life

Self-perceived quality of life was assessed by a single survey item – ‘How would you rate your quality of life?’ – scored on a five-point scale ranging from ‘very poor’ to ‘very good’. For the purpose of analyses, responses were further collapsed into ‘poor’, ‘neither’ and ‘good’.

### 11.3.1 Self-perceived quality of life in Transitioned ADF members compared with 2015 Regular ADF members

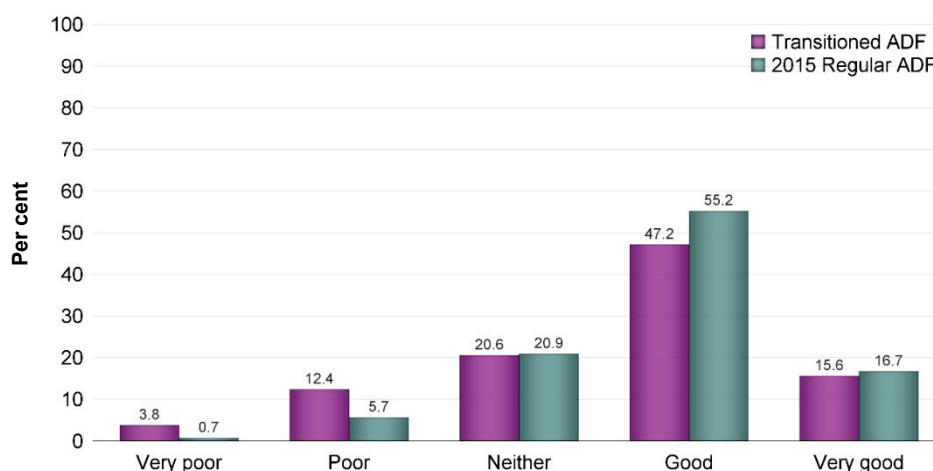
Table 11.9 and Figure 11.5 show the estimated proportions of self-perceived quality of life among Transitioned ADF members and 2015 Regular ADF members. Transitioned ADF were more likely to perceive their quality of life as very poor (3.8%) compared with 2015 Regular ADF (0.7%). A higher proportion of 2015 Regular ADF perceived their quality of life as good (55.2%) compared with the Transitioned ADF (47.2%). All other response categories were similar for the two groups.

Logistic regression analysis of the collapsed grouping showed a moderate association. Transitioned ADF were significantly more likely to report poor self-perceived quality of life (as opposed to good) compared with 2015 Regular ADF (16.2% vs 6.4%; OR 2.6, 95% CI 1.7, 3.9).

**Table 11.9 Self-perceived quality of life in Transitioned ADF and 2015 Regular ADF**

| Quality of life           | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|---------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                           | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Very poor                 | 144                              | 950        | 3.8 (3.2, 4.6)    | 71                               | 367        | 0.7 (0.4, 1.2)    |
| Poor                      | 505                              | 3095       | 12.4 (11.3, 13.6) | 382                              | 2971       | 5.7 (4.0, 8.0)    |
| Neither good nor poor     | 843                              | 5126       | 20.6 (19.1, 22.1) | 1310                             | 10,970     | 20.9 (17.8, 24.4) |
| Good                      | 1956                             | 11,764     | 47.2 (45.4, 49.0) | 4828                             | 28,999     | 55.2 (51.7, 58.7) |
| Very good                 | 690                              | 3896       | 15.6 (14.4, 17.0) | 1600                             | 8786       | 16.7 (14.3, 19.5) |
| <b>Collapsed grouping</b> |                                  |            |                   |                                  |            |                   |
| Poor                      | 649                              | 4045       | 16.2 (15.0, 17.6) | 453                              | 3338       | 6.4 (4.6, 8.7)    |
| Neither                   | 843                              | 5126       | 20.6 (19.1, 22.1) | 1310                             | 10,970     | 20.9 (17.8, 24.4) |
| Good                      | 2646                             | 15,661     | 62.8 (61.1, 64.5) | 6428                             | 37,785     | 72.0 (68.4, 75.3) |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 507 (weighted) participants (2015 Regular ADF = 407; Transitioned ADF = 100) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 11.5 Self-perceived quality of life in Transitioned ADF and 2015 Regular ADF**

### 11.3.2 Self-perceived quality of life in Transitioned ADF, by DVA client status

Table 11.10 shows the estimated proportions for self-perceived quality of life among Transitioned ADF members by DVA client status. DVA clients were more likely to perceive their quality of life as very poor (5.4%) or poor (17.9%) compared with non-DVA clients (very poor, 1.3%; poor, 7.0%). They were also less likely to perceive their quality of life as good (40.1%) or very good (10.4%) compared with non-DVA clients (good, 53.4%; very good, 22.3%).

Regression analysis on the three-group self-perceived quality of life variable showed a strong association among Transitioned ADF, whereby DVA clients were significantly more likely to report poor self-perceived quality of life (as opposed to good) when compared with non-DVA clients (23.3% vs 8.3%; OR 5.0, 95% CI 3.7, 6.6).

**Table 11.10 Self-perceived quality of life in Transitioned ADF, by DVA client status**

| Quality of life           | DVA client<br>(n = 10,266) |            |                   | Non-DVA client<br>(n = 11,293) |            |                   |
|---------------------------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|                           | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Very poor                 | 101                        | 557        | 5.4 (4.4, 6.7)    | 15                             | 145        | 1.3 (0.7, 2.3)    |
| Poor                      | 340                        | 1837       | 17.9 (16.1, 19.9) | 93                             | 786        | 7.0 (5.5, 8.8)    |
| Neither good nor poor     | 505                        | 2656       | 25.9 (23.7, 28.2) | 228                            | 1743       | 15.4 (13.3, 17.8) |
| Good                      | 830                        | 4121       | 40.1 (37.7, 42.6) | 874                            | 6027       | 53.4 (50.4, 56.4) |
| Very good                 | 216                        | 1068       | 10.4 (9.0, 12.1)  | 411                            | 2522       | 22.3 (20.0, 24.9) |
| <b>Collapsed grouping</b> |                            |            |                   |                                |            |                   |
| Poor                      | 441                        | 2394       | 23.3 (21.3, 25.4) | 108                            | 932        | 8.3 (6.6, 10.2)   |
| Neither                   | 505                        | 2656       | 25.9 (23.7, 28.2) | 228                            | 1743       | 15.4 (13.3, 17.8) |
| Good                      | 1046                       | 5189       | 50.5 (48.1, 53.0) | 1285                           | 8549       | 75.7 (72.9, 78.2) |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 11.3.3 Self-perceived quality of life in Transitioned ADF, by transition status

Table 11.11 and Figure 11.6 show the estimated proportions for self-perceived quality of life among Transitioned ADF members by transition status. A larger proportion of Ex-Serving ADF (7.1%) perceived their quality of life as very poor compared with Inactive Reservists (1.1%) and Active Reservists (1.3%). A similar pattern was apparent for the 'poor' category, there being a higher proportion in the Ex-Serving ADF (20.2%) compared with Inactive (7.4%) and Active Reservists (4.7%).

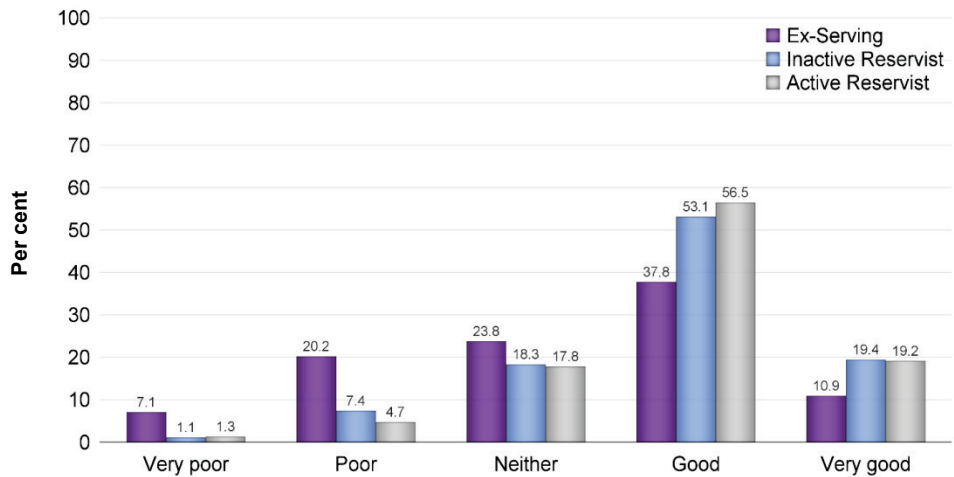
Logistic regression analysis models showed that Ex-Serving ADF were significantly more likely to report poor self-perceived quality of life (as opposed to good) compared with Active Reservists (27.3% vs 6.1%; OR 6.7, 95% CI 4.8, 9.4) and Inactive Reservists (8.5%; OR 4.9, 95% CI 3.6, 6.6). Both were strong associations.

**Table 11.11 Self-perceived quality of life in Transitioned ADF, by transition status**

| Quality of life           | Ex-Serving ADF<br>(n = 10,904) |            |                   | Inactive Reservists<br>(n = 7509) |            |                   | Active Reservists<br>(n = 6401) |            |                   |
|---------------------------|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                           | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Very poor                 | 119                            | 771        | 7.1 (5.8, 8.6)    | 12                                | 82         | 1.1 (0.6, 2.1)    | 12                              | 86         | 1.3 (0.7, 2.6)    |
| Poor                      | 350                            | 2205       | 20.2 (18.1, 22.6) | 90                                | 557        | 7.4 (5.8, 9.5)    | 61                              | 304        | 4.7 (3.6, 6.3)    |
| Neither good nor poor     | 407                            | 2593       | 23.8 (21.4, 26.3) | 211                               | 1377       | 18.3 (15.7, 21.3) | 221                             | 1142       | 17.8 (15.5, 20.5) |
| Good                      | 570                            | 4118       | 37.8 (35.0, 40.7) | 620                               | 3990       | 53.1 (49.6, 56.7) | 759                             | 3615       | 56.5 (53.4, 59.5) |
| Very good                 | 158                            | 1188       | 10.9 (9.1, 13.0)  | 247                               | 1459       | 19.4 (16.8, 22.4) | 283                             | 1227       | 19.2 (17.0, 21.5) |
| <b>Collapsed grouping</b> |                                |            |                   |                                   |            |                   |                                 |            |                   |
| Poor                      | 469                            | 2975       | 27.3 (24.9, 29.8) | 102                               | 639        | 8.5 (6.8, 10.7)   | 73                              | 389        | 6.1 (4.7, 7.9)    |
| Neither                   | 407                            | 2593       | 23.8 (21.4, 26.3) | 211                               | 1377       | 18.3 (15.7, 21.3) | 221                             | 1142       | 17.8 (15.5, 20.5) |
| Good                      | 728                            | 5306       | 48.7 (45.8, 51.5) | 867                               | 5450       | 72.6 (69.3, 75.7) | 1042                            | 4842       | 75.6 (72.8, 78.3) |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,904; Active Reservists = 6401; Inactive Reservists = 7509; Unknown = 118). Unknown are not included. A total of 100 (weighted) participants (Ex-Serving ADF = 29; Active Reservists = 28; Inactive Reservists = 43) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 11.6 Self-perceived quality of life in Transitioned ADF, by transition status**



**11.3.4 Self-perceived quality of life in Transitioned ADF, by discharge status**

Table 11.12 shows the estimated proportions for self-perceived quality of life in Transitioned ADF members by discharge status. Transitioned ADF who were medically discharged were more likely to perceive their quality of life as very poor (13.1%) or poor (31.5%) compared with those with another type of discharge (very poor, 1.4%; poor, 7.4%). They were also more likely to respond ‘neither good nor poor’ (27.8%) compared with non-medically discharged members (18.7%). Medically discharged Transitioned ADF were much less likely to perceive their quality of life as good (24.6%) or very good (2.8%) than those not medically discharged (good, 53.2%; very good, 19.0%).

When quality of life was collapsed into three groups logistic regression analysis showed that among Transitioned ADF members those with a medical discharge were significantly more likely to report low self-perceived quality of life than non-medically discharged members (44.6% vs 8.7%; OR 13.2, 95% CI 10.2, 17.1). This was a strong association

**Table 11.12 Self-perceived quality of life in Transitioned ADF, by discharge status**

| Quality of life           | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|---------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                           | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Very poor                 | 106                             | 671        | 13.1 (10.6, 15.9) | 37                    | 268        | 1.4 (0.9, 2.0)    |
| Poor                      | 279                             | 1620       | 31.5 (28.1, 35.1) | 219                   | 1429       | 7.4 (6.3, 8.6)    |
| Neither good nor poor     | 258                             | 1430       | 27.8 (24.6, 31.3) | 577                   | 3622       | 18.7 (17.0, 20.4) |
| Good                      | 209                             | 1262       | 24.6 (21.4, 28.0) | 1721                  | 10,327     | 53.2 (51.1, 55.3) |
| Very good                 | 26                              | 144        | 2.8 (1.8, 4.3)    | 655                   | 3683       | 19.0 (17.4, 20.7) |
| <b>Collapsed grouping</b> |                                 |            |                   |                       |            |                   |
| Poor                      | 385                             | 2290       | 44.6 (40.9, 48.4) | 256                   | 1697       | 8.7 (7.6, 10.1)   |
| Neither                   | 258                             | 1430       | 27.8 (24.6, 31.3) | 577                   | 3622       | 18.7 (17.0, 20.4) |
| Good                      | 235                             | 1405       | 27.4 (24.1, 30.9) | 2376                  | 14,010     | 72.2 (70.2, 74.1) |

Notes: Denominator – Transitioned ADF cohort. A total of 100 (weighted) participants (medical discharge = 12; other = 84) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

## 11.4 Satisfaction with life in the preceding year

Self-perceived satisfaction with life in the preceding year was assessed by a single item on a seven-point scale. Respondents were asked, ‘How do you feel about your life as a whole, taking into account what has happened last year and what you expect to happen in the future?’. Scaled responses ranged from ‘delighted’ to ‘terrible’. For the purpose of analysis, the seven-point scale was also collapsed into dissatisfied (mixed–terrible) and satisfied (mostly satisfied–delighted).

### 11.4.1 Self-perceived satisfaction with life in the preceding year in Transitioned ADF compared with 2015 Regular ADF

Table 11.13 and Figure 11.7 show the estimated prevalence of self-perceived satisfaction with life during the preceding year in Transitioned ADF members and 2015 Regular ADF members. Transitioned ADF were more likely to report their life was unhappy (7.3%) or terrible (2.5%) compared with 2015 Regular ADF (unhappy, 3.4%; terrible, 0.3%).

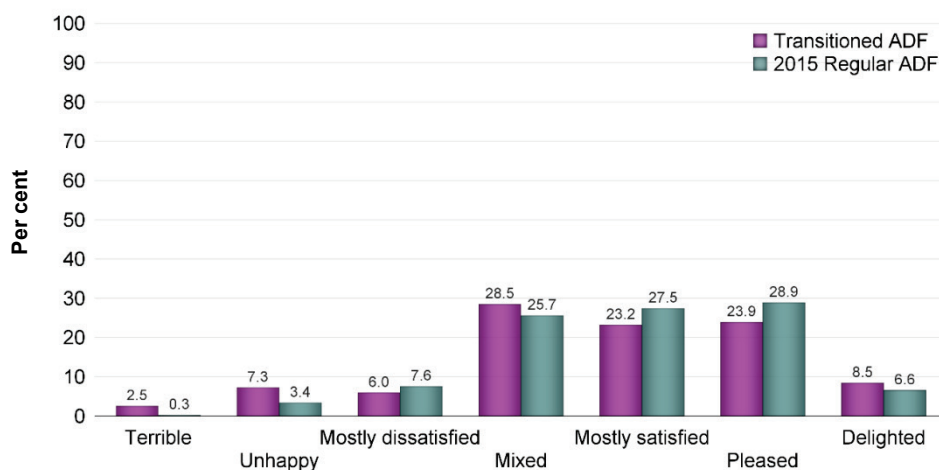
Logistic regression analyses on the collapsed grouping showed no differences between the Transitioned ADF and 2015 Regular ADF.

**Table 11.13 Self-perceived satisfaction with life in the preceding year in Transitioned ADF and 2015 Regular ADF**

| Satisfaction level           | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|------------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                              | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Delighted                    | 297                              | 2108       | 8.5 (7.3, 9.7)    | 632                              | 3458       | 6.6 (5.0, 8.6)    |
| Pleased                      | 905                              | 5963       | 23.9 (22.2, 25.7) | 2373                             | 15,188     | 28.9 (25.5, 32.7) |
| Mostly satisfied             | 888                              | 5792       | 23.2 (21.6, 25.0) | 2168                             | 14,419     | 27.5 (24.4, 30.8) |
| Mixed                        | 951                              | 7105       | 28.5 (26.6, 30.5) | 1616                             | 13,467     | 25.7 (22.0, 29.7) |
| Mostly dissatisfied          | 196                              | 1492       | 6.0 (5.1, 7.1)    | 290                              | 3986       | 7.6 (5.0, 11.3)   |
| Unhappy                      | 225                              | 1812       | 7.3 (6.2, 8.5)    | 219                              | 1792       | 3.4 (2.3, 5.0)    |
| Terrible                     | 79                               | 633        | 2.5 (2.0, 3.3)    | 44                               | 148        | 0.3 (0.2, 0.4)    |
| <b>Dichotomised grouping</b> |                                  |            |                   |                                  |            |                   |
| Dissatisfied                 | 1451                             | 11,043     | 44.3 (42.3, 46.3) | 2169                             | 19,392     | 36.9 (32.9, 41.2) |
| Satisfied                    | 2090                             | 13,862     | 55.6 (53.6, 57.6) | 5173                             | 33,066     | 63.0 (58.8, 67.0) |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 69 (weighted) participants (2015 Regular ADF = 42; Transitioned ADF = 27) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 11.7 Self-perceived satisfaction with life in the preceding year in Transitioned ADF and 2015 Regular ADF**



#### 11.4.2 Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by DVA client status

Table 11.14 shows self-perceived satisfaction with life in the preceding year in Transitioned ADF by DVA client status. DVA clients were more likely to report that they were mostly dissatisfied (8.2%) and unhappy (9.5%) compared with non-DVA clients (mostly dissatisfied, 3.8%; unhappy, 4.1%). Non-DVA clients were more likely to report that they were delighted (11.7%) than DVA clients (6.1%). Non-DVA clients were also more likely to perceive that they were pleased (27.7%) compared with DVA clients (19.8%).

When logistic regression analysis was performed on the collapsed grouping variables, DVA clients were significantly more likely to report being dissatisfied with life (as opposed to satisfied) when compared with non-DVA clients among the Transitioned ADF (51.5% vs 37%; OR 2.2, 95% CI 1.8, 2.7). This was a moderate association.

**Table 11.14 Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by DVA client status**

| Satisfaction level           | DVA client<br>(n = 10,585) |            |                   | Non-DVA client<br>(n = 11,248) |            |                   |
|------------------------------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|                              | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Delighted                    | 105                        | 647        | 6.1 (4.8, 7.7)    | 169                            | 1318       | 11.7 (9.7, 14.1)  |
| Pleased                      | 383                        | 2100       | 19.8 (17.8, 22.1) | 411                            | 3113       | 27.7 (24.7, 30.8) |
| Mostly satisfied             | 426                        | 2386       | 22.5 (20.3, 24.9) | 366                            | 2655       | 23.6 (20.9, 26.5) |
| Mixed                        | 515                        | 3242       | 30.6 (28.0, 33.4) | 325                            | 3056       | 27.2 (24.2, 30.4) |
| Mostly dissatisfied          | 124                        | 869        | 8.2 (6.7, 10.1)   | 51                             | 429        | 3.8 (2.7, 5.3)    |
| Unhappy                      | 151                        | 1000       | 9.5 (7.9, 11.3)   | 41                             | 464        | 4.1 (2.9, 5.9)    |
| Terrible                     | 55                         | 341        | 3.2 (2.4, 4.3)    | 15                             | 208        | 1.8 (1.0, 3.3)    |
| <b>Dichotomised grouping</b> |                            |            |                   |                                |            |                   |
| Dissatisfied                 | 845                        | 5452       | 51.5 (48.8, 54.3) | 432                            | 4158       | 37.0 (33.7, 40.4) |
| Satisfied                    | 914                        | 5133       | 48.5 (45.8, 51.3) | 946                            | 7086       | 63.0 (59.6, 66.3) |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

#### 11.4.3 Satisfaction with life in the preceding year in Transitioned ADF, by transition status

Table 11.15 and Figure 11.8 show self-perceived satisfaction with life in the preceding year in Transitioned ADF by transition status. Overall, Ex-Serving ADF members were less satisfied with life than both Inactive and Active Reservists. Larger proportions of Ex-Serving ADF reported being mostly dissatisfied (9.1%), unhappy (11.6%) or terrible (4.1%) compared with Inactive Reservists (mostly dissatisfied, 4.9%; unhappy, 4.7%; terrible, 1.8%) and Active Reservists (mostly dissatisfied, 2.0%; unhappy, 3.0%; terrible, 0.6%).

Logistic regression analysis performed on the dichotomised grouping showed that Ex-Serving ADF were significantly more likely to report dissatisfaction with life (as opposed to satisfaction) than Active Reservists (58.8% vs 31.1%; OR 2.8, 95% CI 2.2, 3.5) and Inactive Reservists (34.9%; OR 2.6, 95% CI 2.1, 3.3). Both were moderate associations.

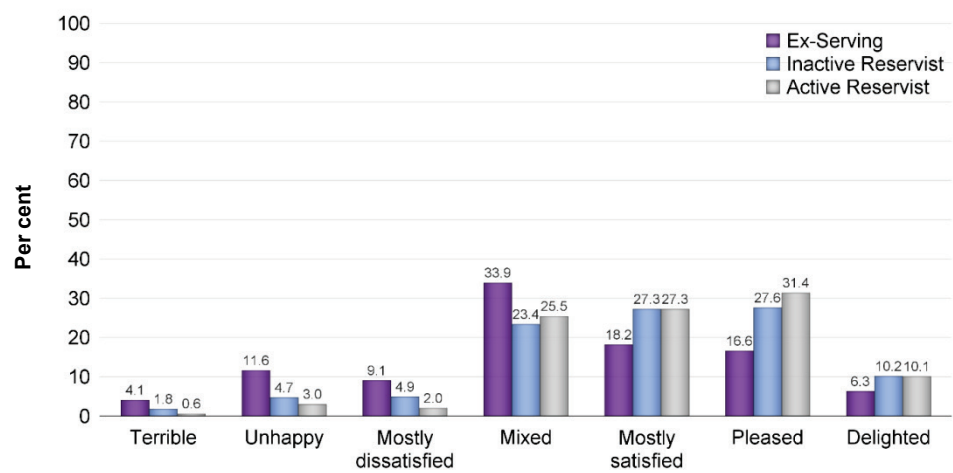
**Table 11.15 Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by transition status**

| Satisfaction level           | Ex-Serving ADF<br>(n = 10,797) |            |                   | Inactive Reservists<br>(n = 7673) |            |                   | Active Reservists<br>(n = 6362) |            |                   |
|------------------------------|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                              | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Delighted                    | 71                             | 680        | 6.3 (4.7, 8.3)    | 103                               | 780        | 10.2 (8.0, 12.9)  | 122                             | 643        | 10.1 (8.3, 12.2)  |
| Pleased                      | 215                            | 1791       | 16.6 (14.2, 19.3) | 297                               | 2120       | 27.6 (24.2, 31.3) | 389                             | 1999       | 31.4 (28.4, 34.6) |
| Mostly satisfied             | 272                            | 1963       | 18.2 (15.8, 20.8) | 284                               | 2091       | 27.3 (23.8, 31.0) | 331                             | 1734       | 27.3 (24.4, 30.3) |
| Mixed                        | 448                            | 3664       | 33.9 (30.8, 37.2) | 231                               | 1797       | 23.4 (20.1, 27.1) | 268                             | 1620       | 25.5 (22.4, 28.8) |
| Mostly dissatisfied          | 122                            | 983        | 9.1 (7.4, 11.2)   | 46                                | 379        | 4.9 (3.4, 7.0)    | 28                              | 130        | 2.0 (1.4, 3.0)    |
| Unhappy                      | 154                            | 1257       | 11.6 (9.7, 13.9)  | 42                                | 363        | 4.7 (3.2, 6.9)    | 29                              | 192        | 3.0 (1.9, 4.7)    |
| Terrible                     | 63                             | 441        | 4.1 (3.1, 5.4)    | 11                                | 139        | 1.8 (0.9, 3.6)    | a                               | ..         | ..                |
| <b>Dichotomised grouping</b> |                                |            |                   |                                   |            |                   |                                 |            |                   |
| Dissatisfied                 | 787                            | 6345       | 58.8 (55.5, 62.0) | 330                               | 2678       | 34.9 (31.1, 38.9) | 329                             | 1981       | 31.1 (27.9, 34.6) |
| Satisfied                    | 558                            | 4434       | 41.1 (37.9, 44.4) | 684                               | 4991       | 65.1 (61.1, 68.8) | 842                             | 4376       | 68.8 (65.4, 72.0) |

a. Cell size too small to be reported.

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,797; Active Reservist = 6362; Inactive Reservists = 7673; Unknown = 100). Unknown are not included. A total of 27 (weighted) participants (Ex-Serving ADF = 18; Active Reservists = 5; Inactive Reservists = 4) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 11.8** Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by transition status



**11.4.4 Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by discharge status**

Table 11.16 shows the estimated prevalence of self-perceived life satisfaction in the preceding year in Transitioned ADF by discharge status. Those with a medical discharge were more likely to state they perceived mixed feelings of satisfaction (36.2%) when compared with those with another type of discharge (26.5%). This was also the case for mostly dissatisfied (13.1%; 4.2%), unhappy (18.1%; 4.4%) and terrible (6.8%; 1.5%). Those with another type of discharge were more likely to perceive they were delighted (9.8%), pleased (28.0%) or mostly satisfied (25.5%) than those with a medical discharge (delighted, 2.4%; pleased, 8.2%; mostly satisfied, 14.9%).

Logistic regression analysis performed on the collapsed groupings showed a strong association. Medically discharged ADF were significantly more likely to report dissatisfaction with life (as opposed to satisfaction) when compared with those with another type of discharge (74.2% vs 36.6%; OR 4.8, 95% CI 3.8, 6.0).

**Table 11.16 Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by discharge status**

| Satisfaction level           | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|------------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                              | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Delighted                    | 17                              | 124        | 2.4 (1.4, 4.3)    | 274                   | 1919       | 9.8 (8.5, 11.4)   |
| Pleased                      | 63                              | 417        | 8.2 (6.1, 10.9)   | 832                   | 5460       | 28.0 (25.9, 30.2) |
| Mostly satisfied             | 118                             | 760        | 14.9 (12.2, 18.0) | 760                   | 4980       | 25.5 (23.5, 27.6) |
| Mixed                        | 281                             | 1847       | 36.2 (32.2, 40.3) | 664                   | 5171       | 26.5 (24.4, 28.8) |
| Mostly dissatisfied          | 93                              | 667        | 13.1 (10.4, 16.3) | 102                   | 820        | 4.2 (3.3, 5.4)    |
| Unhappy                      | 121                             | 926        | 18.1 (15.0, 21.8) | 102                   | 859        | 4.4 (3.5, 5.6)    |
| Terrible                     | 49                              | 347        | 6.8 (4.9, 9.3)    | 30                    | 287        | 1.5 (1.0, 2.3)    |
| <b>Dichotomised grouping</b> |                                 |            |                   |                       |            |                   |
| Dissatisfied                 | 544                             | 3787       | 74.2 (70.3, 77.7) | 898                   | 7137       | 36.6 (34.3, 39.0) |
| Satisfied                    | 198                             | 1301       | 25.5 (22.0, 29.3) | 1866                  | 12,358     | 63.4 (61.0, 65.7) |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

## 11.5 Self-reported physical health in the preceding year

Self-reported physical health in the preceding year was assessed by a single item on a five-point scale. Respondents were asked to state how their physical health had been in the preceding year, and responses ranged from ‘very poor’ to ‘excellent’. For the purpose of logistic regression analysis the five-point scale was dichotomised into ‘poor–fair’ and ‘good–excellent’.

### 11.5.1 Self-reported physical health in the preceding year in Transitioned ADF members compared with 2015 Regular ADF members

Table 11.17 and Figure 11.9 show self-reported physical health in the preceding year in Transitioned ADF members and 2015 Regular ADF members. Transitioned ADF were more likely to report their physical health as either very poor (4.9%) or poor (14.8%) compared with the 2015 Regular ADF (1.5% and 8.5% respectively). A higher proportion of 2015 Regular ADF reported their physical health as good (49.1%) compared with Transitioned ADF (38.7%). All other response categories were similar for the two groups.

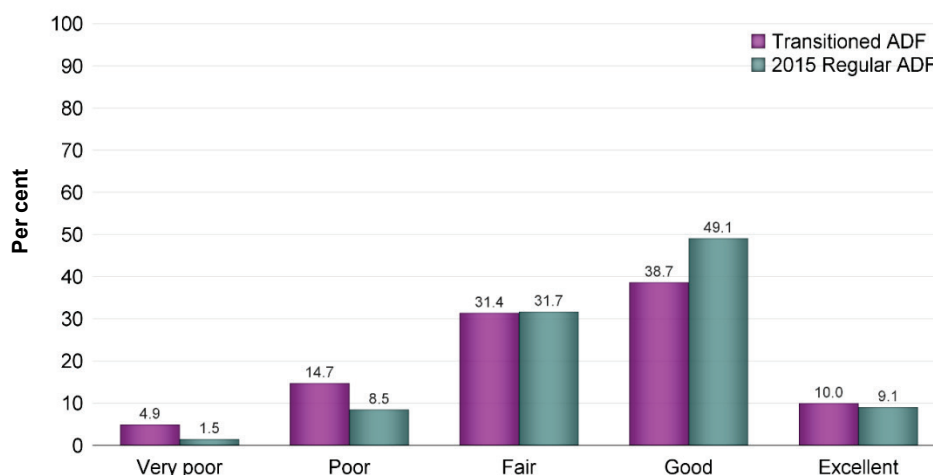
When logistic regression analysis was performed on the dichotomised variable, a weak association was found. The odds of reporting physical health as poor–fair as opposed to good–excellent were significantly higher among the Transitioned ADF compared with the 2015 Regular ADF (51.1% vs 41.7%; OR 1.3, 95% CI 1.1, 1.7).

**Table 11.17 Self-reported physical health in the preceding year in Transitioned ADF and 2015 Regular ADF**

| Physical level               | Transitioned ADF<br>(n = 24,932) |            |                   | 2015 Regular ADF<br>(n = 52,500) |            |                   |
|------------------------------|----------------------------------|------------|-------------------|----------------------------------|------------|-------------------|
|                              | n                                | Weighted n | % (95% CI)        | n                                | Weighted n | % (95% CI)        |
| Very poor                    | 155                              | 1231       | 4.9 (4.1, 5.9)    | 120                              | 791        | 1.5 (0.9, 2.4)    |
| Poor                         | 485                              | 3677       | 14.8 (13.3, 16.3) | 558                              | 4462       | 8.5 (6.3, 11.4)   |
| Fair                         | 1102                             | 7837       | 31.4 (29.5, 33.5) | 2076                             | 16,655     | 31.7 (27.7, 36.0) |
| Good                         | 1417                             | 9643       | 38.7 (36.7, 40.7) | 3632                             | 25,798     | 49.1 (44.9, 53.4) |
| Excellent                    | 303                              | 2497       | 10.0 (8.7, 11.5)  | 852                              | 4754       | 9.1 (7.9, 10.4)   |
| <b>Dichotomised grouping</b> |                                  |            |                   |                                  |            |                   |
| Poor–fair                    | 1742                             | 12,745     | 51.1 (49.0, 53.2) | 2754                             | 21,907     | 41.7 (37.6, 46.0) |
| Good–excellent               | 1720                             | 12,141     | 48.7 (46.6, 50.8) | 4484                             | 30,553     | 58.2 (53.9, 62.4) |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 87 (weighted) participants (2015 Regular ADF = 40; Transitioned ADF = 47) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 11.9 Self-reported physical health in the preceding year in Transitioned ADF and 2015 Regular ADF**



### 11.5.2 Self-reported physical health in the preceding year in Transitioned ADF, by DVA client status

Table 11.18 shows details of self-reported physical health in the preceding year in Transitioned ADF members by DVA client status. DVA clients were more likely to report their physical health as very poor (6.7%) than non-DVA clients (2.4%). They were also more likely to report their health as poor (20.3%) or fair (36.0%) compared with non-DVA clients (9.3% and 27.1% respectively). Similarly, non-DVA clients were more likely to report good health (45.2%) than were DVA clients (31.9%). Finally, more non-DVA clients (16.0%) reported excellent health than did DVA clients (4.8%).

Logistic regression analysis of the two collapsed groups showed that DVA clients were significantly more likely to report poor–fair physical health (as opposed to good–excellent) than non-DVA clients (63.0% vs 38.8%; OR 2.9, 95% CI 2.4, 3.5). This was a moderate association.

**Table 11.18 Estimated prevalence of self-reported physical health in the preceding year in Transitioned ADF, by DVA client status**

| Self-reported physical health | DVA client<br>(n = 10,615) |            |                   | Non-DVA client<br>(n = 11,275) |            |                   |
|-------------------------------|----------------------------|------------|-------------------|--------------------------------|------------|-------------------|
|                               | n                          | Weighted n | % (95% CI)        | n                              | Weighted n | % (95% CI)        |
| Very poor                     | 104                        | 706        | 6.7 (5.4, 8.2)    | 25                             | 276        | 2.4 (1.5, 3.9)    |
| Poor                          | 326                        | 2152       | 20.3 (18.0, 22.7) | 103                            | 1043       | 9.3 (7.3, 11.6)   |
| Fair                          | 625                        | 3824       | 36.0 (33.3, 38.8) | 362                            | 3050       | 27.1 (24.0, 30.3) |
| Good                          | 589                        | 3387       | 31.9 (29.4, 34.6) | 656                            | 5099       | 45.2 (41.8, 48.7) |
| Excellent                     | 78                         | 504        | 4.8 (3.6, 6.2)    | 202                            | 1808       | 16.0 (13.6, 18.9) |
| <b>Dichotomised grouping</b>  |                            |            |                   |                                |            |                   |
| Poor–fair                     | 1055                       | 6682       | 63.0 (60.2, 65.6) | 490                            | 4369       | 38.8 (35.4, 42.2) |
| Good–excellent                | 667                        | 3891       | 36.7 (34.0, 39.4) | 858                            | 6907       | 61.3 (57.8, 64.6) |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 11.5.3 Self-reported physical health in the preceding year in Transitioned ADF, by transition status

Table 11.19 and Figure 11.10 show self-reported physical health in the preceding year among Transitioned ADF members by transition status. Overall, Ex-Serving ADF members reported poorer physical health than both Inactive Reservists and Active Reservists. Larger proportions of Ex-Serving ADF reported very poor (9.1%) or poor (21.2%) physical health compared with Inactive Reservists (very poor, 2.5%; poor, 11.6%) and Active Reservists (very poor, 0.8%; poor, 7.8%).

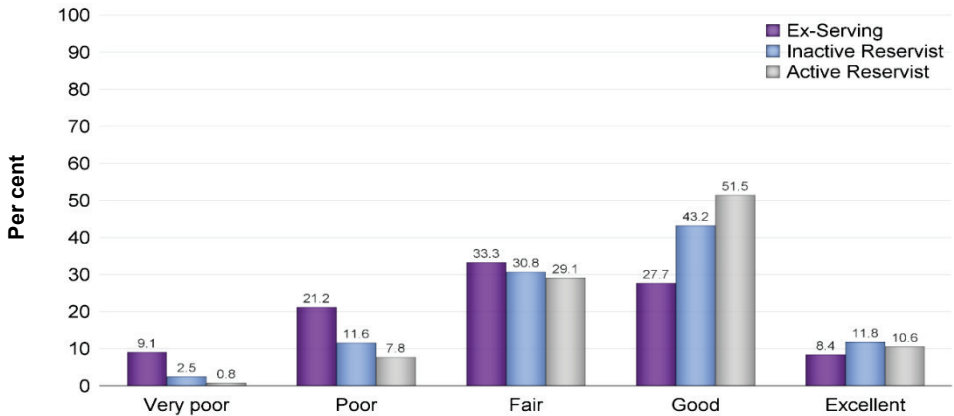
Logistic regression analysis performed on the dichotomised groupings showed that Ex-Serving ADF were significantly more likely to report poor–fair physical health (as opposed to good–excellent) than Active Reservists (63.6% vs 37.7%; OR 2.9, 95% CI 2.3, 3.6) and Inactive Reservists (44.9%; OR 2.3, 95% CI 1.8, 2.9).

**Table 11.19 Estimated prevalence of self-reported physical health in Transitioned ADF, by transition status**

| Self-perceived physical health | Ex-Serving ADF<br>(n = 10,743) |            |                   | Inactive Reservists<br>(n = 7709) |            |                   | Active Reservists<br>(n = 6390) |            |                   |
|--------------------------------|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|                                | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Very poor                      | 128                            | 973        | 9.1 (7.5, 11.0)   | 18                                | 192        | 2.5 (1.4, 4.4)    | 8                               | 51         | 0.8 (0.4, 1.8)    |
| Poor                           | 300                            | 2282       | 21.2 (18.7, 24.0) | 103                               | 895        | 11.6 (9.1, 14.6)  | 81                              | 497        | 7.8 (6.0, 10.0)   |
| Fair                           | 450                            | 3577       | 33.3 (30.2, 36.6) | 317                               | 2372       | 30.8 (27.1, 34.7) | 331                             | 1861       | 29.1 (26.1, 32.4) |
| Good                           | 349                            | 2974       | 27.7 (24.7, 30.9) | 447                               | 3333       | 43.2 (39.2, 47.4) | 615                             | 3291       | 51.5 (48.0, 55.0) |
| Excellent                      | 82                             | 907        | 8.4 (6.6, 10.8)   | 103                               | 912        | 11.8 (9.3, 14.9)  | 118                             | 678        | 10.6 (8.6, 13.1)  |
| <b>Dichotomised grouping</b>   |                                |            |                   |                                   |            |                   |                                 |            |                   |
| Poor–fair                      | 878                            | 6833       | 63.6 (60.3, 66.8) | 438                               | 3459       | 44.9 (40.8, 49.0) | 420                             | 2408       | 37.7 (34.4, 41.1) |
| Good–excellent                 | 431                            | 3881       | 36.1 (32.9, 39.5) | 550                               | 4245       | 55.1 (50.9, 59.1) | 733                             | 3969       | 62.1 (58.7, 65.4) |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included. A total of 47 (weighted) participants (Ex-Serving ADF = 29; Active Reservists = 14; Inactive Reservists = 4) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 11.10** Estimated prevalence of self-reported physical health in the preceding year in Transitioned ADF, by transition status



**11.5.4 Self-reported physical health in the preceding year in Transitioned ADF, by discharge status**

Table 11.20 shows self-reported physical health in the preceding year among Transitioned ADF members by discharge status. Transitioned ADF with a medical discharge were more likely to report their physical health as very poor (16.2%) or poor (32.1%) compared with those with another type of discharge (2.1% and 10.3% respectively). Conversely, Transitioned ADF with another type of discharge were more likely to indicate good (44.6%) or excellent (12.0%) health compared with those with a medical discharge (16.0% and 1.5%, respectively).

Logistic regression analysis performed on the collapsed grouping variable showed that medically discharged Transitioned ADF members were significantly more likely to report poor–fair physical health (as opposed to good–excellent) than non-medically discharged members (82.2% vs 43.2%; OR 4.8, 95% CI 3.8, 6.0). This was a strong association.

**Table 11.20 Estimated prevalence of self-reported physical health in the preceding year in Transitioned ADF, by discharge status**

| Self-reported physical health | Medical discharge<br>(n = 5138) |            |                   | Other<br>(n = 19,413) |            |                   |
|-------------------------------|---------------------------------|------------|-------------------|-----------------------|------------|-------------------|
|                               | n                               | Weighted n | % (95% CI)        | n                     | Weighted n | % (95% CI)        |
| Very poor                     | 110                             | 826        | 16.2 (13.2, 19.6) | 45                    | 405        | 2.1 (1.4, 3.0)    |
| Poor                          | 225                             | 1640       | 32.1 (28.1, 36.3) | 258                   | 2019       | 10.3 (8.9, 12.0)  |
| Fair                          | 265                             | 1740       | 34.0 (30.1, 38.2) | 829                   | 6011       | 30.8 (28.6, 33.1) |
| Good                          | 110                             | 819        | 16.0 (13.0, 19.6) | 1288                  | 8710       | 44.6 (42.2, 47.1) |
| Excellent                     | 12                              | 76         | 1.5 (0.8, 2.8)    | 287                   | 2342       | 12.0 (10.4, 13.8) |
| <b>Dichotomised grouping</b>  |                                 |            |                   |                       |            |                   |
| Poor–fair                     | 600                             | 4206       | 82.2 (78.6, 85.4) | 1132                  | 8435       | 43.2 (40.8, 45.7) |
| Good–excellent                | 122                             | 895        | 17.5 (14.4, 21.1) | 1575                  | 11,051     | 56.6 (54.2, 59.1) |

Notes: Denominator – Transitioned ADF cohort. A total of 46 (weighted) participants (medical discharge = 16; other = 30) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

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## 12 Use of health services

### Transitioned ADF members compared with 2015 Regular ADF members

- A total of 87.1% of Transitioned ADF members reported visiting any health service in the preceding 12 months compared with 90.7% of 2015 Regular ADF members. This difference persisted after controlling for sex, age, rank and Service.
- Transitioned ADF were significantly less likely to report seeing a dentist or dental professional, a dietician/nutritionist or a specialist doctor in the preceding 12 months compared with 2015 Regular ADF and were significantly more likely to have seen a chiropractor, diabetes educator or osteopath.
- Transitioned ADF members were significantly less likely to have seen a GP or specialist doctor in the preceding two weeks compared with 2015 Regular ADF members.
- For both Transitioned ADF and 2015 Regular ADF the most commonly consulted health professionals or services in the preceding 12 months were GPs (78.9% and 72.4% respectively), dentists or dental professionals (41.6% and 70.2%) and specialist doctors (38% and 47.4%).

### Among Transitioned ADF members

- Compared with non-DVA clients, DVA clients were significantly more likely to report seeing a GP, psychologist, specialist doctor, alcohol or drug worker, audiologist or dietician/nutritionist in the preceding 12 months.
- DVA clients were significantly more likely to report seeing a GP or specialist doctor in the preceding two weeks compared with Transitioned ADF members who were non-DVA clients.
- The proportions of Ex-Serving ADF (88.4%), Active Reservists (88.2%) and Inactive Reservists (84.0%) who reported visiting any health service in the preceding 12 months were similar.
- Overall, Ex-Serving ADF were more likely than both Inactive and Active Reservists to have reported receiving services from most types of health professionals in the preceding 12 months. Odds ratios varied in strength, but the strongest between-group differences were observed for psychologists and alcohol or drug workers. That is, Ex-Serving ADF were significantly more likely to report seeing these types of health professionals compared with both Active and Inactive Reservists.
- Ex-Serving ADF were significantly more likely than Active Reservists and Inactive Reservists to report seeing a GP or specialist doctor in the preceding two weeks.

- Compared with Transitioned ADF who were not medically discharged, Transitioned ADF who were discharged on medical grounds were significantly more likely to have reported seeing the following health professionals in the preceding 12 months: alcohol or drug worker, diabetes educator, dietician/nutritionist, GP, physiotherapist/hydrotherapist, psychologist, social worker/welfare officer, or specialist doctor.
- Transitioned ADF who were medically discharged were significantly more likely to have reported seeing a GP or specialist doctor in the preceding two weeks compared with Transitioned ADF members who were not medically discharged.

Refer to the glossary for definitions of key terms used in this section.

This chapter reports on use of health services among Transitioned ADF members and 2015 Regular ADF members. In addition to comparing the Transitioned ADF and the 2015 Regular ADF, results are reported for Transitional ADF according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge). Logistic regression models were adjusted for sex, age, rank and Service.

To assess health service use, respondents were asked about whether or not they had visited any of a number of health professionals or services in the preceding 12 months, excluding any time spent in hospital. Acknowledging the range of potential services and service providers that both Transitioned ADF and 2015 Regular ADF members might access, DVA-specific health services and programs were not the primary focus of this study and so were not specifically assessed. The following health professionals and services were examined:

- outpatients section of a hospital
- casualty of emergency ward
- day clinic for minor surgery or diagnostic tests (excluding x-ray)
- general practitioner
- specialist doctor
- dentist or dental professional
- accredited counsellor
- alcohol or drug worker
- psychologist
- social worker/welfare officer
- physiotherapist/hydrotherapist
- chiropractor
- osteopath

- diabetes educator
- dietician/nutritionist
- naturopath
- audiologist
- other.

Additionally, respondents were asked whether or not they had consulted a general practitioner or specialist doctor in the preceding two weeks and, if so, how many times this had happened.

## **12.1 Consultations with health professionals in the preceding 12 months**

### **12.1.1 Health professional consultations in the preceding 12 months in Transitioned ADF members compared with 2015 Regular ADF members**

Table 12.1 and Figures 12.1 and 12.2 show the estimated proportions of Transitioned ADF members and 2015 Regular ADF members who reported consulting health professionals or services in the preceding 12 months by type of profession or service. The most commonly consulted professionals or services overall were GPs, dentists or dental professionals, and specialist doctors. Analysis revealed a large number of significant between-group differences: only the strongest are presented here.

A total of 87.1% of Transitioned ADF members had visited a health service in the preceding 12 months compared with 90.7% of 2015 Regular ADF members. This difference remained significant after controlling for sex, age, rank and Service (OR 0.6, 95% CI 0.4, 0.8). Transitioned ADF (41.6%) were also significantly less likely to report seeing a dentist or dental professional than 2015 Regular ADF (70.2%; OR 0.3, 95% CI 0.2, 0.3), significantly less likely to report seeing a dietician/nutritionist (4.1% vs 6.9%; OR 0.5, 95% CI 0.4, 0.8) and significantly less likely to have seen a specialist doctor (38.0% vs 47.4%; OR 0.6, 95% CI 0.5, 0.8).

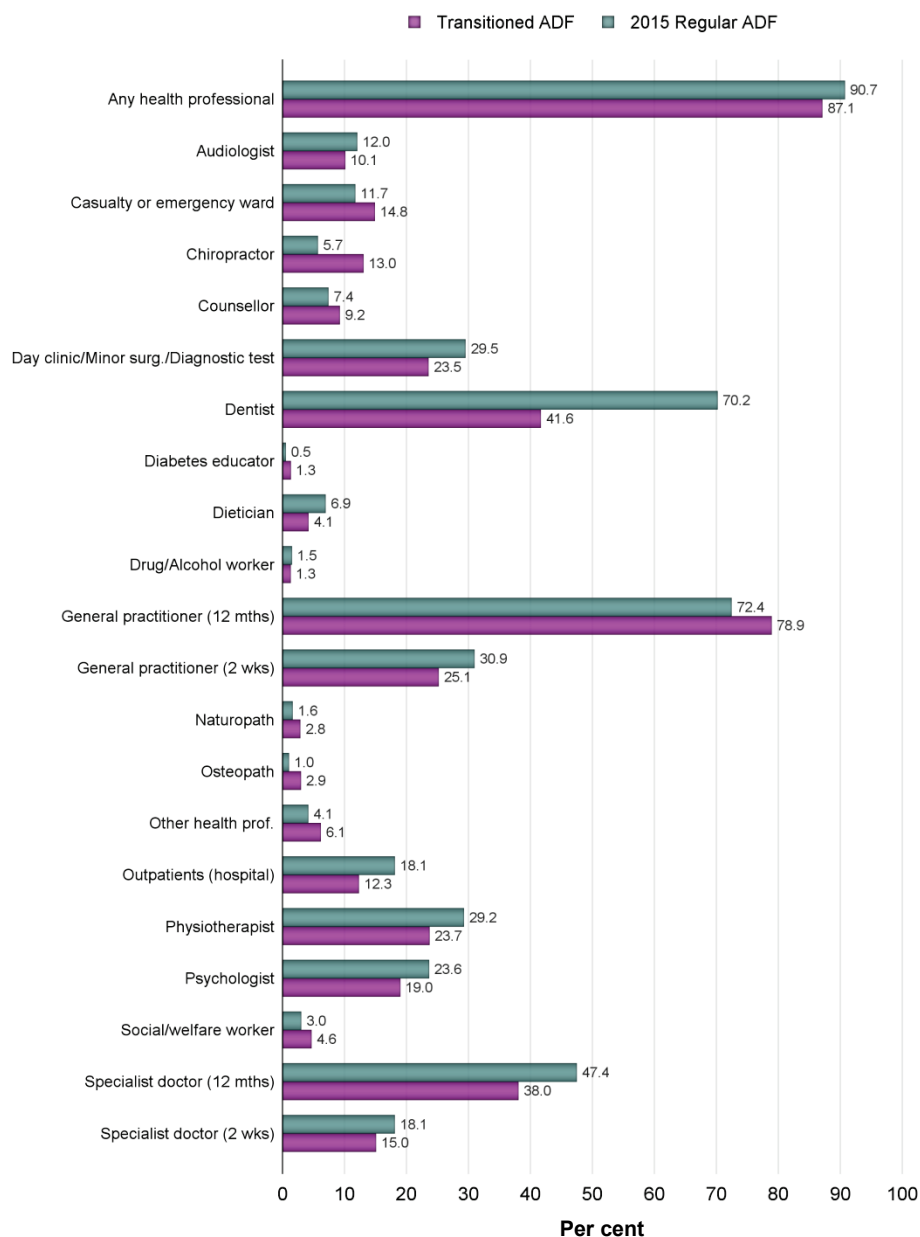
Transitioned ADF were significantly more likely to have seen a chiropractor (13.0% vs 5.7%; OR 2.5, 95% CI 1.7, 3.6), a diabetes educator (1.3% vs 0.5%; OR 2.3, 95% CI 1.5, 3.4) or an osteopath (2.9% vs 1.0%; OR 3.1, 95% CI 2.3, 4.3) compared with 2015 Regular ADF. In the preceding two weeks, Transitioned ADF members were significantly less likely to have seen a GP (25.2% vs 30.9%; OR 0.7, 95% CI 0.5, 0.9) or a specialist doctor (15.0% vs 18.1%; OR 0.7, 95% CI 0.6, 1.0) compared with 2015 Regular ADF.

**Table 12.1** Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks in Transitioned ADF members and 2015 Regular ADF members

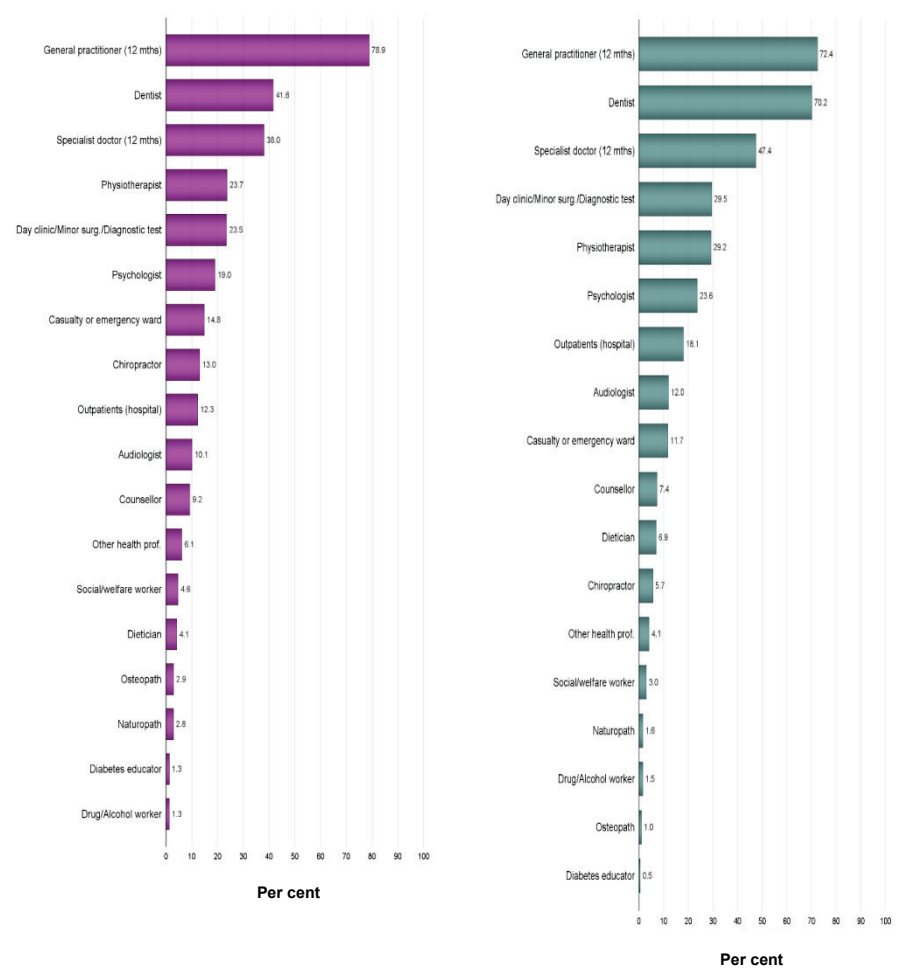
| Health professional or service:<br>preceding 12 months            | Transitioned ADF<br>(n = 24,932) |               |                   | 2015 Regular ADF<br>(n = 52,500) |               |                   |
|---|----------------------------------|---------------|-------------------|----------------------------------|---------------|-------------------|
|   | n                                | Weighted<br>n | % (95% CI)        | n                                | Weighted<br>n | % (95% CI)        |
| Alcohol or drug worker  | 46                               | 318           | 1.3 (0.9, 1.8)    | 69                               | 775           | 1.5 (0.6, 3.5)    |
| Audiologist   | 456                              | 2512          | 10.1 (9.1, 11.2)  | 883                              | 6302          | 12.0 (9.4, 15.1)  |
| Casualty or emergency ward  | 545                              | 3702          | 14.9 (13.5, 16.3) | 874                              | 6143          | 11.7 (9.3, 14.6)  |
| Chiropractor  | 487                              | 3247          | 13.0 (11.7, 14.5) | 501                              | 2972          | 5.7 (4.3, 7.5)    |
| Accredited counsellor   | 343                              | 2293          | 9.2 (8.1, 10.4)   | 638                              | 3866          | 7.4 (5.5, 9.8)    |
| Day clinic for minor surgery or<br>diagnostic tests (excl. x-ray) | 1025                             | 5859          | 23.5 (22.0, 25.1) | 2297                             | 15,471        | 29.5 (26.0, 33.2) |
| Dentist or dental professional                                    | 1788                             | 10,378        | 41.6 (39.7, 43.6) | 5584                             | 36,832        | 70.2 (66.3, 73.8) |
| Diabetes educator   | 71                               | 323           | 1.3 (1.0, 1.6)    | 64                               | 255           | 0.5 (0.4, 0.7)    |
| Dietician/nutritionist  | 186                              | 1031          | 4.1 (3.5, 4.9)    | 584                              | 3624          | 6.9 (5.2, 9.1)    |
| General practitioner  | 3078                             | 19,665        | 78.9 (77.1, 80.6) | 5884                             | 38,013        | 72.4 (68.7, 75.8) |
| Naturopath  | 117                              | 703           | 2.8 (2.3, 3.5)    | 135                              | 834           | 1.6 (0.8, 3.2)    |
| Osteopath   | 121                              | 730           | 2.9 (2.4, 3.6)    | 118                              | 522           | 1.0 (0.8, 1.2)    |
| Outpatients section of a hospital                                 | 504                              | 3060          | 12.3 (11.1, 13.6) | 1594                             | 9491          | 18.1 (15.7, 20.8) |
| Physiotherapist/hydrotherapist                                    | 951                              | 5903          | 23.7 (22.1, 25.3) | 2254                             | 15,340        | 29.2 (25.6, 33.1) |
| Psychologist  | 756                              | 4726          | 19.0 (17.5, 20.5) | 1699                             | 12,390        | 23.6 (20.2, 27.4) |
| Social worker/welfare officer                                     | 159                              | 1154          | 4.6 (3.8, 5.6)    | 287                              | 1559          | 3.0 (2.3, 3.8)    |
| Specialist doctor   | 1628                             | 9478          | 38.0 (36.2, 39.8) | 3964                             | 24,901        | 47.4 (43.6, 51.3) |
| Other health professional   | 244                              | 1527          | 6.1 (5.3, 7.1)    | 390                              | 2158          | 4.1 (2.8, 6.0)    |
| Any health professional   | 3362                             | 21,706        | 87.1 (85.5, 88.5) | 6990                             | 47,618        | 90.7 (88.6, 92.5) |
| <b>Health professional: preceding two<br/>weeks</b>               |                                  |               |                   |                                  |               |                   |
| General practitioner  | 1005                             | 6269          | 25.2 (23.5, 26.8) | 2302                             | 16,235        | 30.9 (27.3, 34.8) |
| Specialist doctor   | 618                              | 3750          | 15.0 (13.8, 16.4) | 1478                             | 9485          | 18.1 (15.2, 21.4) |

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 12.1** Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks by Transitioned ADF members and 2015 Regular ADF members



**Figure 12.2** Estimated proportions of health professionals and services consulted in the preceding 12 months by Transitioned ADF members and 2015 Regular ADF members, by rank order



**12.1.2 Health professional consultations in the preceding 12 months by Transitioned ADF, by DVA client status**

Table 12.2 shows proportions of health professionals consulted in the preceding 12 months by Transitioned ADF members according to DVA client status. Overall, DVA clients were significantly more likely than non-DVA clients to report visiting a health professional (92.0% vs 83.3%; OR 1.9, 95% CI 1.4, 2.7). More specifically, DVA clients were significantly more likely to report seeing a GP (87.1% vs 71.9%; OR 2.4, 95% CI 1.9, 3.1), a psychologist (28.3% vs 9.6%; OR 3.9, 95% CI 3.0, 5.0) or a specialist doctor (51.1% vs 23.7%; OR 3.0, 95% CI 2.5, 3.6) when compared with non-DVA clients. Additionally, DVA clients were significantly more likely to report that they had visited

an alcohol or drug worker than non-DVA clients (1.9% vs 0.6%; OR 3.3, 95% CI 1.2, 8.9); although the numbers were relatively small, they were also significantly more likely to report that they had visited an audiologist than non-DVA clients (14.4% vs 5.7%; OR 2.3, 95% CI 1.7, 3.1) and significantly more likely to report seeing a dietician/nutritionist than non-DVA clients (5.8% vs 2.1%; OR 2.5, 95% CI 1.6, 3.8). DVA clients were also significantly more likely to report visiting another health professional than non-DVA clients (7.8% vs 4.6%; OR 1.6, 95% CI 1.1, 2.3) and significantly more likely to report visiting any other health professional than non-DVA clients (92.0% vs 83.3%; OR 1.9, 95% CI 1.4, 2.7).

In the preceding two weeks DVA clients were significantly more likely to report seeing a GP (33.9% vs 16.8%; OR 2.4, 95% CI 2.0, 3.0) and significantly more likely to report seeing a specialist doctor (23.2% vs 6.7%; OR 4.0, 95% CI 3.0, 5.3) compared with non-DVA clients.

**Table 12.2** Estimated proportions of health professionals and services consulted in the preceding 12 months and preceding two weeks by Transitioned ADF, by DVA client status

| Health professional or service:<br>preceding 12 months            | DVA client<br>(n = 10,511) |               |                   | Non-DVA client<br>(n = 11,167) |               |                   |
|---|----------------------------|---------------|-------------------|--------------------------------|---------------|-------------------|
|   | n                          | Weighted<br>n | % (95% CI)        | n                              | Weighted<br>n | % (95% CI)        |
| Alcohol or drug worker  | 31                         | 198           | 1.9 (1.3, 2.8)    | 10                             | 67            | 0.6 (0.3, 1.3)    |
| Audiologist   | 315                        | 1518          | 14.4 (12.8, 16.2) | 85                             | 638           | 5.7 (4.4, 7.4)    |
| Casualty or emergency ward  | 307                        | 1776          | 16.9 (15.0, 19.0) | 180                            | 1458          | 13.1 (11.0, 15.5) |
| Chiropractor  | 264                        | 1633          | 15.5 (13.6, 17.8) | 164                            | 1210          | 10.8 (9.0, 13.1)  |
| Accredited counsellor   | 224                        | 1387          | 13.2 (11.4, 15.2) | 92                             | 694           | 6.2 (4.8, 8.0)    |
| Day clinic for minor surgery or<br>diagnostic tests (excl. x-ray) | 624                        | 3269          | 31.1 (28.7, 33.6) | 282                            | 1792          | 16.1 (13.9, 18.4) |
| Dentist or dental professional                                    | 946                        | 4868          | 46.3 (43.6, 49.0) | 651                            | 4265          | 38.2 (35.2, 41.3) |
| Diabetes educator   | 40                         | 173           | 1.7 (1.2, 2.3)    | 21                             | 96            | 0.9 (0.6, 1.3)    |
| Dietician/nutritionist  | 120                        | 610           | 5.8 (4.8, 7.1)    | 42                             | 235           | 2.1 (1.5, 3.0)    |
| General practitioner  | 1631                       | 9159          | 87.1 (85.0, 89.0) | 1099                           | 8025          | 71.9 (68.7, 74.8) |
| Naturopath  | 66                         | 375           | 3.6 (2.7, 4.7)    | 42                             | 270           | 2.4 (1.7, 3.4)    |
| Osteopath   | 70                         | 401           | 3.8 (2.9, 5.0)    | 36                             | 209           | 1.9 (1.3, 2.8)    |
| Outpatients section of a hospital                                 | 307                        | 1588          | 15.1 (13.4, 17.0) | 136                            | 1037          | 9.3 (7.6, 11.4)   |
| Physiotherapist/hydrotherapist                                    | 606                        | 3342          | 31.8 (29.4, 34.3) | 217                            | 1611          | 14.4 (12.3, 16.9) |
| Psychologist  | 506                        | 2969          | 28.3 (25.8, 30.8) | 158                            | 1074          | 9.6 (7.9, 11.6)   |
| Social worker/welfare officer                                     | 106                        | 678           | 6.5 (5.2, 8.0)    | 39                             | 335           | 3.0 (2.0, 4.4)    |
| Specialist doctor   | 1004                       | 5370          | 51.1 (48.4, 53.8) | 421                            | 2641          | 23.7 (21.1, 26.4) |
| Other health professional   | 154                        | 820           | 7.8 (6.5, 9.3)    | 67                             | 519           | 4.6 (3.4, 6.3)    |
| Any health professional   | 1715                       | 9667          | 92.0 (90.1, 93.5) | 1258                           | 9301          | 83.3 (80.5, 85.8) |
| <b>Health professional: preceding two weeks</b>                   |                            |               |                   |                                |               |                   |
| General practitioner  | 634                        | 3565          | 33.9 (31.4, 36.5) | 253                            | 1870          | 16.8 (14.5, 19.3) |
| Specialist doctor   | 425                        | 2434          | 23.2 (20.9, 25.5) | 114                            | 748           | 6.7 (5.4, 8.4)    |

Notes: Denominator – all 2015 Transitioned ADF. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

### 12.1.3 Health professional consultations in the preceding 12 months by Transitioned ADF, by transition status

Table 12.3 and Figure 12.3 show the estimated proportions of Transitioned ADF members who reported seeing each type of health professional or service in the preceding 12 months by transition status (Ex-Serving, Inactive Reservist, Active Reservist).

Overall, Ex-Serving ADF were more likely than both Inactive and Active Reservists to have reported receiving services from most types of health professionals in the preceding 12 months. In particular, Ex-Serving ADF members were more likely to have reported seeing every type of health professional than Inactive Reservists, with the exception of chiropractors, diabetes educators, naturopaths and osteopaths. The greatest difference was for an alcohol or drug worker, with Ex-Serving ADF members significantly more likely to have reported receiving this service than Inactive Reservists (1.9% vs 0.5%; OR 2.7, 95% CI 1.4, 5.2) and Active Reservists (1.9% vs 0.9%; OR 3.4, 95% CI 1.3, 9.0), although the numbers were relatively small.

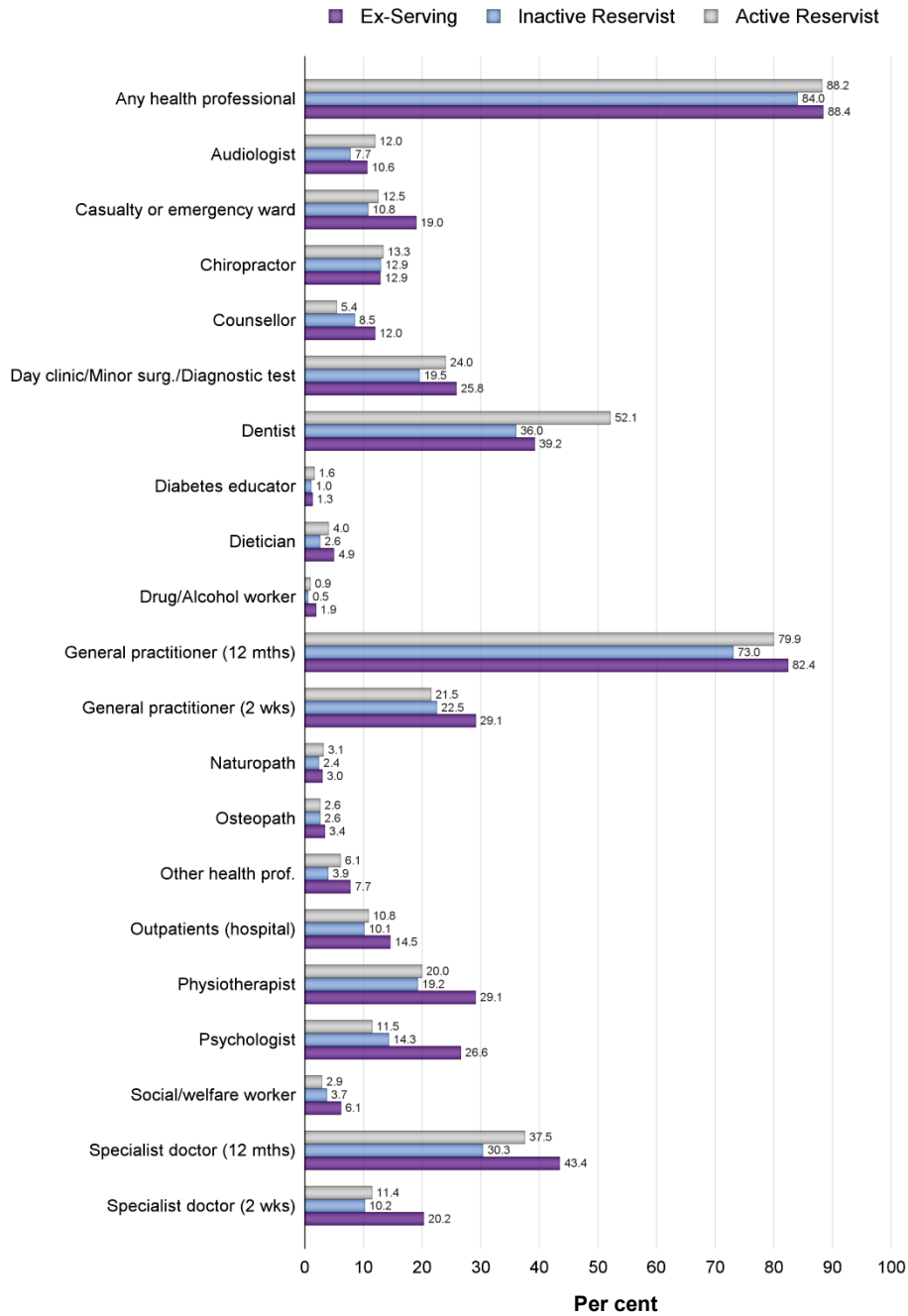
Ex-Serving ADF were significantly more likely than Active Reservists (21.9% vs 21.5%; OR 1.7, 95% CI 1.3, 2.1) and Inactive Reservists (22.5%; OR 1.4, 95% CI 1.1, 1.8) to report seeing a GP in the preceding two weeks. They were also significantly more likely than Active Reservists (20.3% vs 11.4%; OR 2.1, 95% CI 1.6, 2.7) and Inactive Reservists (10.2%; OR 2.3, 95% CI 1.7, 3.1) to report seeing a specialist doctor in the preceding two weeks.

**Table 12.3** Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks by Transitioned ADF, by transition status

| Health professional or service:<br>preceding 12 months            | Ex-Serving ADF<br>(n = 10,937) |            |                   | Inactive Reservists<br>(n = 7470) |            |                   | Active Reservists<br>(n = 6405) |            |                   |
|---|--------------------------------|------------|-------------------|-----------------------------------|------------|-------------------|---------------------------------|------------|-------------------|
|   | n                              | Weighted n | % (95% CI)        | n                                 | Weighted n | % (95% CI)        | n                               | Weighted n | % (95% CI)        |
| Alcohol or drug worker  | 27                             | 206        | 1.9 (1.2, 2.9)    | 7                                 | 39         | 0.5 (0.2, 1.2)    | 11                              | 59         | 0.9 (0.5, 1.7)    |
| Audiologist   | 196                            | 1161       | 10.6 (9.0, 12.5)  | 100                               | 578        | 7.7 (6.1, 9.8)    | 158                             | 767        | 12.0 (10.1, 14.1) |
| Casualty or emergency ward  | 277                            | 2076       | 19.0 (16.7, 21.5) | 126                               | 806        | 10.8 (8.7, 13.3)  | 140                             | 800        | 12.5 (10.4, 15.0) |
| Chiropractor  | 210                            | 1405       | 12.9 (10.9, 15.0) | 132                               | 965        | 12.9 (10.5, 15.8) | 144                             | 854        | 13.3 (11.0, 16.0) |
| Accredited counsellor   | 192                            | 1308       | 12.0 (10.1, 14.1) | 87                                | 634        | 8.5 (6.5, 11.0)   | 63                              | 347        | 5.4 (4.1, 7.1)    |
| Day clinic for minor surgery or<br>diagnostic tests (excl. x-ray) | 439                            | 2824       | 25.8 (23.3, 28.6) | 248                               | 1459       | 19.5 (16.8, 22.5) | 335                             | 1536       | 24.0 (21.5, 26.6) |
| Dentist or dental professional                                    | 627                            | 4286       | 39.2 (36.1, 42.3) | 465                               | 2689       | 36.0 (32.6, 39.6) | 690                             | 3336       | 52.1 (48.8, 55.4) |
| Diabetes educator   | 32                             | 141        | 1.3 (0.9, 1.9)    | 19                                | 78         | 1.0 (0.7, 1.5)    | 20                              | 104        | 1.6 (1.0, 2.6)    |
| Dietician/nutritionist  | 98                             | 539        | 4.9 (3.9, 6.2)    | 32                                | 192        | 2.6 (1.7, 4.0)    | 54                              | 257        | 4.0 (3.1, 5.3)    |
| General practitioner  | 1234                           | 9011       | 82.4 (79.6, 84.9) | 822                               | 5456       | 73.0 (69.2, 76.5) | 1014                            | 5121       | 80.0 (76.9, 82.7) |
| Naturopath  | 54                             | 325        | 3.0 (2.2, 4.1)    | 32                                | 177        | 2.4 (1.6, 3.5)    | 31                              | 201        | 3.1 (2.1, 4.7)    |
| Osteopath   | 53                             | 370        | 3.4 (2.5, 4.7)    | 31                                | 194        | 2.6 (1.7, 4.0)    | 37                              | 166        | 2.6 (1.9, 3.5)    |
| Outpatients section of a hospital                                 | 257                            | 1591       | 14.6 (12.6, 16.7) | 115                               | 756        | 10.1 (8.1, 12.6)  | 130                             | 694        | 10.8 (9.0, 13.0)  |
| Physiotherapist/hydrotherapist                                    | 473                            | 3181       | 29.1 (26.4, 31.9) | 216                               | 1437       | 19.2 (16.4, 22.4) | 260                             | 1278       | 20.0 (17.5, 22.6) |
| Psychologist  | 452                            | 2906       | 26.6 (24.0, 29.3) | 158                               | 1069       | 14.3 (11.9, 17.2) | 144                             | 734        | 11.5 (9.5, 13.8)  |
| Social worker/welfare officer                                     | 93                             | 672        | 6.1 (4.8, 7.8)    | 34                                | 278        | 3.7 (2.4, 5.6)    | 31                              | 184        | 2.9 (1.9, 4.3)    |
| Specialist doctor   | 735                            | 4750       | 43.4 (40.4, 46.5) | 378                               | 2266       | 30.3 (27.1, 33.8) | 509                             | 2402       | 37.5 (34.5, 40.6) |
| Other health professional   | 114                            | 845        | 7.7 (6.2, 9.6)    | 54                                | 294        | 3.9 (2.8, 5.5)    | 76                              | 389        | 6.1 (4.7, 7.8)    |
| Any health professional   | 1311                           | 9666       | 88.4 (85.8, 90.5) | 929                               | 6275       | 84.0 (80.6, 86.9) | 1109                            | 5649       | 88.2 (85.6, 90.4) |
| <b>Health professional: preceding<br/>two weeks</b>               |                                |            |                   |                                   |            |                   |                                 |            |                   |
| General practitioner  | 500                            | 3186       | 29.1 (26.5, 31.9) | 236                               | 1679       | 22.5 (19.4, 25.9) | 266                             | 1378       | 21.5 (19.0, 24.3) |
| Specialist doctor   | 341                            | 2214       | 20.3 (18.1, 22.6) | 119                               | 762        | 10.2 (8.2, 12.7)  | 154                             | 732        | 11.4 (9.7, 13.5)  |

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,937; Active Reservists = 6405; Inactive Reservists = 7470; Unknown = 120). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 12.3** Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks by Transitioned ADF, by transition status



#### **12.1.4 Health professionals and services consulted in the preceding 12 months by Transitioned ADF, by discharge status**

Table 12.4 shows consultations with health professionals and services in the preceding 12 months among Transitioned ADF by medical discharge status. Those with a medical discharge were more likely to report consulting a health professional when compared with those with another type of discharge, particularly for the following professionals.

Medically discharged Transitioned ADF were significantly more likely to have reported seeing an alcohol or drug worker (3.1% vs 0.8%; OR 3.8, 95% CI 1.8, 7.9), a diabetes educator (2.8% vs 0.9%; OR 5.1, 95% CI 3.2, 8.3), a dietitian/nutritionist (9.3% vs 2.7%; OR 4.3, 95% CI 2.9, 6.2), a GP (90.5% vs 75.8%; OR 3.3, 95% CI 2.3, 4.7), a physiotherapist/hydrotherapist (43.0% vs 18.6 %; OR 3.5, 95% CI 2.8, 4.3), a psychologist (39.3% vs 13.6% ; OR 3.9, 95% CI 3.1, 4.9), a social worker/welfare officer (10.2% vs 3.2%; OR 3.2, 95% CI 2.1, 4.9) or a specialist doctor (62.9% vs 31.5%; OR 4.3, 95% CI 3.4, 5.3) when compared with those with another type of discharge. All reported associations were strong.

In the preceding two weeks Transitioned ADF who were medically discharged were significantly more likely to have reported seeing a GP (42.5% vs 20.6%; OR 2.9, 95% CI 2.3, 3.6) or a specialist doctor (31.5% vs 10.5%; OR 3.8, 95% CI 3.0, 4.8) compared with Transitioned ADF with another type of discharge.

**Table 12.4 Health professionals and services consulted in the preceding 12 months and preceding two weeks by Transitioned ADF, by medical discharge status**

| Health professional or service:<br>preceding 12 months            | Medical discharge<br>(n = 5138) |               |                   | Other<br>(n = 19,413) |               |                   |
|---|---------------------------------|---------------|-------------------|-----------------------|---------------|-------------------|
|   | n                               | Weighted<br>n | % (95% CI)        | n                     | Weighted<br>n | % (95% CI)        |
| Alcohol or drug worker  | 20                              | 158           | 3.1 (1.9, 4.9)    | 26                    | 160           | 0.8 (0.5, 1.3)    |
| Audiologist   | 153                             | 802           | 15.5 (13.0, 18.4) | 301                   | 1702          | 8.8 (7.7, 10.0)   |
| Casualty or emergency ward  | 185                             | 1280          | 24.7 (21.3, 28.5) | 358                   | 2411          | 12.4 (11.0, 14.0) |
| Chiropractor  | 117                             | 716           | 13.8 (11.3, 16.8) | 363                   | 2447          | 12.6 (11.1, 14.3) |
| Accredited counsellor   | 142                             | 899           | 17.4 (14.5, 20.7) | 198                   | 1370          | 7.1 (5.9, 8.4)    |
| Day clinic for minor surgery or<br>diagnostic tests (excl. x-ray) | 299                             | 1774          | 34.2 (30.5, 38.2) | 722                   | 4052          | 20.9 (19.2, 22.7) |
| Dentist or dental professional                                    | 362                             | 2086          | 40.3 (36.4, 44.3) | 1405                  | 8095          | 41.7 (39.5, 43.9) |
| Diabetes educator   | 31                              | 147           | 2.8 (1.9, 4.1)    | 40                    | 177           | 0.9 (0.7, 1.2)    |
| Dietician/nutritionist  | 84                              | 480           | 9.3 (7.3, 11.7)   | 100                   | 526           | 2.7 (2.2, 3.4)    |
| General practitioner  | 730                             | 4688          | 90.5 (87.4, 92.9) | 2316                  | 14,714        | 75.8 (73.7, 77.9) |
| Naturopath  | 39                              | 223           | 4.3 (3.0, 6.1)    | 77                    | 476           | 2.6 (1.9, 3.2)    |
| Osteopath   | 33                              | 236           | 4.6 (3.1, 6.8)    | 87                    | 480           | 2.5 (1.9, 3.2)    |
| Outpatients section of a hospital                                 | 178                             | 1033          | 20.0 (17.0, 23.3) | 323                   | 2002          | 10.3 (9.1, 11.7)  |
| Physiotherapist/hydrotherapist                                    | 350                             | 2228          | 43.0 (39.0, 47.1) | 594                   | 3606          | 18.6 (16.9, 20.4) |
| Psychologist  | 341                             | 2038          | 39.3 (35.5, 43.4) | 411                   | 2642          | 13.6 (12.1, 15.3) |
| Social worker/welfare officer                                     | 77                              | 526           | 10.2 (7.9, 13.0)  | 81                    | 622           | 3.2 (2.4, 4.2)    |
| Specialist doctor   | 528                             | 3259          | 62.9 (58.7, 66.9) | 1087                  | 6120          | 31.5 (29.6, 33.6) |
| Other health professional   | 77                              | 510           | 9.9 (7.6, 12.7)   | 165                   | 1010          | 5.2 (4.3, 6.3)    |
| Any health professional   | 752                             | 4848          | 93.6 (90.8, 95.6) | 2573                  | 16,537        | 85.2 (83.3, 87.0) |
| <b>Health professional: preceding two<br/>weeks</b>               |                                 |               |                   |                       |               |                   |
| General practitioner  | 355                             | 2201          | 42.5 (38.5, 46.6) | 641                   | 3988          | 20.6 (18.8, 22.4) |
| Specialist doctor   | 265                             | 1629          | 31.5 (27.8, 35.3) | 346                   | 2029          | 10.5 (9.2, 11.8)  |

Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

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## 13 Comparison of smoking, self-perceived health and doctor-diagnosed asthma among Transitioned ADF members compared with the Australian community in 2015

### Transitioned ADF members and the Australian community: comparisons

- Compared with the Australian community, the proportion of Transitioned ADF members reporting 'current smoking' was significantly lower (15.2% vs 21.9%), reporting being 'former smokers' was significantly higher (53.9% vs 28.8%) and reporting having 'never smoked' was significantly lower (29.5% vs 49.2%).
- The overall patterns observed in the Transitioned ADF and the Australian community in relation to smoking were consistent in males and females and by age group.
- Compared with the Australian community, the proportion of Transitioned ADF who rated their health as excellent (8.9% vs 19.2%) or very good (26.4% vs 37.5%) was significantly lower; the proportion of those who rated their health as fair (23.9% vs 10.1%) or poor (11.1% vs 3.1%) was significantly higher.
- The overall patterns observed in the Transitioned ADF and the Australian community in relation to self-perceived health were consistent in males and females and by age group.
- The proportion of Transitioned ADF who reported doctor-diagnosed asthma was significantly lower than in the Australian community (Transitioned ADF, 15.3%; vs Australian community, 21.9%).
- The overall patterns observed among Transitioned ADF and in the Australian community in relation to doctor-diagnosed asthma were consistent in males and females and by age group.

Refer to the glossary for definitions of key terms used in this section.

This chapter examines self-reported perceptions of health, smoking status and asthma among Transitioned ADF members and the Australian community. In order to situate the physical health of Transitioned ADF members within the broader Australian community, contemporaneous data obtained from the 2014–2015 ABS National Health Survey (Australian Bureau of Statistics, 2015) were used for the sample, 'Australian Community'. Comparisons were limited, however, to variables for which there were comparable data available – namely, to those based on smoking status, self-perceived health status and asthma assessed using questions taken from the National Health

Survey. Further details about how each of the measures was scored are provided in the sections that follow.

To enable comparison of estimates for Transitioned ADF with the Australian Community population sample, direct standardisation was applied to estimates in the 2014–2015 ABS National Health Survey data. The NHS is the most recent in a series of Australia-wide ABS health surveys, assessing various aspects of the health of Australians, including long-term health conditions, health risk factors and health service use. The NHS data were restricted to people aged 18–71 years (consistent with the Transitioned ADF). The data were standardised by sex, employment status (employed or not) and age category (18–27, 28–37, 38–47, 48–57 and 58+), and estimates were generated on the outcomes of interest. Standard errors for the NHS data were estimated using the replication weights provided in the NHS data file.

In addition to providing estimated proportions who reported each outcome in the two samples, this chapter compares rates according to two key demographic factors – sex (male, female) and age 18–27, 28–37, 38–47, 48–57, 58+).<sup>2</sup>

Significant differences were determined by calculating the confidence intervals on the difference in proportions, and if these included unity they were not considered significant.

## **13.1 Smoking status in Transitioned ADF members and the Australian Community**

### **13.1.1 Smoking status**

Smoking status was assessed with four items asking whether the respondent currently smoked, had ever tried smoking cigarettes or other forms of tobacco, ever smoked a full cigarette, cigar or pipe, or had smoked the equivalent of 100 cigarettes (or the equivalent amount of tobacco) in their lifetime. Participants were then classified as:

- current smoker
- former smoker
- never smoked.

Table 13.1 and Figure 13.1 show the responses for Transitioned ADF members and the Australian Community. The estimated prevalence of ‘current smoking’ among Transitioned ADF (15.2%) was significantly lower than in the Australian Community (21.9%). The proportion of Transitioned ADF who were ‘former smokers’ (53.9%) was

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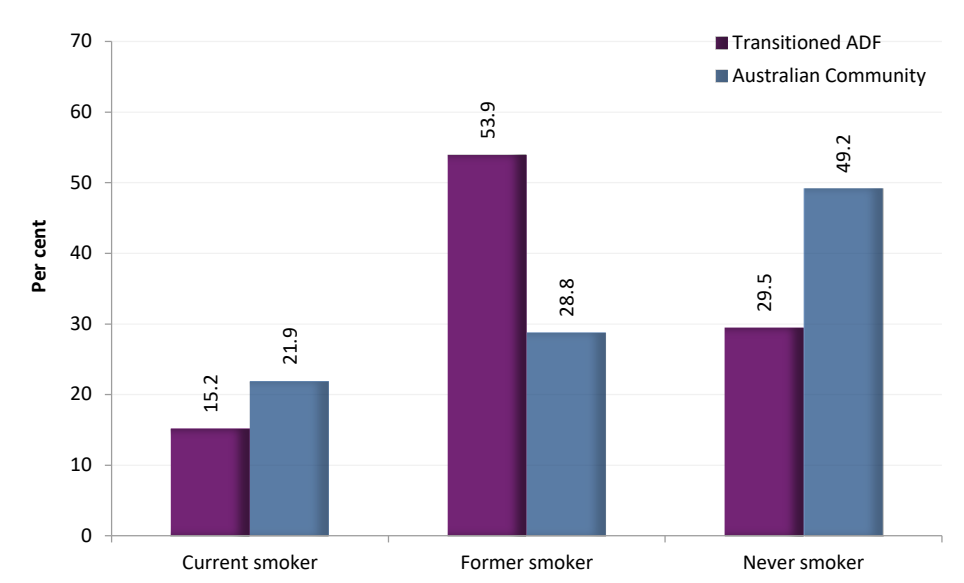
<sup>2</sup> Note that the age ranges reported here for the Australian community are matched to those used in the Transition and Wellbeing Research Programme. They are not the same age bands as reported in the National Health Survey.

significantly higher in than the Australian Community (28.8%), and the proportion of participants who had ‘never smoked’ was significantly lower among Transitioned ADF (29.5%) compared with the Australian community (49.2%).

**Table 13.1      Estimated prevalence of smoking: Transitioned ADF members compared with the Australian Community**

| Smoking status | Transitioned ADF<br>(n = 24,932) |     |            | Australian Community |     |            | Difference |     |              |
|----------------|----------------------------------|-----|------------|----------------------|-----|------------|------------|-----|--------------|
|                | %                                | SE  | 95% CI     | %                    | SE  | 95% CI     | %          | SE  | 95% CI       |
| Current smoker | 15.2                             | 0.7 | 13.8, 16.7 | 21.9                 | 0.8 | 20.3, 23.5 | -6.7       | 1.1 | -8.8, -4.6   |
| Former smoker  | 53.9                             | 1.0 | 52.0, 55.9 | 28.8                 | 0.9 | 27.1, 30.4 | 25.2       | 1.3 | 22.6, 27.7   |
| Never smoker   | 29.5                             | 0.9 | 27.8, 31.3 | 49.2                 | 0.9 | 47.4, 51.1 | -19.7      | 1.3 | -22.2, -17.1 |

**Figure 13.1      Estimated prevalence of smoking: Transitioned ADF members compared with the Australian Community**



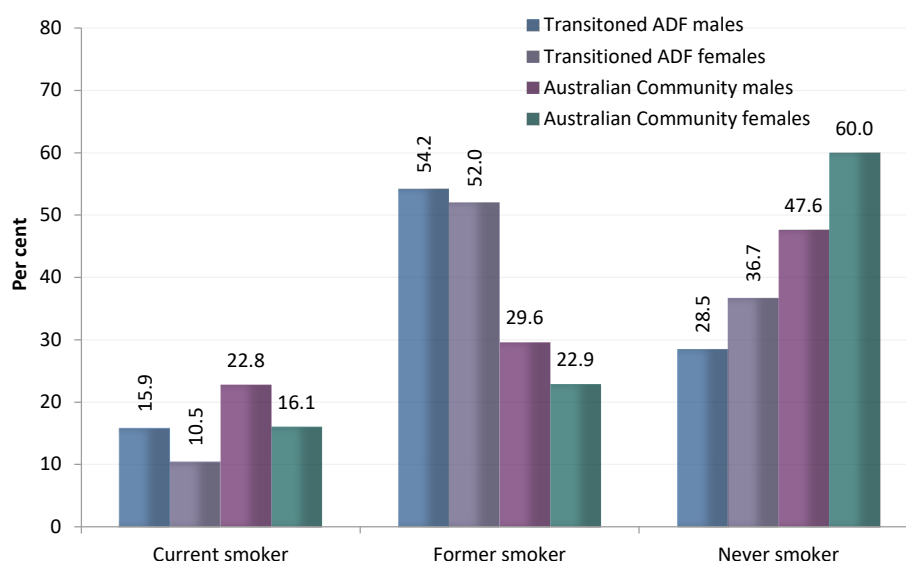
### 13.1.2      Smoking status, by sex

Table 13.2 and Figure 13.2 show smoking status for male and female Transitioned ADF members compared with the Australian Community. As with the pattern observed in the population in general, Transitioned ADF males were significantly less likely to be current smokers (15.9% vs 22.8%) and significantly more likely to be former smokers (22.8% vs 47.6%) compared with the Australian Community. A similar pattern emerged for females: Transitioned ADF females were significantly less likely to be current smokers (10.5%) compared with the Australian Community (16.1%).

**Table 13.2** Estimated prevalence of smoking in Transitioned ADF members compared with the Australian Community, by sex

| Sex    | Smoking status | Transitioned ADF<br>(n = 24,932) |     |            | Australian Community |     |            | Difference |     |              |
|--------|----------------|----------------------------------|-----|------------|----------------------|-----|------------|------------|-----|--------------|
|        |                | %                                | SE  | 95% CI     | %                    | SE  | 95% CI     | %          | SE  | 95% CI       |
| Male   | Current smoker | 15.9                             | 0.8 | 14.4, 17.5 | 22.8                 | 0.9 | 21.0, 24.6 | -6.9       | 1.2 | -9.3, -4.5   |
|        | Former smoker  | 54.2                             | 1.1 | 52.1, 56.3 | 29.6                 | 1.0 | 27.7, 31.6 | 24.6       | 1.5 | 21.7, 27.4   |
|        | Never smoker   | 28.5                             | 1.0 | 26.6, 30.4 | 47.6                 | 1.1 | 45.5, 49.7 | -19.1      | 1.5 | -22.0, -16.3 |
| Female | Current smoker | 10.5                             | 1.5 | 7.9, 13.9  | 16.1                 | 0.8 | 14.6, 17.6 | -5.6       | 1.7 | -8.9, -2.3   |
|        | Former smoker  | 52.0                             | 2.3 | 47.5, 56.5 | 22.9                 | 0.8 | 21.3, 24.5 | 29.1       | 2.4 | 24.3, 33.9   |
|        | Never smoker   | 36.7                             | 2.2 | 32.4, 41.2 | 60.0                 | 1.0 | 58.0, 61.9 | -23.3      | 2.4 | -28.1, -18.5 |

**Figure 13.2** Estimated prevalence of smoking in Transitioned ADF members compared with the Australian Community, by sex



### 13.1.3 Smoking status, by age group

Table 13.3 and Figure 13.3 show smoking status for Transitioned ADF members and the Australian Community by age group. Transitioned ADF in the 18–27, 28–37 and 38–47 age groups were significantly less likely to be current smokers and significantly less likely to report they had never smoked compared with the Australian Community. For example, approximately 15% of each age group (12.2% to 15.9%) reported current smoking in the Transitioned ADF compared with approximately 22% in each age group in the Australian Community sample (14.5% and 23.7%).

**Table 13.3** Estimated prevalence of smoking in Transitioned ADF members compared with the Australian community, by age group

| Age group | Smoking status | Transitioned ADF<br>(n = 24,932) |     |            | Australian Community |     |            | Difference |     |              |
|-----------|----------------|----------------------------------|-----|------------|----------------------|-----|------------|------------|-----|--------------|
|           |                | %                                | SE  | 95% CI     | %                    | SE  | 95% CI     | %          | SE  | 95% CI       |
| 18–27     | Current smoker | 15.4                             | 1.9 | 12.0, 19.6 | 20.6                 | 1.5 | 17.5, 23.6 | –5.1       | 2.5 | –9.9, –0.3   |
|           | Former smoker  | 53.7                             | 2.7 | 48.3, 59.0 | 16.5                 | 1.6 | 13.4, 19.5 | 37.2       | 3.1 | 31.1, 4.4    |
|           | Never smoked   | 29.3                             | 2.5 | 24.7, 34.4 | 63.0                 | 1.9 | 59.2, 66.7 | –33.7      | 3.1 | –39.8, –27.5 |
| 28–37     | Current smoker | 15.9                             | 1.4 | 13.3, 18.8 | 23.3                 | 1.6 | 20.1, 26.4 | –7.4       | 2.1 | –11.6, –3.2  |
|           | Former smoker  | 54.7                             | 1.8 | 51.1, 58.3 | 25.1                 | 1.7 | 21.8, 28.5 | 29.6       | 2.5 | 24.6, 34.5   |
|           | Never smoked   | 27.7                             | 1.6 | 24.6, 31.0 | 51.6                 | 2.0 | 47.7, 55.5 | –23.9      | 2.6 | –28.9, –18.9 |
| 38–47     | Current smoker | 15.4                             | 1.3 | 12.9, 18.2 | 23.7                 | 1.8 | 20.1, 27.3 | –8.3       | 2.3 | –12.8, –3.9  |
|           | Former smoker  | 50.8                             | 1.8 | 47.2, 54.4 | 31.8                 | 2.0 | 28.0, 35.7 | 19.0       | 2.7 | 13.7, 34.3   |
|           | Never smoked   | 32.9                             | 1.7 | 29.6, 36.4 | 44.5                 | 1.9 | 40.7, 4.2  | –11.6      | 2.6 | –16.6, –6.25 |
| 48–57     | Current smoker | 14.7                             | 1.2 | 12.5, 17.2 | 21.9                 | 1.6 | 18.8, 25.0 | –7.2       | 2.0 | –11.1, –3.3  |
|           | Former smoker  | 54.8                             | 1.9 | 51.1, 58.4 | 41.3                 | 1.8 | 37.7, 44.9 | 13.5       | 2.6 | 8.4, 18.6    |
|           | Never smoked   | 29.6                             | 1.7 | 26.4, 33.0 | 36.9                 | 1.7 | 33.6, 40.1 | –7.3       | 2.4 | –11.9, –2.6  |
| 58+       | Current smoker | 12.2                             | 1.8 | 9.1, 16.2  | 14.5                 | 1.2 | 12.2, 16.7 | –2.2       | 2.1 | –6.4, 2.0    |
|           | Former smoker  | 61.0                             | 2.1 | 56.8, 65.1 | 48.5                 | 1.5 | 45.5, 51.5 | 12.5       | 2.6 | 7.3, 17.6    |
|           | Never smoked   | 25.5                             | 1.7 | 22.3, 28.9 | 35.3                 | 1.5 | 32.4, 38.2 | –9.8       | 2.3 | –14.3, –5.4  |

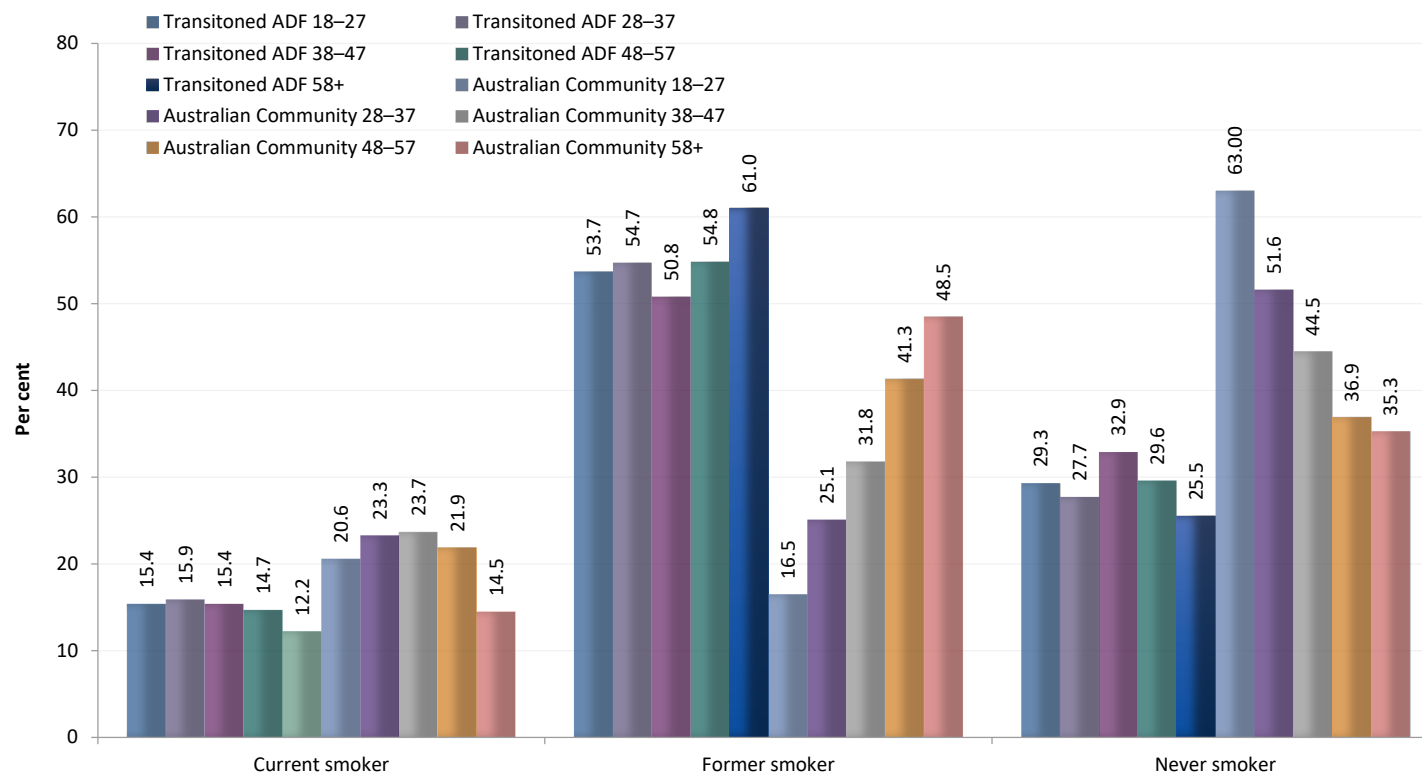
## 13.2 Self-perceived health in Transitioned ADF members and the Australian Community

### 13.2.1 Self-perceived health in general

Self-perceived health was assessed using a single item taken from the SF-12 – ‘In general would you say your health is?’ – that was scored on a five-point Likert scale with five response options: excellent, very good, good, fair or poor.

Table 13.4 and Figure 13.4 show the distribution of responses for Transitioned ADF members compared with the Australian Community. The estimated proportion of respondents who perceived their health to be excellent was lower for the Transitioned ADF (8.9%) than for the Australian Community (19.2%). Similarly, the estimated proportion of Transitioned ADF who perceived their health to be very good was lower compared with the Australian Community (26.4% vs 37.5%). Additionally, the estimated proportion of Transitioned ADF who perceived their health to be fair (23.9% vs 10.1%) or poor (11.1% vs 3.1%) was higher compared with the Australian Community. Overall, there is a very strong shift to the right in the distribution for the Transitioned ADF compared with the Australian Community.

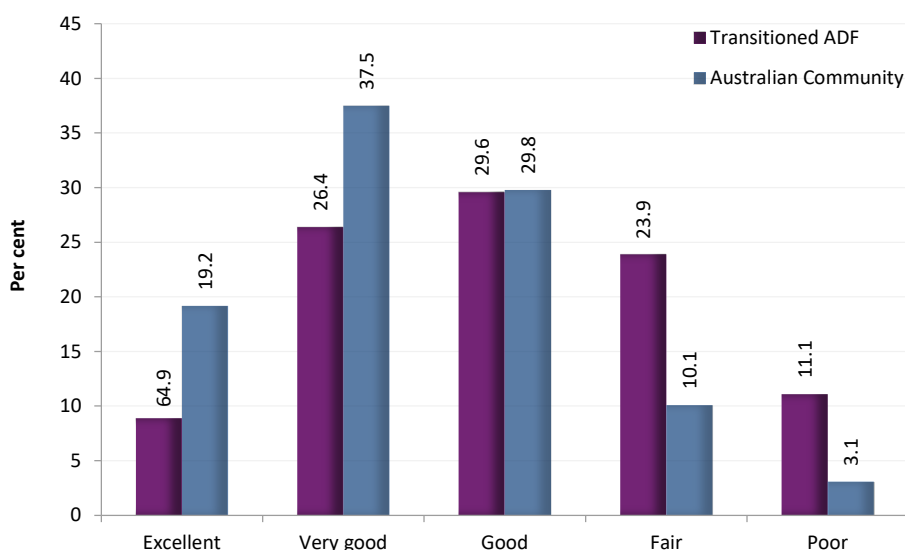
**Figure 13.3** Estimated prevalence of smoking in Transitioned ADF members compared with the Australian Community, by age group



**Table 13.4** Estimated prevalence of self-perceived health in general in Transitioned ADF members compared with the Australian Community

| Self-perceived health | Transitioned ADF<br>(n = 24,932) |     |            | Australian Community |     |            | Difference |     |             |
|-----------------------|----------------------------------|-----|------------|----------------------|-----|------------|------------|-----|-------------|
|                       | %                                | SE  | 95% CI     | %                    | SE  | 95% CI     | %          | SE  | 95% CI      |
| Excellent             | 8.9                              | 0.6 | 7.8, 10.1  | 19.2                 | 0.7 | 17.8, 20.6 | -10.3      | 0.9 | -12.1, -8.5 |
| Very good             | 26.4                             | 0.8 | 24.5, 28.1 | 37.5                 | 0.9 | 35.6, 39.3 | -11.1      | 1.3 | -13.6, -8.6 |
| Good                  | 29.6                             | 0.9 | 28.0, 31.4 | 29.8                 | 0.8 | 28.2, 31.3 | -0.1       | 1.2 | -2.4, 2.2   |
| Fair                  | 23.9                             | 0.8 | 22.4, 25.4 | 10.1                 | 0.6 | 8.9, 11.2  | 13.8       | 0.9 | 11.9, 15.7  |
| Poor                  | 11.1                             | 0.5 | 10.1, 12.3 | 3.1                  | 0.3 | 2.6, 3.7   | 8.0        | 0.6 | 6.8, 9.2    |

**Figure 13.4** Estimated prevalence of self-perceived health in general responses in Transitioned ADF members compared with the Australian Community



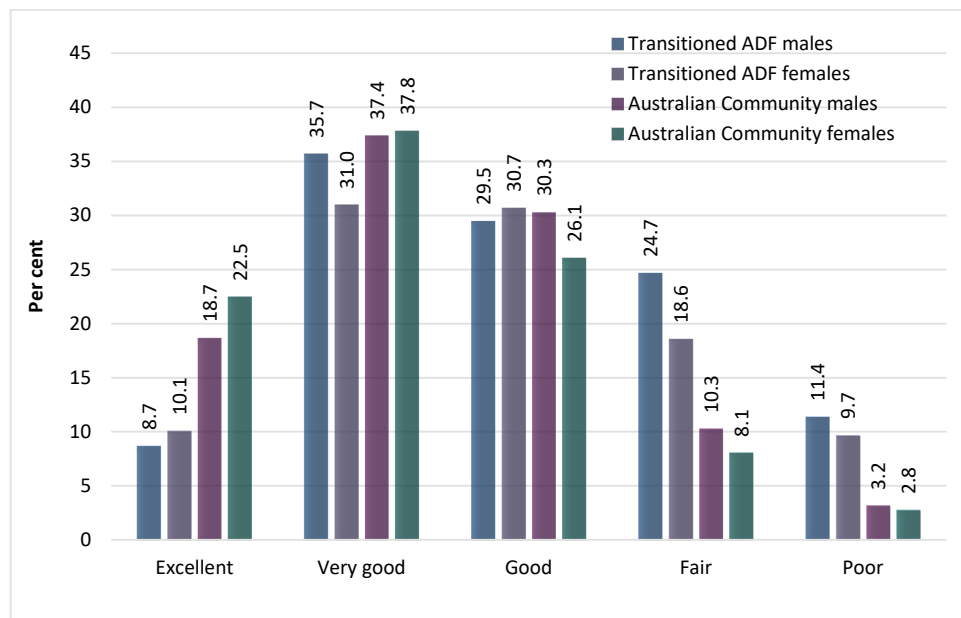
### 13.2.2 Self-perceived health in general, by sex

Table 13.5 and Figure 13.5 show self-perceived health in general for males and females in Transitioned ADF members compared with the Australian Community. Transitioned ADF males (8.7%) were significantly less likely to report excellent self-perceived health compared with the Australian Community (18.7%). They were also significantly less likely to report very good self-perceived health compared with the Australian Community (25.7% vs 37.4%). ADF males were significantly more likely to report fair self-perceived health (24.7%) compared with the Australian Community (10.3%); similarly, they were significantly more likely to report poor self-perceived health (11.4%) compared with the Australian Community (3.2%).

**Table 13.5 Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by sex**

| Sex    | Self-perceived health | Transitioned ADF (n = 24,932) |     |            | Australian Community |     |            | Difference |     |             |
|--------|-----------------------|-------------------------------|-----|------------|----------------------|-----|------------|------------|-----|-------------|
|        |                       | %                             | SE  | 95% CI     | %                    | SE  | 95% CI     | %          | SE  | 95% CI      |
| Male   | Excellent             | 8.7                           | 0.6 | 7.6, 10.0  | 18.7                 | 0.8 | 17.1, 20.2 | -10.0      | 1.0 | -12.0, -8.0 |
|        | Very good             | 25.7                          | 0.9 | 23.9, 27.5 | 37.4                 | 1.1 | 35.3, 39.5 | -11.7      | 1.4 | -14.5, -9.0 |
|        | Good                  | 29.5                          | 1.0 | 27.7, 31.4 | 30.3                 | 0.9 | 28.6, 32.1 | -0.9       | 1.3 | -3.4, 1.7   |
|        | Fair                  | 24.7                          | 0.9 | 23.0, 26.4 | 10.3                 | 0.7 | 9.0, 11.7  | 14.3       | 1.1 | 12.2, 16.4  |
|        | Poor                  | 11.4                          | 0.6 | 10.3, 12.6 | 3.2                  | 0.3 | 2.6, 3.8   | 8.2        | 0.7 | 6.8, 9.4    |
| Female | Excellent             | 10.1                          | 1.5 | 7.6, 13.3  | 22.5                 | 0.8 | 21.0, 24.1 | -12.5      | 1.7 | -15.7, -9.2 |
|        | Very good             | 31.0                          | 2.1 | 27.0, 35.2 | 37.8                 | 0.9 | 35.7, 39.7 | -6.9       | 2.3 | -11.4, -2.4 |
|        | Good                  | 30.7                          | 2.1 | 26.7, 34.9 | 26.1                 | 0.9 | 24.2, 27.9 | 4.6        | 2.3 | 0.1, 9.1    |
|        | Fair                  | 18.6                          | 1.4 | 16.0, 21.5 | 8.1                  | 0.6 | 7.0, 9.2   | 10.5       | 1.5 | 7.6, 13.5   |
|        | Poor                  | 9.7                           | 1.1 | 7.7, 12.1  | 2.8                  | 0.4 | 2.1, 3.5   | 6.9        | 1.2 | 4.6, 9.2    |

**Figure 13.5 Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by sex**



The same pattern was evident for females. Transitioned ADF females (10.1%) were significantly less likely to report excellent self-perceived health compared with the Australian Community (22.5%), significantly less likely to report very good self-perceived health (31.0% vs 37.8%) but significantly more likely to report good (30.7% vs 26.1%), fair (18.6% vs 8.1%) or poor self-perceived health (9.7% vs 2.8%) compared with the Australian Community.

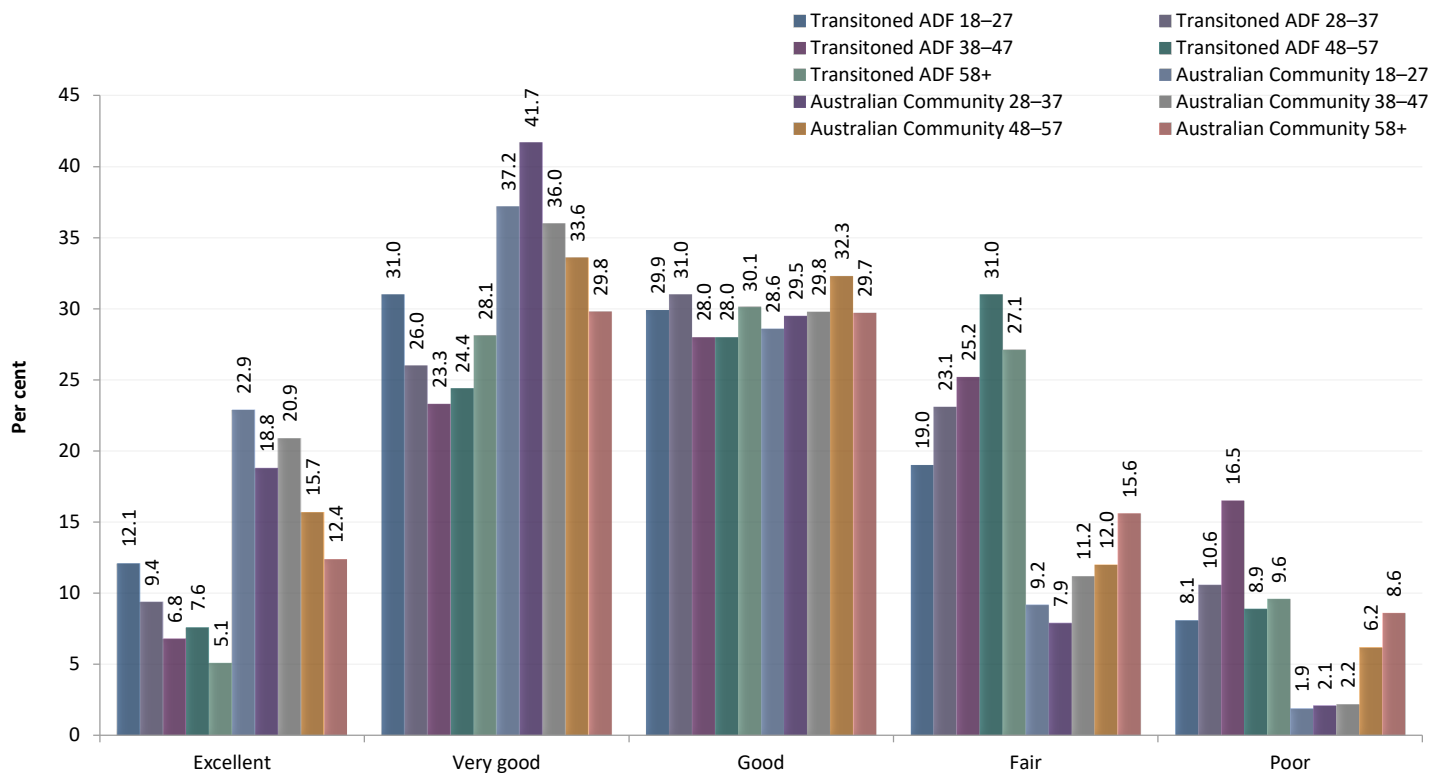
### 13.2.3 Self-perceived health in general, by age group

Table 13.6 and Figure 13.6 show self-perceived health in general in Transitioned ADF members and the Australian Community by age group. Transitioned ADF in all groups were significantly less likely to report excellent self-perceived health compared with the Australian Community. With the exception of those aged 58+, they were also less likely to report very good self-perceived health and more likely to report fair or poor self-perceived health.

**Table 13.6 Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by age group**

| Age groups | Self-perceived health | Transitioned ADF<br>(n = 24,932) |     |            | Australian Community |     |            | Difference |     |              |
|------------|-----------------------|----------------------------------|-----|------------|----------------------|-----|------------|------------|-----|--------------|
|            |                       | %                                | SE  | 95% CI     | %                    | SE  | 95% CI     | %          | SE  | 95% CI       |
| 18–27      | Excellent             | 12.1                             | 1.7 | 9.0, 15.9  | 22.9                 | 1.6 | 19.7, 26.0 | –10.8      | 2.4 | –15.5, –6.2  |
|            | Very good             | 31.0                             | 2.4 | 26.5, 35.9 | 37.2                 | 2.0 | 33.3, 41.1 | –6.2       | 3.1 | –12.4, –0.1  |
|            | Good                  | 29.9                             | 2.3 | 25.5, 34.6 | 28.6                 | 1.8 | 25.2, 32.0 | 1.2        | 2.9 | –4.5, 7.0    |
|            | Fair                  | 19.0                             | 1.9 | 15.5, 23.0 | 9.2                  | 1.2 | 6.9, 11.5  | 9.7        | 2.3 | 5.3, 14.2    |
|            | Poor                  | 8.1                              | 1.3 | 6.0, 11.0  | 1.9                  | 0.5 | 1.0, 2.8   | 6.2        | 1.4 | 3.5, 8.8     |
| 28–37      | Excellent             | 9.4                              | 1.0 | 7.6, 11.5  | 18.8                 | 1.3 | 16.3, 21.3 | –9.5       | 1.6 | –12.6, –6.2  |
|            | Very good             | 26.0                             | 1.5 | 23.1, 29.1 | 41.7                 | 1.9 | 37.9, 45.5 | –15.7      | 2.5 | –20.6, –10.9 |
|            | Good                  | 31.0                             | 1.7 | 27.9, 34.6 | 29.5                 | 1.5 | 26.6, 32.5 | 1.5        | 2.2 | –2.9, 5.9    |
|            | Fair                  | 23.1                             | 1.4 | 20.4, 26.0 | 7.9                  | 1.0 | 5.8, 9.9   | 15.2       | 1.8 | 11.7, 18.7   |
|            | Poor                  | 10.6                             | 1.0 | 8.8, 12.7  | 2.1                  | 0.5 | 1.2, 3.0   | 8.5        | 1.1 | 6.3, 10.6    |
| 38–47      | Excellent             | 6.8                              | 1.0 | 5.1, 9.0   | 20.9                 | 1.7 | 17.5, 24.2 | –14.1      | 2.0 | –18.0, –6.3  |
|            | Very good             | 23.3                             | 1.5 | 20.4, 26.0 | 36.0                 | 1.9 | 32.2, 39.7 | –12.7      | 2.4 | –17.5, –7.9  |
|            | Good                  | 28.0                             | 1.5 | 25.1, 31.0 | 29.8                 | 1.6 | 26.5, 32.9 | –1.8       | 2.2 | –6.2, 2.5    |
|            | Fair                  | 25.2                             | 1.5 | 22.4, 28.2 | 11.2                 | 1.6 | 8.1, 14.4  | 13.9       | 2.2 | 9.6, 18.7    |
|            | Poor                  | 16.5                             | 1.3 | 14.1, 19.2 | 2.2                  | 0.6 | 1.0, 3.3   | 14.3       | 1.4 | 11.6, 17.1   |
| 48–57      | Excellent             | 7.6                              | 1.1 | 5.7, 10.1  | 15.7                 | 1.1 | 13.5, 17.8 | –8.1       | 1.6 | –11.1, –5.0  |
|            | Very good             | 24.4                             | 1.5 | 21.6, 27.6 | 33.6                 | 1.6 | 30.4, 36.9 | –9.2       | 2.2 | –13.6, –4.8  |
|            | Good                  | 28.0                             | 1.6 | 25.0, 31.2 | 32.3                 | 1.8 | 28.9, 35.8 | –4.3       | 2.4 | –8.9, 0.4    |
|            | Fair                  | 31.0                             | 1.7 | 27.8, 34.4 | 12.0                 | 1.2 | 9.7, 14.3  | 18.9       | 2.0 | 14.9, 22.9   |
|            | Poor                  | 8.9                              | 0.8 | 7.5, 10.7  | 6.2                  | 1.1 | 4.1, 8.3   | 2.7        | 1.3 | 0.1, 5.4     |
| 58+        | Excellent             | 5.1                              | 0.8 | 3.7, 7.0   | 12.4                 | 1.1 | 10.3, 14.5 | –7.4       | 1.4 | –10.0, –4.7  |
|            | Very good             | 28.1                             | 1.9 | 24.6, 31.9 | 29.8                 | 1.4 | 26.9, 32.6 | –1.6       | 2.3 | –6.3, 3.0    |
|            | Good                  | 30.1                             | 1.9 | 26.6, 33.9 | 29.7                 | 1.5 | 26.7, 32.6 | 0.5        | 2.4 | –4.2, 5.2    |
|            | Fair                  | 27.1                             | 1.9 | 23.6, 30.9 | 15.6                 | 1.1 | 13.4, 17.8 | 11.5       | 2.1 | 7.3, 15.7    |
|            | Poor                  | 9.6                              | 1.4 | 7.1, 12.8  | 8.6                  | 0.9 | 6.8, 10.3  | 1.0        | 1.7 | –2.3, 4.3    |

**Figure 13.6 Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by age group**



13.3 Ever doctor-diagnosed asthma in Transitioned ADF members and the Australian Community

13.3.1 Ever doctor-diagnosed asthma in general

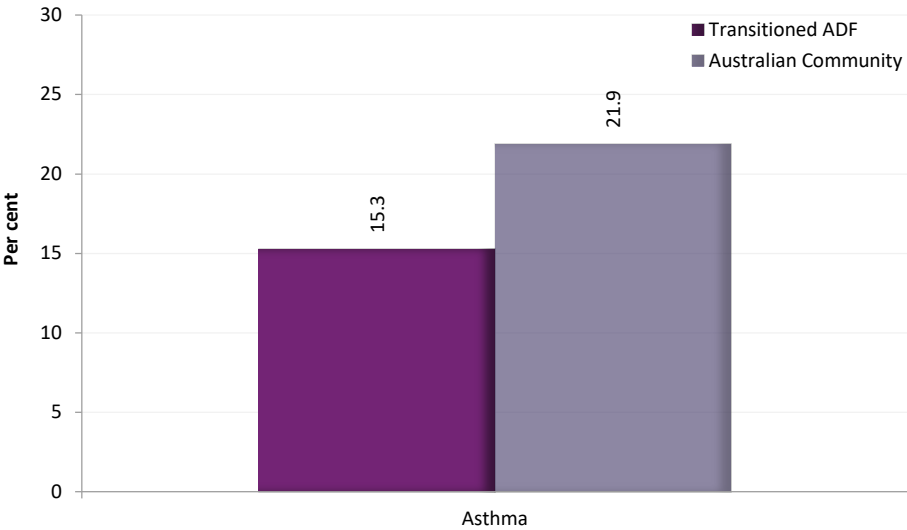
Self-reported asthma was assessed by a single item in the 2014–2015 ABS National Health Survey – ‘Have you ever been told by a doctor or nurse that you have asthma?’ For the present study, respondents were asked if they had ever had asthma in their lifetime and were further asked whether the asthma had been confirmed by a doctor. For the purposes of this chapter, only respondents reporting confirmation by a doctor were defined as having ‘ever doctor-diagnosed’ asthma.

Table 13.7 and Figure 13.7 show the estimated prevalence of self-reported doctor-diagnosed asthma among Transitioned ADF members compared with the Australian Community. Asthma prevalence was significantly lower among Transitioned ADF compared with the Australian Community (15.3% vs 21.9%).

Table 13.7 Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community

|        | Transitioned ADF<br>(n = 24,932) |            |            | Australian Community |            |            | Difference |            |            |
|--------|----------------------------------|------------|------------|----------------------|------------|------------|------------|------------|------------|
|        | n                                | Weighted n | % (95% CI) | n                    | Weighted n | % (95% CI) | n          | Weighted n | % (95% CI) |
| Asthma | 15.3                             | 0.8        | 13.8, 16.9 | 21.9                 | 0.9        | 20.2, 23.5 | -6.6       | 1.2        | -8.9, -4.3 |

Figure 13.7 Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community



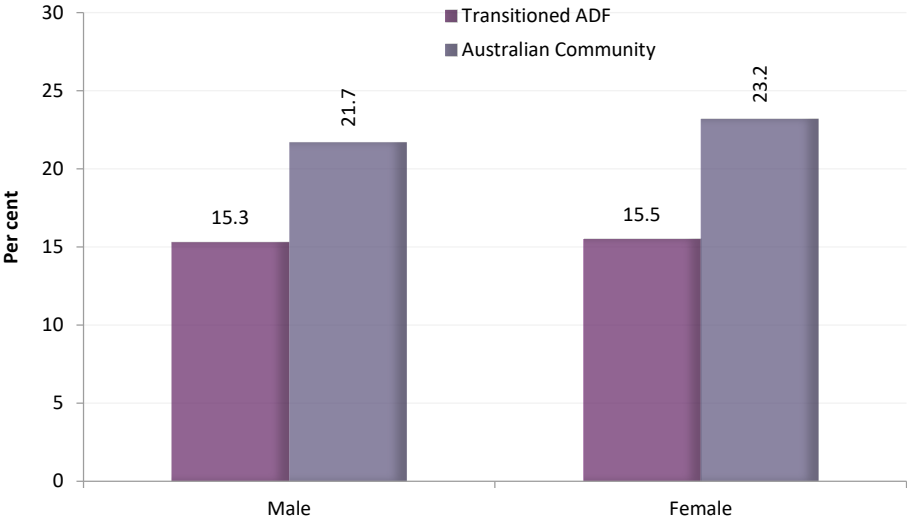
13.3.2 Ever doctor-diagnosed asthma, by sex

Table 13.8 and Figure 13.8 show the estimated prevalence of self-reported ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community by sex. Transitioned ADF males (15.3%) were significantly less likely to report ever doctor-diagnosed asthma compared with males in the Australian Community (21.7%). The same pattern was apparent for females: Transitioned ADF females (15.5%) were significantly less likely to report ever doctor-diagnosed asthma than females in the Australian Community (23.2%).

Table 13.8 Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community, by sex

| Sex    | Transitioned ADF<br>(n = 24,932) |     |            | Australian Community |     |            | Difference |     |             |
|--------|----------------------------------|-----|------------|----------------------|-----|------------|------------|-----|-------------|
|        | %                                | SE  | 95% CI     | %                    | SE  | 95% CI     | %          | SE  | 95% CI      |
| Male   | 15.3                             | 0.9 | 13.7, 17.1 | 21.7                 | 1.0 | 19.7, 23.6 | -6.4       | 1.3 | -9.0, -3.8  |
| Female | 15.5                             | 1.8 | 12.3, 19.3 | 23.2                 | 0.9 | 21.5, 24.9 | -7.7       | 2.0 | -11.6, -3.9 |

Figure 13.8 Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community, by sex



13.3.3 Ever doctor-diagnosed asthma, by age group

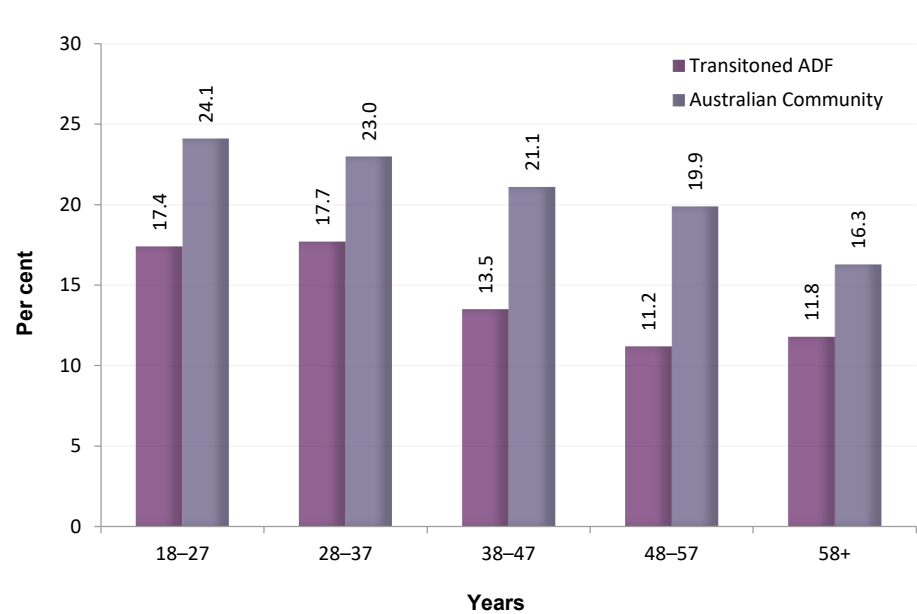
Table 13.9 and Figure 13.9 show the estimated prevalence of self-reported ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community by age. There were significant differences between the two cohorts in all age groups. Transitioned ADF aged 18–27 years were significantly less likely (17.4%) to

report ever doctor-diagnosed asthma than the Australian Community (24.1%). This was also the case for those aged 28–37 years (17.7% vs 23.0%), those aged 38–47 years (11.2% vs 19.9%), 48–57 years (11.2% vs 19.9%) and 58+ years (11.8% vs 16.3%).

**Table 13.9**      **Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community, by age**

| Age group | Transitioned ADF<br>(n = 24,932) |     |            | Australian Community |     |            | Difference |     |             |
|-----------|----------------------------------|-----|------------|----------------------|-----|------------|------------|-----|-------------|
|           | %                                | SE  | 95% CI     | %                    | SE  | 95% CI     | %          | SE  | 95% CI      |
| 18–27     | 17.4                             | 2.2 | 13.1, 21.9 | 24.1                 | 1.6 | 20.9, 27.2 | -7.0       | 2.7 | -12.4, -1.7 |
| 28–37     | 17.7                             | 1.6 | 14.8, 20.9 | 23.0                 | 1.8 | 19.5, 26.4 | -5.3       | 2.3 | -9.9, -0.7  |
| 38–47     | 13.5                             | 1.3 | 11.1, 16.3 | 21.1                 | 1.9 | 17.3, 24.9 | -7.6       | 2.3 | -12.2, -3.0 |
| 48–57     | 11.2                             | 1.2 | 9.1, 13.8  | 19.9                 | 1.6 | 16.7, 23.1 | -8.7       | 2.0 | -12.7, -4.7 |
| 58+       | 11.8                             | 1.4 | 9.3, 14.8  | 16.3                 | 1.1 | 14.2, 18.5 | -4.5       | 1.8 | -8.0, -1.1  |

**Figure 13.9**      **Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian community, by age**





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## 14 Discussion

This study forms part of the Mental Health and Wellbeing Transition Study, which comes within the Transition and Wellbeing Research Programme. The primary aim of the present study is to compare the physical health of ADF members who transitioned out of full-time regular service in the five-year period between January 2010 and December 2014 (referred to as Transitioned ADF members) with that of full-time serving ADF members in 2015 (referred to as 2015 Regular ADF members). The specific areas of study are health symptoms, doctor-diagnosed medical conditions, respiratory health, injuries, pain, sleep problems, lifestyle risk factors (BMI, physical activity and smoking), self-perceived health and quality of life, and use of health services.

The study also compares the physical health status of Transitioned ADF members according to their transition status (Ex-Serving, Active Reservist, Inactive Reservist), DVA client status (DVA client, non-DVA client) and discharge status (medical discharge, non-medical discharge). The transition status groups broadly represent members' level of continued association and contact with Defence as well as their potential access to support services provided by Defence. By definition in this study, 'DVA clients' includes those receiving a fortnightly payment, treatment card holders, and those who have had their illness or injury liability claim accepted as service-related and were therefore more likely to have physical and/or psychological health condition(s) that met eligibility requirements. Because not all Transitioned ADF are or become DVA clients, the health of Transitioned ADF who were non-DVA clients is also compared. As a summary measure, discharge status was grouped as medical discharge or other (non-medical) discharge. It was expected that those who were medically discharged would probably have demonstrated poorer physical/mental health in order to be eligible for medical discharge status.

In addition, the study compares selected risk factors and physical health outcomes (smoking status, self-reported doctor-diagnosed asthma and quality of life) among Transitioned ADF members with an Australian community sample.

### 14.1 Overall patterns in physical health

Some clear patterns emerged during the analysis and interpretation of the study findings. The magnitude and variation in differences are discussed elsewhere in this report, but in a comprehensive study and a complex report such as this it is also useful to consider general patterns.

#### **14.1.1 Physical health outcomes in Transitioned ADF members and 2015 Regular ADF members**

Overall, poorer physical health outcomes were reported for Transitioned ADF members compared with 2015 Regular ADF members. Although the majority of both Transitioned ADF and 2015 Regular ADF reported their health to be excellent, very good or good, self-reported use of any health service in the preceding 12 months was significantly lower among Transitioned ADF. The findings for Transitioned ADF compared with 2015 Regular ADF in relation to the research questions revealed a number of general patterns:

- The weighted demographic characteristics of Transitioned ADF compared with 2015 Regular ADF showed that a greater proportion of Transitioned ADF were middle-aged or older, were female, had a diploma (but fewer had a university degree), were of a rank other than Officer or NCO, had served in the Army, were classified as medically unfit, and reported having less than eight years of service. Relationship status and housing stability were similar for the two cohorts.
- Transitioned ADF reported poorer health for most health outcome indicators.
- Transitioned ADF had a higher level of reporting general health symptoms but a similar pattern of symptom reporting.
- Transitioned ADF reported higher levels for some but not all doctor-diagnosed medical conditions.
- Transitioned ADF members reported some respiratory symptoms more commonly but were not more likely to report 'asthma ever' in their lifetime.
- Transitioned ADF reported a slightly higher mean number of service-related injury types compared with 2015 Regular ADF. In both cohorts the most common service-related injury types were musculoskeletal injury and fracture/broken bone. Their most common musculoskeletal injury sites were similar.
- Transitioned ADF reported similar pain intensity and disability during the preceding six months.
- Transitioned ADF overall were more likely to report clinical insomnia and moderate or severe insomnia during the preceding two weeks than 2015 Regular ADF.
- In relation to lifestyle risk factors, Transitioned ADF had a higher level of reporting physical inactivity compared with 2015 Regular ADF. The cohorts did not differ for the risk factors of BMI in the pre-obese and obese range and current, former or ever smoking status.

- Transitioned ADF were more likely to rate their self-perceived health as fair–poor (as opposed to excellent–good), to be dissatisfied with their health and to have low self-perceived quality of life (poor vs good). Compared with 2015 Regular ADF, they were more likely to report poorer physical health (poor–fair vs good–excellent) but were similar in terms of satisfaction with life.
- Transitioned ADF were less likely to report use of any health services in the preceding 12 months compared with 2015 Regular ADF. For both groups the most commonly consulted health professionals were GPs, dentists/dental professionals and specialist doctors. Dentists/dental professionals and specialist doctors were less likely and GPs were more likely to have been consulted by Transitioned ADF in the preceding 12 months compared with 2015 Regular ADF.
- Transitioned ADF were less likely to be current smokers and to have doctor-diagnosed asthma but more likely to report poorer self-perceived health than the Australian community.

The study assessed lifestyle risk factors, which are complex risk factors for non-communicable diseases (Australian Institute of Health and Welfare, 2012). In interpreting these findings, some considerations should be taken into account. First, physical inactivity and the prevalence of obesity (BMIs in the pre-obese and obese ranges) in Transitioned ADF include the reporting of physical conditions that could contribute to greater difficulty for the transitioned group to exercise and maintain body weight. Second, a consideration for reduced physical activity after separation from the ADF is that it is no longer necessary to pass a fitness test. Finally, BMI is based on height and weight, and some caution is required in relation to interpretation of BMI in the pre-obese range in particular, since BMI does not discriminate between higher muscle-mass and fat (Nuttall, 2015).

The findings of lower use of health services among Transitioned ADF compared with 2015 Regular ADF also need to be considered in context. A proportion of health service contacts for 2015 Regular ADF would more likely be for regular health checks or mandated medical examinations, rather than for specific treatment-seeking consultations. Further, Regular ADF have ready access to medical services in Service, while Transitioned ADF have access to medical services through the Australian national healthcare system more broadly. These factors could contribute to lower use of any health service observed among Transitioned ADF members in this study.

Although the report generally focuses on presenting results of stronger statistical significance, it does provide comprehensive data on findings that could have clinical significance. These clinically significant findings might relate to the potential for prevention or health promotion, or they could be considered in the context of existing clinical or other policies and programs in Defence and DVA.

For example, Transitioned ADF members were significantly more likely to have a circulatory condition than 2015 Regular ADF members, and this was largely because of a 60% increased likelihood of high blood pressure among the Transitioned ADF cohort. The odds of any circulatory condition were higher in the medically discharged Transitioned ADF compared with the non-medically discharged. The odds were not strong, but the findings could be clinically significant from the population and preventive health perspectives. There were also stronger associations with having ‘any digestive condition’ and with ‘any musculoskeletal condition’ and ‘any connective tissue condition’, as well as some of the individual digestive system or musculoskeletal system conditions respectively in Transitioned ADF compared with 2015 Regular ADF. The clinical importance of these findings might warrant further consideration.

Another example is the findings in relation to reported clinical insomnia. Transitioned ADF members were significantly more likely to report insomnia than 2015 Regular ADF members. Although the analysis adjusted for factors such as age, it might be important to consider whether reported insomnia is greater in different age groups and the relationship with psychological health and risk taking. Sleep disorders have been associated with risk in performance, fatigue and ability to concentrate and are important to consider in a clinical and organisational context (Filip et al., 2017; Kucharczyk et al., 2012).

The findings in relation to reported ringing in the ears (a symptom of tinnitus) and hearing difficulties provide a further example. Transitioned ADF members were significantly more likely to report ringing in the ears in the preceding month as well as significantly more likely to report having doctor-diagnosed hearing loss compared with 2015 Regular ADF members. The odds were not strong, but the findings could be clinically significant from the clinical and occupational health perspectives.

#### **14.1.2 Physical health outcomes in Transitioned ADF members, by DVA client status, transition status and discharge status**

Overall, the findings for Transitioned ADF members showed poorer physical health outcomes being reported for DVA clients compared with those who were not DVA clients, for Ex-Serving members compared with Active Reservists or Inactive Reservists, and for those who had been medically discharged compared with those who had been discharged for some other reason.

##### ***Transitioned ADF by DVA client status***

Among Transitioned ADF members, DVA clients were more likely to report poorer health on several outcomes compared with Transitioned ADF who were not DVA clients. The outcomes included increased physical health symptoms, higher numbers of doctor-diagnosed conditions, and an increased prevalence of some but not all of the categories of doctor-diagnosed conditions.

DVA clients were also more likely to report most respiratory symptoms, but not 'asthma ever', compared with non-DVA clients.

All injury types were more likely to be reported by DVA clients compared with non-DVA clients, and the prevalence of injuries sustained during training was greater than that for those sustained on deployment. The comparison of injury type experienced during training or on deployment was, however, based on comparison of weighted prevalences and their confidence intervals, rather than odds ratios, and should be interpreted with some caution.

Transitioned ADF who were DVA clients were more likely to report high pain intensity/disability compared with no pain and were more likely to report clinical insomnia than non-DVA clients. In terms of lifestyle risk factors, DVA clients were more likely to be categorised as obese, but there were no statistically significant differences in physical activity except for a borderline increase in being inactive (compared with being HEPA active) compared with non-DVA clients.

It is important to acknowledge that in the non-DVA client group there is a significant range of morbidity. Members of this group might not have come into contact with DVA since their discharge or might not be entitled to DVA benefits that include health services (for a DVA client as defined in this study). They do, however, have access to the healthcare system through Medicare and/or private health insurance. This study did not examine the point at which Transitioned ADF access DVA or whether the health services provided through DVA or through the national healthcare system are optimally meeting these people's needs.

DVA clients were more likely to report poorer self-perceived health compared with non-DVA clients, which could reflect their poorer physical health overall. While their mental health was not considered in conjunction with physical health in this report, this could also affect self-perceived health and quality of life.

In relation to use of health services, DVA clients were more likely to report consulting some health professionals or services than non-DVA clients in the preceding 12 months (for example, GPs, psychologists, a specialist doctor, an alcohol or drug worker, or an audiologist), highlighting DVA as an important conduit of care for many Transitioned ADF members. Possible explanations are that the relatively poorer health in DVA clients compared with non-DVA clients is associated with this finding of greater use of health services and/or that greater use is facilitated by the relative availability of health services for DVA clients. The relationship between poorer health and accessibility of services was not, however, considered in this study.

The study found that Transitioned ADF members who were DVA clients were more likely to report poorer health on several outcomes compared with those who were not

DVA clients. This finding is consistent with the expectation that DVA clients will have poorer physical health and greater service use given that DVA is the conduit for care in this population. DVA works with Transitioned ADF who present to DVA and who require assistance and/or are seeking compensation for a condition or injury linked to service, either physical or psychological/psychiatric. The definition of DVA clients used in this study – whereby DVA client or non-DVA client status was an indicator on the Military and Veteran Research Study Roll – included those receiving a fortnightly payment, treatment card holders, and those who have had their illness or injury liability claim accepted as service-related. Their reported health could thus reflect a condition that has been reported to and accepted by DVA in relation to their service and services they are eligible to receive or other conditions. The DVA health system operates within the broader context of the Australian national healthcare system. Veterans who do not use DVA services are still likely to access health care through the national system.

### ***Transitioned ADF by transition status***

Among Transitioned ADF members, Ex-Serving members were more likely to report poorer health on several outcomes than Active Reservists or Inactive Reservists; this included reporting of most individual health symptoms. Ex-Serving members were generally more likely to report a greater number of doctor-diagnosed conditions (seven to eight or more) than Active Reservists or Inactive Reservists. The pattern of reporting across groups was mixed, though, and only some of the grouped categories of medical conditions were higher for Ex-Serving ADF compared with Active Reservists. Ex-Serving ADF were more likely to report some respiratory symptoms but were not more likely than Active Reservists to report ‘asthma ever’.

Ex-Serving ADF were also more likely to report any injury or some injury types than Active Reservists, and the prevalence of injuries sustained during training was greater than that for injuries sustained on deployment. As discussed, the comparison of injury type experienced during training or on deployment was based on comparison of weighted prevalence and the associated confidence intervals, rather than odds ratios, and should be interpreted with some caution.

Additionally, Ex-Serving ADF members were more likely to report high-intensity pain compared with Active Reservists and Inactive Reservists. They were also more likely to report clinical insomnia than Active Reservists and Inactive Reservists. Both pain and insomnia can be sequelae of musculoskeletal disorders and can also be associated with mental health symptoms and disorders. The increased reporting of mental disorders in the Ex-Serving group, as discussed in the *Mental Health Prevalence Report*, is important to consider in the context of the increased reporting of high-intensity pain and insomnia.

In terms of lifestyle risk factors, Ex-Serving ADF were more likely to be physically inactive and obese compared with Active Reservists. Furthermore, Ex-Serving ADF were more likely to be current smokers (rather than never smokers) compared with Active Reservists. These findings highlight the importance of ensuring that before discharge this group receives information and education and opportunities to maintain their fitness and a healthy lifestyle.

Ex-Serving ADF were more likely to report poorer self-perceived health, satisfaction and quality of life on all the indicators compared with Active Reservists and Inactive Reservists.

In relation to health service use, the proportions of Ex-Serving ADF, Active Reservists and Inactive Reservists who reported visiting any health service in the preceding 12 months were similar. Overall, however, Ex-Serving ADF were more likely than both Active Reservists and Inactive Reservists to have visited most types of health professionals or services in the preceding 12 months and to have visited GPs or specialists in the preceding two weeks. This pattern of increased health service use is consistent with the increased self-reporting for most of the medical conditions and other physical health outcomes examined in the study and has implications for health service planning for transitioned personnel.

The reasons for discharge and the health status of ADF members on transition are assessed on application to the Reserves. It is therefore possible that the Ex-Serving group could include a greater proportion of individuals who were medically discharged or have physical or psychological health conditions that would render them ineligible for the Reserves.

### ***Transitioned ADF by discharge status***

Among Transitioned ADF members, those who had been medically discharged were more likely to report poorer health compared with those who left for another reason. The magnitude of the difference was greater than for the comparisons of Transitioned ADF by DVA client status or by transition status, although this was not tested statistically.

Transitioned ADF who were medically discharged were more likely to have increased reporting of health symptoms and doctor-diagnosed categories of medical conditions compared with those who discharged for another reason. For example, the medically discharged Transitioned ADF were more likely to report all respiratory symptoms (except nasal allergies) but were not more likely to report 'asthma ever' than those who were non-medically discharged. Transitioned ADF who were medically discharged were also more likely to report every injury type (except burn injuries) and higher pain levels and were more likely to have insomnia than those non-medically discharged.

In terms of lifestyle risk factors, when compared with the non-medically discharged those who had been medically discharged were more likely to be inactive and minimally active (as opposed to HEPA active), to be obese and to be a current smoker. These findings highlight the importance of ensuring that before discharge this group receives information and education and opportunities to maintain their fitness and a healthy lifestyle.

Transitioned ADF who had been medically discharged were more likely to have poorer self-perceived health, satisfaction and quality of life on all the indicators compared with the non-medically discharged, and these odds were of greater magnitude than those for comparisons within the Transitioned ADF subgroups.

In relation to the use of health services, Transitioned ADF who had been medically discharged were more likely to consult a range of health professionals and services than the non-medically discharged; this included alcohol and drug workers, diabetes educators, a dietician/nutritionist, GPs, a physiotherapist or hydrotherapist, psychologists, a social worker or welfare officer, and specialist doctors. This pattern of increased health service use is consistent with the increased self-reporting of most of the medical conditions and other physical health outcomes examined in the study and has implications for health service planning for transitioned personnel.

### ***Implications of physical health patterns in Transitioned ADF members***

In terms of overall patterns, differences between the Transitioned ADF subgroups were most pronounced or consistent among the medically discharged compared with the non-medically discharged and among DVA clients compared with non-DVA clients. Some, but not all, general health symptoms, respiratory symptoms and doctor-diagnosed medical conditions were more commonly reported in DVA clients, the medically discharged and Ex-Serving ADF compared with the other subgroups. Injuries were consistently reported to have occurred more commonly during training than during deployment for all subgroups, although, as noted, this finding should be interpreted with some caution.

It is possible that Transitioned ADF who had experienced health problems might have sought assistance from DVA by establishing claims and therefore becoming clients of DVA; on this basis the study findings are consistent with expectations that DVA clients would have poorer health than non-DVA clients. As noted, in the context of this study 'DVA clients' refers to those receiving a fortnightly payment, treatment card holders and those who have had their illness or injury liability claim accepted as service-related.

Among the Transitioned ADF adverse physical health outcomes were also reported by members who were not DVA clients. The reasons for this are not apparent from the

data analysed for this study. In relation to health care for particular conditions, it could mean that members have not yet established contact with and become clients of DVA and that this could be associated with pathways to care and an unmet need or that health services are being sought through the public or private Australian healthcare system, or a combination of both.

For the Transition and Wellbeing Research Programme, Transitioned ADF members were separated into three groups – Ex-Serving, Active Reservist and Inactive Reservist – broadly representing their level of continued association with Defence as well as their potential access to support services provided by Defence. Ex-Serving members were individuals who had discharged from the ADF; Inactive Reservists were individuals who were classified as a Reservist but have no ongoing, regular involvement with the ADF; Active Reservists were individuals who regularly parade or do Reserve work and are therefore still actively engaged with the ADF. The differences between Ex-Serving members and Active Reservists were considered the most marked in terms of ongoing contact with Defence as well as potential access to support services provided in Defence. It was in the comparisons of these groups that poorer health outcomes were more consistently observed, so their health status and ongoing requirements need to be considered in this context.

Poorer physical health outcomes were also observed for Transitioned ADF who had been medically discharged compared with those who had been discharged for another reason, a finding consistent with expected results. Data on the relationship between the reason/s for an individual's medical discharge and their reported physical health were not, however, collected for this study but could be considered with data linkage in the future.

## **14.2 The findings of previous research**

This section discusses the findings of previous epidemiological research in relation to transitioned military populations where available and health studies of veteran or military populations in order to compare the findings from the present study.

There is only limited current literature reporting on physical health outcomes among transitioned personnel or that includes comparisons of physical outcomes in transitioned personnel with serving defence personnel in the manner of this research program. This limited the comparisons with international transitioned versus regular serving military populations that could be made. One program of research is the Life After Service Studies (LASS), which was based on a nationally representative sample of Canadian Armed Forces Regular Force veterans released from service between 1998 and 2015 (referred to here as 'transitioned Canadian veterans'), with telephone surveys conducted in 2010, 2013 and 2016 (Thompson et al., 2011; Van Til et al., 2017;

VanDenKerkhof et al., 2015). The surveys assessed transitioned personnel but did not include a comparison with currently serving personnel. Where the most recent 2016 LASS study reported physical health findings as relevant to this current study, these findings are reported in the following sections (Van Til et al., 2017). It should be noted that the demographic and service profiles of the transitioned Canadian veterans and Transitioned ADF members can vary, and caution is required when considering the comparisons.

#### **14.2.1 Health symptoms**

In this present study Transitioned ADF members reported an increased number of health symptoms and the most commonly reported symptoms were similar compared with those reported by 2015 Regular ADF members. In any epidemiological study a comparison of the total number of symptoms and the most commonly occurring symptoms is more important than consideration of whether each individual symptom (for example, pain in joints or dry mouth) is more or less commonly reported between groups. Increased symptom reporting can persist in the longer term (Gwini et al., 2015) and has been associated with increased use of health services, thus having longer term implications (Gwini et al., 2016a).

Previous health studies of veteran and non-deployed comparison groups – including Australian Gulf War veterans in 2000 to 2002 and at follow-up in 2011 to 2012, as well as international veteran health studies (Kang et al., 2009; Smith et al., 2014; Unwin et al., 1999) – have described similar patterns of symptoms. The most commonly occurring symptoms in both the Transitioned ADF and 2015 Regular ADF were fatigue, sleeping difficulties, headaches, feeling unrefreshed after sleep and low back pain. These symptoms were among the six most commonly reported symptoms in Australian Gulf War veterans at follow-up in 2011 to 2012 (Sim et al., 2015) and similar to commonly reported symptoms in international health surveys of deployed and non-deployed comparison groups (Kang et al., 2000; Kelsall et al., 2004a; Unwin et al., 1999).

#### **14.2.2 Doctor-diagnosed conditions**

Transitioned ADF members reported a higher mean number of doctor-diagnosed conditions and a lower proportion of no doctor-diagnosed conditions compared with 2015 Regular ADF members. Associations for medical conditions categorised by body system and reported as individual doctor-diagnosed medical conditions varied. The pattern of reported doctor-diagnosed conditions was similar, although the ordered prevalence differed slightly between Transitioned ADF and 2015 Regular ADF. In Transitioned ADF the 10 most commonly reported doctor-diagnosed conditions were generally chronic medical conditions. The pattern for increased reporting of some doctor-diagnosed medical conditions was not as consistent as it was for increased reporting of symptoms by Transitioned ADF. This is similar to findings from the

Australian Gulf War Veterans' Health Studies (Kelsall et al., 2004a; Sim et al., 2015) and in international studies of veterans (Kang et al., 2009; Unwin et al., 1999).

In the 2016 LASS survey any physical health condition (chronic for more than six months) – musculoskeletal (back problem or arthritis), cardiovascular (high blood pressure, heart disease or stroke), gastrointestinal (ulcers or bowel disorders), respiratory (asthma or COPD), diabetes, cancer, urinary, central nervous system (migraine, dementia or traumatic brain injury effects) or obesity – was reported by 70.6% (95% CI 68.1, 72.9) of transitioned Canadian veterans. Since LASS 2013 the trend for chronic conditions was reported to have increased, although not statistically significantly. Comorbid physical and mental (mood disorder, anxiety disorder or PTSD) health conditions were reported by 24.7% (95% CI 22.6, 26.9) and no physical or mental health conditions were reported by 25.5% (95% CI 23.3, 27.8) of transitioned Canadian veterans (Van Til et al., 2017). Of Transitioned ADF members, 43.3% (95% CI 41.3, 45.4) reported no doctor-diagnosed medical conditions. Our study did not, however, assess physical and mental health comorbidity of conditions.

Transitioned Canadian veterans reported chronic conditions – including arthritis (29%) and back problems (41%) and hearing problems (12%) – at higher prevalences than Canadian civilians of comparable age and sex. Senior non-commissioned members in transitioned Canadian veterans reported arthritis (40%) and hearing problems (19%) more commonly than officers or more junior ranks.

### **14.2.3 Respiratory symptoms and conditions**

In the present study, respiratory health outcomes between groups were compared according to respiratory symptoms and definitions of asthma based on standardised questions. The questionnaire assessed a range of respiratory health symptoms, including symptoms related to wheeze, shortness of breath, cough, difficulty breathing and nasal allergies. Symptoms used to assess and compare respiratory health outcomes may be associated with a range of respiratory conditions, such as asthma, chronic bronchitis, emphysema and chronic obstructive pulmonary disease. Further questions related to self-reported asthma during the course of one's lifetime (asthma ever) were asked. It has been recognised that a single definition of asthma is not applicable to all studies and that the focus of epidemiological research should be on comparing the prevalence of asthma between populations using standardised methods, rather than on trying to estimate the 'actual prevalence of asthma' in a population (Pekkanen & Pearce, 1999), an approach used in this study. Transitioned ADF members compared with 2015 Regular ADF members (and the subgroups of DVA clients, Active Reservists and medically discharged transitioned status) tended to report some but not all respiratory symptoms more commonly than their comparison groups. In Transitioned ADF, DVA client status, medical discharge or transition status were not associated with self-reported lifetime asthma. Medical standards in the ADF

were revised in 2007, allowing some people with mild asthma to enter the ADF under strict guidelines and allowing military personnel with mild controlled asthma to remain in the Regular ADF (Bailey & Williams, 2009). This study did not find asthma to be more frequently reported in the medically discharged group compared with those who discharged for other reasons.

In studies of transitioned Canadian veterans, asthma (more than six months' duration and diagnosed by a health professional) was reported by 6% of veterans in LASS 2016 and respiratory conditions (asthma or COPD) were reported by 8.7% (95% CI 7.6, 9.9) of transitioned Canadian veterans in LASS 2010, by 8.0% (95% CI 6.7, 9.4) in LASS 2013, and by 8.3% (95% CI 7.0, 9.8) in LASS 2016. Tests of trends were not reported, but prevalences appear relatively stable over time. The reporting of asthma in transitioned Canadian veterans was similar to that among Canadian civilians (6.5%) of similar age and sex (Van Til et al., 2017). In contrast, 15.3% of Transitioned ADF members reported doctor-diagnosed asthma, which was significantly lower than the Australian community sample (21.9%). There is no obvious explanation for these findings.

#### **14.2.4 Service-related injuries**

The two most common injury types reported by Transitioned ADF members and 2015 Regular ADF members were musculoskeletal injury and fracture/broken bone. The most common musculoskeletal injury sites (reported by more than 20%) in Transitioned ADF were knee, spine, ankle, shoulder, neck and foot; in 2015 Regular ADF they were knee, shoulder, ankle, spine and neck. Overall, the pattern of injury types in Transitioned ADF and 2015 Regular ADF was similar for most injuries, with small differences in prevalence for some. The prevalence of injuries sustained during training was greater than that for those sustained on deployment.

The morbidity associated with injuries was also explored in the Australian Gulf War Veterans Follow up Health Study: 38.8% of Gulf War veterans and 37.5% of the military comparison group participants reported at least one injury that was bad enough to interfere with daily activities in the preceding 12 months (Sim et al., 2015). The injuries asked about were not specifically service related, although 10% of both groups reported working for an income while in the ADF when the injury occurred. The most common event types leading to the injury were falls of less than a metre, being cut or pierced by an object such as a knife or tool, sport- or exercise-related activities, or other (for which it was commonly reported in the text that the injury was sport- or exercise-related or that the injury was a sprain/strain or muscle tear). A total of 42% of Gulf War veterans and 39% of comparison group participants took time off work or study as a result of their injury, suggesting considerable associated morbidity.

#### 14.2.5 Pain

The majority of both Transitioned ADF members and 2015 Regular ADF members reported being pain free or having Grade I low disability – low intensity pain, demonstrating the widespread presence of pain. The reasons for increased pain intensity/disability were not collected in the transition study (for example, whether those who reported injuries, an increased number of injuries or injuries of specific types or those with doctor-diagnosed musculoskeletal disorders also reported increased pain intensity and disability). It also needs to be recognised that the causes of pain can be multifactorial and complex. This could be an area for future investigation, since pain has been shown to be very prevalent in other military populations. In comparison with the 41.3% of Transitioned ADF in the current study who experienced low-grade pain intensity/disability, the same proportion (41%) of transitioned Canadian veterans experienced constant pain or discomfort and 23% experienced recurrent pain (VanDenKerkhof et al., 2015; Van Til et al., 2017). Senior non-commissioned members were more likely to report pain than officers or lower ranks; 25% reported pain interference with activities (VanDenKerkhof et al., 2015). This highlights the importance of assessing pain and any psychological comorbidities in rehabilitation (Kelsall et al., 2014).

#### 14.2.6 Sleep

Many factors can affect sleep. Transitioned ADF members were more likely than 2015 Regular ADF members to report clinical insomnia of moderate or severe intensity. The reasons for the insomnia were not investigated further in this study; nor was the perceived impact on individuals' daily functioning.

The US 2009 Behavioral Risk Factor Surveillance System (analysed in 2011) (Faestel et al., 2013) found that, after multivariable adjustment, insufficient rest or sleep (22.7% vs 21.1%,  $p < 0.001$ ) and short sleep duration ( $< 7$  hours a night, 34.9% vs 31.3%,  $p = 0.026$ ) were more common among veterans than among non-veterans (non-institutionalised US adults). There was little difference in sleep between newly transitioned ( $\leq 12$  months) and longer term ( $> 12$  months) transitioned veterans. Veterans who were 21–44 years of age (vs 65–74), women, non-whites, current smokers, obese or unable to work and those in poor health were at greater risk of sleep problems (Faestel et al., 2013). Sleep disturbance can be a non-specific marker of distress that can arise from pain and psychological and physical morbidity (Ohayon & Roth, 2003) and sleep disturbance as a predictor of subsequent psychological morbidity has been identified in population studies (Ford & Kamerow, 1989). A review of insomnia and occupational functioning found insomnia symptoms were consistently associated with increased absenteeism, elevated accident risk in the workplace, reduced subjective experience of workplace productivity (in the short term), inhibited career progression and poorer job satisfaction, but not with punctuality (Kucharczyk et al., 2012). The importance of sleep hygiene is recognised in the ADF, and the finding of

increased insomnia among Transitioned ADF members highlights the importance of ensuring that before discharge this group is given information on sleep hygiene. Inclusion of sleep measures in regular health or psychological screening could also be of value (Steele & Fogarty, 2017).

#### **14.2.7 Lifestyle risk factors: smoking, body mass index and physical activity**

About 30% of active duty US military personnel smoke cigarettes and more than 14% use smokeless tobacco. More recently the US military has aimed to reduce the prevalence of tobacco use. A 2013 commentary reviewing research with the US Air Force reported the following: smoking bans are effective, recruits who have never previously smoked cigarettes begin tobacco use, smokeless tobacco serves as a gateway for smoking initiation, smoking is associated with discharge, smoking adds significant proximal training costs, tobacco use increases during deployment, and tobacco quit-line counselling with provision of medication is effective. Post-deployment was considered an opportune time for introducing tobacco cessation programs (Talcott et al., 2013). The prevalence of daily smoking reported in transitioned Canadian veterans in the LASS 2010 and LASS 2013 surveys – 18.4% (95% CI 16.9, 20.1) and 16.6% (95% CI 14.7, 18.7) respectively (LASS 2016 data were not reported) – was lower than in US military personnel but greater than the prevalence of current smoking in male (15.9%) and female (10.5%) Transitioned ADF personnel (Van Til et al., 2017).

The MEAO Census Health Study found increased rates of initiation of and recidivism with smoking on deployment in the ADF (Lewis et al., 2015). Increasing rates of daily smoking during the first year of service in the ADF were also reported in a longitudinal study of recruits who joined the ADF between 2009 and mid-2013 (Lewis et al., 2015). In the Australian Gulf War Veterans' Baseline Health Study in 2000–02, current smoking prevalence was greater in Gulf War veterans (25.9%) and the comparison group (23.0%) but had decreased similarly in both groups at follow-up in 2011 to 2012 (13.1% Gulf War veterans and 9.8% comparison group) (Sim et al., 2015). The latter rates were slightly lower than the proportions of current smokers in Transitioned ADF (15.2%) and 2015 Regular ADF (14.1%) in the present study.

While smoking rates might be lower than or comparable with those in the US and Canadian military, the association between smoking and military service (particularly in this cohort with increased smoking in the medically discharged group) and the recognised importance of smoking as a risk factor and predictor for many adverse health outcomes suggest that during service and before discharge provision of information about smoking cessation is important. In Australia, national and state campaigns aim at smoking cessation and tobacco control – for example, through the Cancer Council Australia (Cancer Council Australia, 2017) and Quit (Quit Victoria, 2018). The influence of these programs on Transitioned ADF and 2015 Regular ADF might

differ from that of the general community, though, and smoking cessation knowledge and behaviour were not specifically explored in this study. It should also be acknowledged that this study did not explore ADF and DVA policy and programs in relation to smoking cessation.

The preventable lifestyle risk factors associated with current smoking, obesity (BMI in the obese and pre-obese range) and physical inactivity are important considerations in relation to maintenance of physical standards whilst in the ADF. In the Australian Gulf War Veterans' Baseline Health Study in 2000–02 pre-obesity prevalence in Gulf War veterans was slightly higher than (51.6%) and similar to (48.5%) that in Transitioned ADF (45.5%) and 2015 Regular ADF (49.1%) in the current study. The community prevalence of obesity has increased over time, so no increase over time between military cohorts gives some positive indications. In contrast, community smoking prevalence has decreased over time, so higher rates in the current study compared with previous Australian military studies are a concern. Both BMI and smoking are thus important lifestyle risk factors that warrant ongoing consideration.

Given the importance of physical activity to health, weight management, sleep hygiene and overall wellbeing and quality of life, ensuring that there is a favourable environment for leisure-time physical activity (Martins & Lopes, 2013) is important. Weight gain and inactivity are risk factors for diabetes, which can lead on to a wide range of adverse health outcomes. These conditions can also be proxy markers for mental disorders such as depression and PTSD and should be considered in any clinical or population-based interventions (Chwastiak et al., 2011; Kubzansky et al., 2014; Pagoto et al., 2012). Improvement in lifestyle factors is an important aspect to consider in the assessment of physical and mental health. Taken together, these findings could be considered in the light of health education and promotion.

Military personnel transitioning out of the military organisational structure and its healthcare system experience greater freedom to make decisions about their health care but also require greater initiative and potentially greater resources (Villagran et al., 2015). A study of US veterans based on the 2010 Behavioural Risk Factor Surveillance System found that during the period of transition from active-duty military to civilian life women veterans' use of healthcare prevention services decreased and physical and mental health decreased throughout the transition in recent and longer term veterans (Villagran et al., 2015). Although health service use was similar in Transitioned ADF members and 2015 Regular ADF members, this study did not examine pathways to care for physical disorders, access to preventive health care in Transitioned ADF, or decision making in relation to lifestyle choices.

Based on the results of the US Millennium Cohort Study, moderate-to-vigorous physical activity (MVPA) in US personnel declined substantially more in those who

were discharged than in those who were not (–17.8 percentage points vs –2.7 percentage points) (Littman et al., 2015). Greater decline was observed in former active-duty personnel, those who had deployed with combat exposures, those who had 14 to 25 years of service, and those who had been discharged more recently (more than two years before). In those who were discharged, being normal or overweight (as opposed to obese) and being a non-smoker or former smoker (as opposed to a current smoker) were positively associated with MVPA guidelines at follow-up, while other factors such as meeting the guidelines at baseline and depression were inversely associated (Littman et al., 2015). The transition period can be a time when preventive measures are important in guiding health behaviours to help prevent physical inactivity and weight gain and the associated adverse physical and mental health outcomes (Littman et al., 2015). The findings of this present study suggest that preventive measures in relation to weight management and obesity are important in the Transitioned ADF and the Regular ADF and more generally in subgroups of Transitioned ADF such as the medically discharged, Ex-Serving and DVA clients.

#### **14.2.8 Use of health services**

Although similar proportions of Transitioned ADF members (87.1%) and 2015 Regular ADF members (90.1%) consulted a health service in the preceding 12 months, the odds were significantly lower in Transitioned ADF. In relation to specific health service providers, Transitioned ADF were less likely to have consulted dentists/dental professionals and specialist doctors and more likely to have consulted GPs. The health professionals or services most commonly consulted by both Transitioned ADF and 2015 Regular ADF were similar. The patterns of health service use in the 2015 Regular ADF are likely to have, in part, reflected attendance for routine health assessments for administrative reasons (such as pre- and post-deployment health checks) and this makes meaningful interpretation difficult.

Among transitioned Canadian veterans, 82.8% in LASS 2016 reported having a regular medical doctor; this proportion was similar to those found in previous surveys. A total of 10.7% reported having unmet healthcare needs in the preceding year, a decrease from 16.3% in LASS 2013. As with our study, in the case of service use in the preceding year the most commonly consulted health professional was a family doctor (72%), while 24% of the Canadians had a mental health visit, 10% reported home care, 8% reported hospitalisation and 46% reported being a Veterans Affairs Canada client (although the health of those who were and were not Veterans Affairs Canada clients was not compared) (Van Til et al., 2017).

#### **14.2.9 Self-perceived health and quality of life**

The majority of both Transitioned ADF members and 2015 Regular ADF members reported their self-perceived health to be excellent, very good or good, but Transitioned ADF generally rated their quality of life and satisfaction with health to be

poorer than did 2015 Regular ADF. Although the questions were aimed at assessing perceptions of physical health and related quality of life, the responses are likely to have been influenced by a range of other factors, such as mental health and sociodemographic characteristics.

Among transitioned Canadian veterans in LASS 2016, self-perceived health was reported by 46% as very good or excellent; senior non-commissioned officers had the lowest rate, at 38%, compared with junior non-commissioned officers, at 44%, and officers, at 62% (Van Til et al., 2017). In contrast, a slightly lower proportion of Transitioned ADF (35.3%) perceived their health as very good or excellent. This comparison should, however, be interpreted with caution because of the single-item nature of the question and the influence of service characteristics such as rank on the response, which may differ between the LASS study and this present study.

### **14.3 Comparability with the Australian community sample**

For the present study, Transitioned ADF members were compared with an age-, sex- and employment-matched Australian community sample on three indicators – smoking status, doctor-diagnosed asthma and quality of life.

Compared with the Australian Community sample, among Transitioned ADF the estimated proportion of current smokers was significantly lower and those for former smokers and never smokers were significantly higher; this pattern was similar in males and females and by age group. One consideration is that increased smoking might be self-reported on entry to the military and military deployments but then be followed by quitting smoking.

The majority of Transitioned ADF members and the Australian Community sample reported their health as good, very good or excellent. The proportion of Transitioned ADF who perceived their health as good was similar to that for the Australian Community, whereas the proportion of Transitioned ADF who perceived their health as excellent or very good was lower. The proportion who rated their health as fair or poor was higher compared with the Australian Community sample. This pattern of poorer self-perceived health among Transitioned ADF compared with the Australian Community was similar in males and females and by age group. The implications of an increased proportion of Transitioned ADF reporting their health as fair or poor are not clear. For example, comparisons between the Transitioned ADF cohort and the community sample on a number of comorbidities were not done, and this was a single-item question that was not specifically directed at physical health but rather dealt with self-perceived health in general.

Self-reported doctor-diagnosed asthma in Transitioned ADF and doctor-diagnosed asthma in the Australian Community sample were used to define asthma for

comparative purposes. In Transitioned ADF, asthma prevalence was significantly lower (15.3%) than in the Australian Community (29%). This pattern of lower prevalence was the same in males and females and lower in all age brackets in Transitioned ADF compared with the Australian Community; it is likely to reflect expected medical standards in the ADF.

## **14.4 Comorbidity and interrelationships of physical health and mental health**

Physical health outcomes should not be viewed in isolation: they can interact with each other and with mental health. Although this was not analysed specifically in the present study, the comorbidity and interrelationships of physical health and mental health are also important.

### **14.4.1 Comorbidity**

Although 43% of Transitioned ADF members reported no doctor-diagnosed medical conditions, 32% reported one or two doctor-diagnosed medical conditions. A decreasing proportion of Transitioned ADF reported an increasing number of doctor-diagnosed conditions: 13% reported three or four, 6% reported five or six, 3% reported seven or eight, and smaller proportions reported even more. This suggests a minority of Transitioned ADF reporting a high level of physical comorbidity. Among Transitioned ADF who were DVA clients, fewer (26%) reported no doctor-diagnosed conditions and a greater proportion reported an increased number of conditions: 21% reported three or four, 10% reported five or six, 6% reported seven or eight, and smaller proportions reported a very high number of physical conditions. Transitioned ADF members who are DVA clients have accepted medical conditions, and these findings are consistent with this pattern of increased reporting of doctor-diagnosed conditions.

Among veterans in Veterans Affairs Canada programs, 91–92% had at least one physical health condition diagnosed by a health professional (which is greater than DVA clients, although it should be noted that the definition might not be exactly comparable) and about half (40–60%) had at least one mental health condition. Two-thirds had four to six physical and mental health conditions and one-fifth had even larger numbers of comorbid conditions (Thompson et al., 2011).

Comorbidity of disorders (considered in relation to multi-symptom illness, chronic fatigue, and 12-month major depression, PTSD and alcohol use disorder) in Australian Gulf War veterans at the baseline assessment (2000–02) was not uncommon: 30% of Gulf War veterans and 20% of the comparison group had two or more of the five conditions (Sim et al., 2015). Patterns of increased but similar physical, psychological and functional comorbidities were found in Australian Gulf War veterans compared with a military comparison group with defined multi-symptom illness (Kelsall et al.,

2009), as well as comorbidities of physical and psychological disorders such as an increased prevalence of hypertension in those with PTSD (Abouzeid et al., 2012).

#### **14.4.2 Interrelationship with mental health**

Increased symptom reporting among Transitioned ADF members and subgroups was a finding of the present study. The symptom questionnaire covered a range of general health symptoms across multiple body systems. A challenge in interpreting the significance of these general health physical and psychological symptoms in a symptom questionnaire is that there can be a high level of comorbidity between these symptoms and psychiatric disorders (McFarlane et al., 2008). For example, some of the symptoms are associated with low-grade inflammation (Tak et al., 2009), a factor that recent research has found to be part of the underpinning of PTSD (Spitzer et al., 2010).

Other health indicators such as sleep, pain and quality of life are also related to both physical health and mental health and impacts. The higher levels of pain among Transitioned ADF members need to be interpreted in the context of the mental health of this group. Depression and PTSD can contribute to pain symptoms and have shared neurobiological dysregulations (Baune et al., 2008; Moeller-Bertram et al., 2014).

Another important aspect of the pattern of reported doctor-diagnosed conditions in Transitioned ADF members (particularly musculoskeletal conditions and risk factors for cardiovascular disease such as high cholesterol and high blood pressure) is that these have known patterns of comorbidity with depression (Kelsall et al., 2014) and with PTSD (Abouzeid et al., 2012; Andersen et al., 2010; Kibler et al., 2014; Rosenbaum et al., 2015; Sareen et al., 2007; Sumner et al., 2016). It is beyond the scope of this report to explore these relationships, but the comorbidity between physical and mental disorders that are most prevalent in military populations – particularly depression and alcohol use disorders (Ikin et al., 2004, 2016; Sim et al., 2015) – as well as the extensive known physical comorbidities of PTSD make the interrelationship between physical and mental health a topic that requires further investigation in this population (Sareen et al., 2007).

### **14.5 Strengths and limitations**

A central question for this study concerned comparing physical health among Transitioned ADF members with that among 2015 Regular ADF members. The study assessed this using physical health indicators relevant to general physical health and to several body systems more specifically, in addition to participants' perceptions of their health and satisfaction with and quality of life.

An important aspect of the study design in assessing the health of Transitioned ADF members was the inclusion of a relevant military comparison group – that is, the comparison of Transitioned ADF members (who had transitioned from 2010 to 2014)

with Regular ADF members who were in the Services in 2015, the year directly adjacent to this period, with data in both populations being collected in 2015. Some comparisons used Australian community data. This could be done for only a small number of measures and using data obtained from a largely comparable year. It also needs to be acknowledged that comparisons with a civilian population have their limitations. For instance, it is well recognised that military populations differ in a number of ways from the general community. The limitations include selection into the military and maintenance of fitness, possible environmental and chemical exposures, and stressful experiences. These can all differ from experiences in the general community and can affect physical and/or mental health. A strength of the study, however, was the comprehensive assessment of physical health within the extensive nature of the research program overall, which included multiple components of physical and mental health to provide a solid evidence base for the future.

One limitation of the study was the response rate of 29.1% for the entire survey across both Transitioned ADF and 2015 Regular ADF (total responders / total invited) and the response rate in Transitioned ADF (18.0%) compared with that for 2015 Regular ADF (42.3%). In addition to the substantially lower response rates in Transitioned ADF compared with 2015 Regular ADF, there were substantial differences across all groups (Service, sex, rank, medical fitness) between Transitioned ADF and 2015 Regular ADF. Further, participation in the Transitioned ADF cohort was lower in Navy (15.7%) and Army (17.0%) than in Air Force (24.9%) and in those of lower rank in both Transitioned ADF members (7.7%) and 2015 Regular ADF members (19.7%). The implications of this include the potential for bias, especially in low-participation groups. Participation bias can occur if participants differ from non-participants in terms of characteristics associated with the study-dependent measures, such as health status. There was no formal examination of participation bias in the study. Some factors that may affect participation bias were considered in the weighting approach in the calculation of the population estimates, but some were not and these are of more concern in those that had low participation rates.

The low participation rates also meant that numbers of cases for some health outcomes of interest were small and thus the analyses had limited statistical power to investigate differences between groups in the health outcomes of interest and in the study populations directly than might have been achieved with a higher participation rate. Weighting was applied to survey data for the Transitioned ADF and for the 2015 Regular ADF respondents to allow for the inference of results to the entire Transitioned and 2015 Regular ADF populations. The process was similar to that taken in the MHPWS (see Annex A), which also included assumptions in relation to missing data – for example, medical employment classifications.

Overall, the weighted demographic and service characteristics of Transitioned ADF compared with 2015 Regular ADF showed differences between the groups, some of which were statistically significant. Many of the differences were small (for example, proportion of females 13.1% vs 9.2% or university qualification 20.4% vs 22.9%); other differences were of relatively greater absolute magnitude (lower rank 52.2% vs 41.1%, having served in the Army 60.3% vs 49.1%, or classified as medically unfit 26.7% vs 12.3%).

Statistical adjustment for possible confounding factors was made during regression analyses for age, sex, Service and rank and for smoking in analyses related to respiratory health. Many analyses were performed in the preparation of the report, so there is also the potential problem of multiple comparisons and statistically significant findings occurring as a result of chance.

The report examines the differences in physical health outcomes among Transitioned ADF members compared with 2015 Regular ADF members. Associations between mental health, traumatic events, demographic factors such as age, or service-related factors such as rank or Service that have previously been shown to be linked with poorer physical health (Kelsall et al., 2004a; Sim et al., 2015) were not investigated further as part of this study. Further examination of such factors or associations with exposures or with other predictors might help to explain observed differences between Transitioned ADF and 2015 Regular ADF or between Transitioned ADF subgroups. For example, examination of predictive factors might help to explain the observed findings of differences in symptom reporting or differences in reporting of circulatory conditions, digestive conditions or musculoskeletal and connective tissue conditions between groups.

Reported doctor-diagnosed medical conditions were not analysed on the basis of year of diagnosis in relation to transition, or otherwise, from the ADF. It was therefore possible that the onset of reported doctor-diagnosed conditions in Transitioned ADF could have occurred while the individual in question was serving in the ADF. If so, the study might slightly overestimate the difference in reported doctor-diagnosed medical conditions by Transitioned ADF compared with 2015 Regular ADF.

Chronic conditions tend to increase with age (Australian Institute of Health and Welfare, 2016), although previous research in veteran populations has found an increased likelihood of reporting some adverse health outcomes, including increased symptom reporting and some psychological disorders, in younger veterans (Ikin et al., 2004; Kelsall et al., 2009; Sim et al., 2015). This study adjusted for age in comparisons between groups but did not examine the effects of age in health outcomes.

Musculoskeletal injuries were the most common type of injury reported by participants, and they were more likely to be reported as being sustained during

training. There could be a number of reasons for this, and it was not possible to fully explore in this study whether training is riskier than deployment. The study findings provide a base for further investigation of associations between injury patterns and military service roles, such as the number of deployments or different roles in active ADF service.

In the Transition and Wellbeing Research Programme the term ‘DVA client’ is based on an indicator DVA created for the purpose of analysis. There was variability within this group in terms of DVA’s interaction with them; for example, some veterans were in receipt of a fortnightly payment such as income support or a compensation payment, some veterans held a treatment card, and some veterans might have had an illness or injury liability claim but did not have a treatment card or were not receiving a pension payment but were still considered DVA clients. This indicator therefore means that they were DVA clients but there was probably heterogeneity within the group in relation to their health status.

Health service use and reported consultations were used as a health indicator. By collecting self-reported data on health service use it is possible to collect information on the use of various allied health services that might not be included in the Medicare databases as well as information from participants who did not agree to Medicare linkage. In addition, linkage with and collection of recorded Medicare data allows the assessment of health service and pharmaceutical use over a period back in time without relying fully on participants’ recall. Combined, the self-reported and linked health databases can provide a more complete description of health service and pharmaceutical use than that which would be achievable with either data source alone. Health service use indicators linked to reported Medicare and PBS data can be developed a priori – for example, through consultations with healthcare professionals such as GPs and medical specialists in fields of relevance, such as respiratory physicians, psychiatrists and gastroenterologists. Indicators for pharmaceutical use reporting can also be developed a priori and complement data on self-reported use of medications. Participants were asked for consent to link their identifying information with Medicare data to obtain objective data on health service use and pharmaceutical use in addition to self-reported information. The data from this linkage were not analysed or reported in this study.

A limitation when interpreting the data on health service use can occur because of the higher number of routine medicals undergone while still serving, which might affect comparisons of treatment-seeking consultations based on all consultations. The data collected did not, for example, differentiate consultations for the purposes of routine medical examinations. A related concern involves access to medical and dental care and pharmaceuticals for serving members through Defence health service provision, while Transitioned ADF members need to arrange and fund their own treatment or

claim through DVA, or a combination of both. This could contribute to differences in health service use and differences in health status. The overall analyses conducted for the study could not separate out the contribution of these factors to specific differences in outcomes – for example, differences in high blood pressure reported between Transitioned ADF and 2015 Regular ADF. Furthermore, an analysis of DVA policies or programs or ADF policies or programs was beyond the scope of this report.

To maximise the robustness and comprehensiveness of the study results, the methodology included several well-validated health instruments and questionnaires that have been used previously in veteran and military health studies. Assessment of physical health combines the assessment of several physical health outcomes based on measures used in other veteran or military health studies and includes lifestyle risk factors and anthropometric measures. One limitation was that many of the instruments were based on self-reporting. This might result in biases, including observation (information) bias, which can include recall bias. Recall bias can occur when those with a particular adverse outcome recall and report previous exposure experience differently from those without the adverse outcome or when those who have been exposed to a potential hazard report subsequent development of health outcomes differently from those who were not exposed. This can result in an underestimation or overestimation of the risk (Hennekens & Buring, 1987). There is no obvious reason for considering that this would have differed among Transitioned or Regular ADF members.

Ability to recall a past event can also depend on the recall period. The recall period used for many questionnaires in this study was a week or a month, although in some instances it was longer – for example, the preceding 12 months for health service use where specific health services might not have been used over a shorter period. Measures were used to minimise information bias, included asking respondents the same questions in the same manner, using standardised, validated questionnaires, and using a period of recall relevant to the outcome of interest and over a shorter time frame where possible.

Some of the measures – such as those dealing with self-perceived health and quality of life – were single-item measures and reduced the burden on respondents. Although these were drawn from validated instruments, they were limited in their scope to investigate components of physical health and wellbeing and quality of life compared with a more comprehensive instrument. The question on self-perceived health was not specifically addressed to physical health and could be influenced by the respondent's perceptions of their mental health.

The measure of BMI was based on reported height and weight, although respondents were given instructions on measuring and recording their height and weight so that measurements could be collected in a standard way for all study participants.

Finally, the study investigated the initial stages (the first five years) of transition and establishes a very important baseline assessment of health in this cohort, rather than relying on trying to capture health impacts retrospectively in the future. This is relevant since some physical disorders with a longer lead-time for development – such as cancer, diabetes, chronic obstructive pulmonary disease, musculoskeletal conditions (including joint disease) or chronic physical disorders that could be related to military service – might not have developed yet. Equally, delayed onset PTSD, which has been well documented in veteran populations (Horesh et al., 2011; Marmar et al., 2015), means that there is an ongoing probability of increasing risk of the related physical comorbidities. Furthermore, while this report does not investigate the role of combat exposure itself as a determinant of premature onset of chronic disease and death – which was found in a longitudinal cohort of World War 2 veterans (Lee et al., 1996) and in veterans of more recent conflicts – it provides a baseline for this to occur in the future. The previous research findings suggest that the health burden described in this report for Transitioned ADF members could underestimate the total health burden that is likely to be experienced by this group in the longer term.

## **14.6 Implications for practice and further research**

The purpose of this report was to examine the prevalence and significance of physical health outcomes in a representative sample of Transitioned and Regular ADF members. It is one of the first studies internationally to investigate a comprehensive range of physical health indicators in recently transitioned military personnel. It provides a comprehensive dataset and framework for further detailed analyses of the physical health of ADF members both now and in the future and has several important implications for practice and future research.

Overall, Transitioned ADF members were more likely than 2015 Regular ADF members to report poorer physical health across all domains and to have increased lifestyle risk factors coupled with poorer self-perceived health, satisfaction and quality of life. The survey questionnaire asked participants about the year of diagnosis for each medical condition they reported, and this could be assessed further in relation to discharge from the ADF and in relation to presentation to DVA currently and in the future. Among the Transitioned ADF members more specifically, those who were further removed from the ADF (that is, Ex-Serving) and those who were already DVA clients or received a medical discharge appeared to be particularly at risk. In the context of findings from the *Mental Health Prevalence Report*, physical comorbidities and the relationship with psychological health are an important consideration. Furthermore,

physical health status in the transitioning phase can have other implications – for example, for general health and wellbeing, for re-integration and employment post-transition and, in the longer term, for later onset of chronic health conditions.

The findings of poorer health among Transitioned ADF compared with 2015 Regular ADF and in the subgroups of Transitioned ADF could have implications for the services these individuals are eligible to receive or for service planning. These implications, however, need to be considered in the context of Defence and DVA's existing programs, which was beyond the scope of this report.

Further consideration of patterns of injury and risk factors might offer opportunities for building an evidence base around the implications of injuries for performance and medical discharge, as well as providing greater opportunities for prevention/injury reduction through design of equipment and other strategies. Further analysis should be used to identify subgroups at greater risk of injury and the associated risk factors, with injuries during training being of particular interest. At present in the ADF women have increasing and changing roles. There is the potential for this to have implications for health, particularly in terms of musculoskeletal disorders and injuries, so further analyses could consider health outcomes in females in particular.

Sleep disorders and fatigue are important considerations in relation to work performance and especially in relation to people in safety-critical jobs. Findings of an increased prevalence of sleep disturbance and other lifestyle risk factors in Transitioned ADF members (in particular DVA clients and those who have been medically discharged) highlight the importance of ensuring that this group receives information and opportunities to maintain their fitness and a healthy lifestyle (through education) before discharge. Consideration of the inclusion of sleep measures in regular health or psychological screening might also be of value.

Smoking is an important risk factor, and smoking cessation is a public health measure as relevant to ADF and Transitioned ADF members as it is to the general population, although it is recognised that current smoking is less than that in the community. Overweight or obesity and inadequate physical activity are well-documented risk factors for chronic disease. These risk factors and their implications need to be considered in the context of existing health programs both in the ADF and in the general community.

There are implications for monitoring the health of the Transitioned ADF cohort into the future in order to integrate the findings in relation to physical health with mental health and pathways to care and to monitor changes in their physical and mental health status over time. This could be achieved through repeated health surveys or through data linkage with the existing Medicare and PBS databases. Monitoring the

health and healthcare needs and health service use of the non-DVA client group is also important – including whether they apply for benefits and become clients of DVA.

Despite its size and breadth, the current study did not investigate the causal pathways and correlates of physical health symptoms among Transitioned ADF members. Nevertheless, the data collected through the Mental Health and Prevalence Wellbeing Study (for example, on demographic and service-related factors), together with findings on mental health and pathways to care have important implications for both Transitioned and Regular ADF members and for their clinical and allied health service providers, for their families, and for DVA and Defence in their health care and employment.

Taken together, the results from this program of research provide a platform for identifying specific subgroups at risk of poor physical, mental and social health outcomes in the future. In particular, they provide the foundation for gaining a more complete understanding of the physical health of Transitioned ADF members through an understanding of comorbidities and interrelationships between physical and mental disorders that are most prevalent in military populations. This includes the association between physical comorbidities of PTSD, depression and alcohol use disorders (Ikin et al., 2016; Ikin et al., 2004; Sim et al., 2015) as well as musculoskeletal disorders, mental disorders, insomnia, pain, disability, and self-perceived health and quality of life. This information can be used to inform policy and practice relating to prevention, early intervention and improved integration of the treatment of physical and mental comorbidities in military cohorts in Australia and worldwide.

The study cohorts, as well as the nested groups within the cohorts, and the comprehensive database that this study provides could be used in further research to respond to priority areas as they emerge in national or international military and veteran communities and the scientific literature. Examples are the increasing comorbidity of conditions (physical and psychological) and the challenges this presents for the individual, their families and coordinated multidisciplinary care; service-related exposures and risk factors for poorer physical health outcomes in transitioned personnel; development of data systems to monitor physical health and assess treatment outcomes; and barriers to care and use of evidence-based treatment.

## **14.7 Conclusion**

This study compares the physical health status of Transitioned ADF members who had transitioned out of full-time regular service in the five-year period between January 2010 and December 2014 with that of Regular ADF members in 2015, using general health indicators as well as indicators relevant to several body systems. It is the first comprehensive Australian study of transitioned personnel and one the few

international studies in this field and provides a very important baseline study of health in these cohorts.

Overall, Transitioned ADF members were more likely to report poorer physical health, to have increased lifestyle risk factors, and to report poorer self-perceived health, satisfaction and quality of life than 2015 Regular ADF members. In Transitioned ADF, poorer physical health outcomes overall were reported among DVA clients compared with those who were not DVA clients, in Ex-Serving members compared with Active Reservists or Inactive Reservists, and in those who had been medically discharged compared with those who had been discharged for another reason. Physical comorbidities and the relationship with psychological health are important considerations. Physical health status in the transitioning phase might have implications – for example, for general health and wellbeing for re-integration and employment post-transition and, in the longer term, for the later onset of chronic health conditions. The findings of this study can help inform preventive health programs and health management. This is a relatively young cohort, and longitudinal follow-up to assess and monitor more chronic conditions that emerge will be important.



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## **Annex A    Mental Health and Wellbeing Transition Study method**

This annex outlines the design, selection criteria, instrumentation, recruitment strategy and statistical procedures used for the Mental Health and Wellbeing Transition Study. Details of the Impact of Combat Study and the Family Wellbeing Study will be outlined in future reports.

### **A.1    Summary of the research**

The Transition and Wellbeing Research Programme is a joint research initiative of the Department of Veterans' Affairs and the Department of Defence. The aims is to examine the impact of contemporary military service on the mental, physical and social health of Serving and Ex-Serving Australian Defence Force members and their families.

The Programme has been conducted by a consortium of six of Australia's leading research institutions, led by the Centre for Traumatic Stress Studies at the University of Adelaide and the Australian Institute of Family Studies. The consortium included researchers from the Phoenix Australia: Centre for Posttraumatic Mental Health, the University of New South Wales, Monash University and the University of Sydney.

The 2010 Military Health Outcomes Program (MilHOP) detailed the prevalence of mental disorder in the 2010 Regular ADF and deployment-related health factors for those deployed to the Middle East Area of Operations between 2010 and 2012. Following MilHOP, several research gaps were identified, including the mental health of Ex-Serving ADF members, Reservists, family members and ADF members in high-risk roles, as well as the course of mental disorders and pathways to care for individuals over time.

The Transition and Wellbeing Research Programme aimed to redress these research gaps in three separate but related studies:

- the Mental Health and Wellbeing Transition Study
- the Impact of Combat Study
- the Family Wellbeing Study.

## **A.2 Aims of the Programme**

The Transition and Wellbeing Research Programme aimed to:

- determine the prevalence of mental disorders among ADF members who have transitioned from Regular ADF service between 2010 and 2014
- examine self-reported mental health status of Transitioned ADF and the 2015 Regular ADF
- assess pathways to care for Transitioned ADF and the 2015 Regular ADF, including those with a diagnosed mental disorder
- examine the physical health status of Transitioned ADF and the 2015 Regular ADF
- investigate technology and its utility for health and mental health programs including implications for future health service delivery
- conduct predictive modelling of the trajectory of mental health symptoms/disorders of Transitioned ADF and the 2015 Regular ADF, removing the need to rely on estimated rates
- investigate the mental health and wellbeing of currently serving 2015 Ab-initio Reservists
- examine the factors that contribute to the wellbeing of Transitioned ADF and the 2015 Regular ADF
- follow up on the mental, physical and neurocognitive health and wellbeing of participants who deployed to the Middle East Area of Operations between 2010 and 2012
- investigate the impact of ADF service on the health and wellbeing of the families of Transitioned ADF and the 2015 Regular ADF.

These objectives will allow Defence and DVA to:

- build on the 2010 MilHOP research, to develop an understanding of how mental health changes and manifests itself during the post-separation re-adjustment phase
- develop insights into improving communication between contemporary veterans, DVA and Defence

- further develop research outcomes and optimise the use of existing datasets within DVA and Defence to improve understanding of Serving and Ex-Serving ADF members' mental health, their access to clinical services and the outcomes of accessing these services
- build the objective knowledge base of DVA and Defence staff members and of other parties who are interested in the mental health of current Serving and Transitioned members
- improve mental health (and associated physical health) outcomes for Serving and Ex-Serving ADF members across all age cohorts
- review the optimal method of conducting scientifically valid and reliable research involving ADF and Ex-Serving ADF members that is acceptable to the participants, the Ex-serving ADF community, the ADF and DVA.

## **A.3 Sample**

To achieve the aims of the broader research Programme, the following six overlapping samples were targeted for data collection. The six samples were as follows.

### **A.3.1 Sample 1: Transitioned ADF**

Sample 1 comprised all ADF members who transitioned from the Regular ADF between 2010 and 2014. This included those who transitioned into the Active and Inactive Reserves as well as those who discharged completely from the Regular ADF. The sample consisted of three groups of Transitioned ADF members: MHPWS Transitioned ADF (ADF members who participated in the 2010 ADF Mental Health Prevalence and Wellbeing Study as a Regular ADF member but had since transitioned); Combat Transitioned ADF (ADF members who participated in the MEAO Prospective Health Study between 2010 and 2012 and had since transitioned); and ADF members who had transitioned from the Regular ADF since 2010) but were not part of the 2010 MHPWS or the MEAO Prospective Health Study). Results from these three groups were combined and weighted to represent the Transitioned ADF in 2015.

### **A.3.2 Sample 2: 2015 Regular ADF**

Sample 2 consists of three groups of Regular ADF members in 2015 who were invited to participate in the study: those who participated in the 2010 MHPWS and were a Regular ADF member in 2015; those who participated in the MEAO Prospective Health Study between 2010 and 2012 and were a Regular ADF member in 2015; and a stratified random sample of Regular ADF members from 2015 who were not part of the 2010 MHPWS or the MEAO Prospective Health Study. Results from these three groups were combined and weighted to represent the 2015 Regular ADF.

### **A.3.3 Sample 3: Ab-initio Reservists**

Sample 3 consists of all ADF members who joined the ADF Reserves, who continue to serve in a Reserve capacity, and who have never been a serving Regular ADF member.

### **A.3.4 Sample 4: ADF families**

Sample 4 consists of ADF families nominated by 2015 Regular ADF and Ex-Serving ADF members participating in the Programme.

### **A.3.5 Samples 5 and 6**

The two MilHOP samples 5 and 6 below, which were incorporated in samples 1 and 2 above for the purposes of analysis, were also followed up as part of an ongoing program of longitudinal health surveillance.

#### ***Sample 5: Combat zone***

Sample 5 consists of all ADF members who participated in the MEAO Prospective Health Study – members who were deployed to the MEAO after June 2010 and had returned from deployment by June 2012.

#### ***Sample 6: MHPWS***

Sample 6 consists of all individuals who participated in the 2010 MHPWS component of MilHOP (2010 ADF). There were two groups – MHPWS Transitioned ADF (ADF members who participated in the 2010 MHPWS as a Regular ADF member but had since transitioned) and MHPWS 2015 ADF (Regular ADF members who participated in the 2010 MHPWS and were in the 2015 Regular ADF).

DVA and Defence have commissioned several reports from the Programme; Table A.1 shows the samples each report will cover. All samples were drawn from the Military and Veteran Research Study Roll, which is described in Section A.11.2.

## **A.4 Population comparison samples**

### **A.4.1 Sample 7: 2010 Regular ADF comparison**

Results drawn from the 2010 MHPWS report were directly imputed into this report to provide an indication of the change in self-reported mental health between the 2010 Regular ADF and the 2015 Regular ADF. These results should be interpreted with caution because of the overlapping nature of the two populations.

**Table A.1 Commissioned reports**

| Report   | Programme goal   | Samples  | Data collection  |
|--|--|--|--|
| <i>Mental Health Prevalence Report: findings from the 2015 Mental Health and Wellbeing Transition Study</i>                                    | Establish baseline prevalence rates of mental disorders among ADF members who transitioned from full-time ADF service  | <ul style="list-style-type: none"> <li>• ADF members who transitioned from full-time ADF service between 2010 and 2014</li> <li>• 2015 Regular ADF</li> <li>• Comparison with 2010 ADF and community, where appropriate</li> </ul> | <ul style="list-style-type: none"> <li>• Self-report questionnaire</li> <li>• CIDI (subgroup)</li> </ul>   |
| <i>Pathways to Care Report: findings from the 2015 Mental Health and Wellbeing Transition Study</i>  | Pathways to mental health care for serving and Transitioned ADF members, including those with a mental health disorder, including: <ul style="list-style-type: none"> <li>• how care is accessed</li> <li>• use patterns</li> <li>• stigmas and barriers</li> </ul>                                    | <ul style="list-style-type: none"> <li>• ADF members who transitioned from full-time ADF service between 2010 and 2014</li> <li>• 2015 Regular ADF</li> </ul>  | <ul style="list-style-type: none"> <li>• Self-report survey</li> </ul>   |
| <i>Physical Health Status Report: findings from the 2015 Mental Health and Wellbeing Transition Study</i>                                      | Physical health status of members of 2015 Regular ADF and Transitioned ADF, including: <ul style="list-style-type: none"> <li>• symptom reporting, including pain and sleep</li> <li>• doctor diagnosed medical conditions</li> <li>• physical injuries</li> <li>• satisfaction with health</li> </ul> | <ul style="list-style-type: none"> <li>• ADF members who transitioned from full-time ADF service between 2010 and 2014</li> <li>• 2015 Regular ADF</li> </ul>  | <ul style="list-style-type: none"> <li>• Self-report survey</li> </ul>   |
| <i>Family Wellbeing Report: findings from the 2015 Family Wellbeing Study</i>  | Experiences and perspective of family members on: <ul style="list-style-type: none"> <li>• impact of military service on families</li> <li>• pathways to available care</li> </ul>   | <ul style="list-style-type: none"> <li>• Nominated family members of serving Regular ADF members and ADF members who transitioned from full-time service between 2010 and 2014</li> </ul>  | <ul style="list-style-type: none"> <li>• Self-report survey (quantitative component)</li> <li>• Semi-structured telephone interviews (qualitative component)</li> </ul>                    |
| <i>Technology Use and Wellbeing Report: findings from the 2015 Mental Health and Wellbeing Transition Study</i>                                | Utility of technology for mental health and mental health programs, including implications for future health service delivery  | <ul style="list-style-type: none"> <li>• ADF members who transitioned from full-time service between 2010 and 2014</li> <li>• 2015 Regular ADF</li> </ul>  | <ul style="list-style-type: none"> <li>• Self-report survey</li> </ul>   |
| <i>Impact of Combat Report: findings from the 2015 Impact of Combat Study</i>  | <ul style="list-style-type: none"> <li>• Longitudinal impact of deployment to MEAO on psychological, biological and social factors</li> <li>• risk and protective factors</li> <li>• traumatic brain injury</li> </ul>   | <ul style="list-style-type: none"> <li>• Serving and Ex-Serving ADF members who deployed to the MEAO between June 2010 and June 2012 and participated in MilHOP (Combat Zone sample)</li> </ul>                                    | <ul style="list-style-type: none"> <li>• Self-report survey</li> <li>• CIDI (sub-group)</li> <li>• Neurocognitive and/or biological tests (subgroups)</li> <li>• MRI (subgroup)</li> </ul> |
| <i>Mental Health Changes Over Time: a Longitudinal Perspective Report: findings from the 2015 Mental Health and Wellbeing Transition Study</i> | Longitudinal disorder development: <ul style="list-style-type: none"> <li>• changes in symptom and disorder status over two time-points</li> <li>• predictors/outcomes of these changes</li> </ul>   | <ul style="list-style-type: none"> <li>• 2015 Regular ADF</li> <li>• Transitioned ADF members who previously participated in MilHOP (MHPWS CIDI sample)</li> </ul>   | <ul style="list-style-type: none"> <li>• Self-report questionnaire</li> <li>• CIDI (subgroup)</li> </ul>   |
| <i>Transition and Wellbeing Research Programme Key Findings Report</i>   | Key findings across the Programme and implications for Defence and DVA   | All  | All  |

#### **A.4.2 Sample 8: Comparison of Transitioned ADF with the Australian community (2014–2015)**

To enable comparison of estimates in the Transitioned ADF with an Australian community population, direct standardisation was applied to estimates in the 2014–2015 ABS National Health Survey data. The NHS is the most recent in a series of Australia-wide ABS health surveys, assessing various aspects of the health of Australians, including long-term health conditions, health risk factors and health service use. The NHS data were restricted to individuals aged 18–71 years (consistent with the Transitioned ADF). The data were standardised by sex, employment status (employed or not) and age category (18–27, 28–37, 38–47, 48–57 and 58+), and estimates were generated on the outcomes of interest. Standard errors for the data were estimated using the replication weights provided in the NHS data file.

### **A.5 Response rates**

#### **A.5.1 Survey respondents**

Overall, there was a response rate of 29.1% for the entire survey – that is, among both the Transitioned ADF and the 2015 Regular ADF (total respondents as a proportion of total invited). As at 15 December 2015, 18.0% (4,326) of the 23,974 Transitioned ADF members invited to participate had completed a survey. In contrast, response rates for the invited 2015 Regular ADF (20,031) were much higher, with 42.3% of those who were invited to participate completing a survey. It is important to note, however, that not all Regular ADF members were invited to participate in the survey: invitations were restricted to a stratified random sample of 5040 ADF members and Regular ADF members who previously participated in MilHOP. Similarly, 958 Transitioned ADF members were not invited to participate in the survey because they had opted out of the Study Roll or had opted out of being contacted further or there was insufficient contact information.

Table A.2 and Figure A.1 summarise the breakdown of Transitioned ADF and 2015 Regular ADF members with enough data to be included in the survey. Table A.3 shows the demographic profile of this group.

**Table A.2 Survey response rates, by Service, sex, rank and medical fitness, for Transitioned ADF members and 2015 Regular ADF members**

|                 | Transitioned ADF<br>(n = 24,932) |         |             |                 | 2015 Regular ADF<br>(n = 52,500) |         |             |                 |
|-----------------|----------------------------------|---------|-------------|-----------------|----------------------------------|---------|-------------|-----------------|
|                 | Population                       | Invited | Respondents | Response rate % | Population                       | Invited | Respondents | Response rate % |
| Service         |                                  |         |             |                 |                                  |         |             |                 |
| Navy            | 5671                             | 5495    | 863         | 15.7            | 13,282                           | 5113    | 2040        | 39.9            |
| Army            | 15,038                           | 14,465  | 2463        | 17.0            | 25,798                           | 8067    | 3500        | 43.4            |
| Air Force       | 4223                             | 4014    | 1000        | 24.9            | 13,420                           | 6851    | 2940        | 42.9            |
| Sex             |                                  |         |             |                 |                                  |         |             |                 |
| Male            | 21,671                           | 20,713  | 3646        | 17.6            | 47,645                           | 15,176  | 6693        | 44.1            |
| Female          | 3261                             | 3261    | 380         | 20.9            | 4855                             | 4855    | 1787        | 36.8            |
| Rank            |                                  |         |             |                 |                                  |         |             |                 |
| OFFR            | 4063                             | 3939    | 1259        | 32.0            | 13,444                           | 7847    | 3538        | 45.1            |
| NCO             | 7866                             | 7393    | 2097        | 28.4            | 17,491                           | 9117    | 4336        | 47.6            |
| Other Ranks     | 13,003                           | 12,642  | 970         | 7.7             | 21,565                           | 3067    | 606         | 19.7            |
| Medical fitness |                                  |         |             |                 |                                  |         |             |                 |
| Fit             | 18,273                           | 17,525  | 2981        | 17.0            | 46,022                           | 17,097  | 7116        | 41.6            |
| Unfit           | 6659                             | 6449    | 1345        | 20.9            | 6478                             | 2934    | 1364        | 46.5            |
| Total           | 24,932                           | 23,974a | 4326        | 18.0            | 52,500                           | 20,031  | 8480        | 42.3            |

Note: Unweighted data.

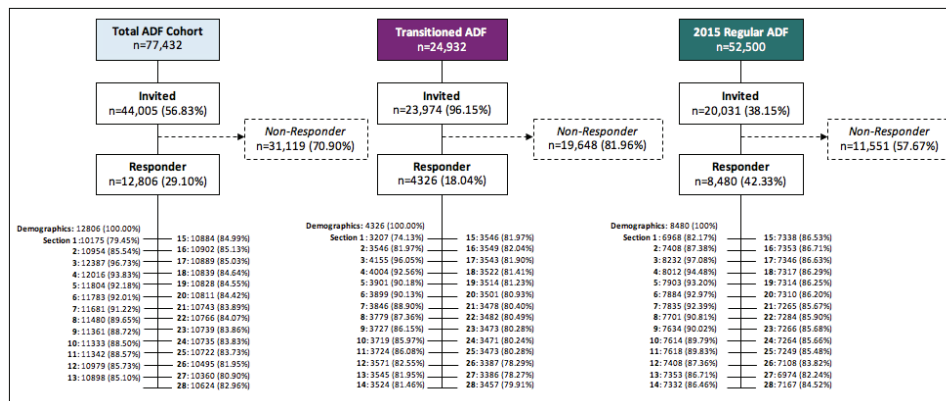
The characteristics of survey respondents were as follows:

- **Sex.** Consistent with the Transitioned ADF population, the sample was predominantly male, with transitioned females being significantly more likely to respond than transitioned males. In the 2015 Regular ADF population, females were less likely to respond than males.
- **Age.** Transitioned ADF survey respondents (mean age 41.9 years (SE 0.18)) were similar in age to the 2015 Regular ADF respondents (mean age 41.1 years (SE 0.1)).
- **Rank.** Survey respondents from the Transitioned ADF comprised 29.1% Officers, 48.5% Non-Commissioned Officers and 22.4% Other Ranks. In the 2015 Regular ADF there was a similar distribution, with 41.7% Officers, 51.1% Non-Commissioned Officers and 7.2% Other Ranks. The Transitioned ADF population had significantly lower response rates for Officers and Non-Commissioned Officers but significantly higher response rates in the Other Ranks compared with the 2015 Regular ADF. In both groups the lower ranks were the poorest responders.
- **Service.** In the Transitioned ADF survey group 19.9% of survey respondents were Navy, 56.9% were Army and 23.1% were Air Force. For the Regular 2015 ADF,

however, 34.7% of survey respondents were Navy, 41.3% were Army and 24.1% were Air Force. When response rates in the different Services were compared, Transitioned Air Force members were most likely to respond, whereas Transitioned Army and Transitioned Navy members were least likely to respond. In the 2015 Regular ADF, Army had the highest response rate, at 41.3%.

- *Medical fitness.* Transitioned ADF who were medically unfit on transition from the Regular ADF were slightly over-represented in the respondent group (31.1%) compared with the 2015 Regular ADF population (16.1%). Transitioned ADF who were medically unfit had a response rate of 21.0% compared with 46.5 % in the 2015 Regular ADF population.

**Figure A.1 Survey response rates for Transitioned ADF and 2015 ADF**



## A.5.2 CIDI respondents

In phase 2 of the research a subsample of 1384 individuals from the stratified Transitioned ADF group, 1088 individuals from the MHPWS group, and 183 from the Combat Zone group were selected to participate in a one-hour telephone interview using the World Mental Health Survey Initiative Version of the World Health Organization Composite International Diagnostic Interview – version 3.0 (CIDI) (Kessler & Ustun, 2004). Data from all three groups were used to estimate the prevalence of mental disorder among Transitioned ADF members.

### Stratified Transitioned ADF

A total of 1384 participants were stratified and sought for participation (selected) in the CIDI 3.0. Of those selected, 53.8% (745) completed the interview. Table A.4 shows the response rates for the stratified Transitioned ADF undertaking the CIDI interview and Table A.5 shows the demographic profile of this group.

**Table A.3 Unweighted demographic characteristics of respondents, by Transitioned ADF and 2015 Regular ADF**

|                 | Transitioned ADF<br>(n = 4326) |      |              | 2015 Regular ADF<br>(n = 8480) |      |              |
|-----------------|--------------------------------|------|--------------|--------------------------------|------|--------------|
|                 | n                              | %    | 95% CI       | n                              | %    | 95% CI       |
| Age (M, SE)     | 41.9                           | 0.2  |              | 41.1                           | 0.1  |              |
| Age group       |                                |      |              |                                |      |              |
| 18–27           | 471                            | 10.9 | (10.0, 11.9) | 602                            | 7.1  | (6.6, 7.7)   |
| 28–37           | 1262                           | 29.2 | (27.8, 30.5) | 2484                           | 29.3 | (28.3, 30.3) |
| 38–47           | 1119                           | 25.9 | (24.6, 27.2) | 2976                           | 35.1 | (34.1, 36.1) |
| 48–57           | 871                            | 20.1 | (19.0, 21.4) | 2069                           | 24.4 | (23.5, 25.3) |
| 58+             | 548                            | 12.7 | (11.7, 13.7) | 201                            | 2.4  | (2.1, 2.7)   |
| Sex             |                                |      |              |                                |      |              |
| Male            | 3646                           | 84.3 | (83.2, 85.3) | 6693                           | 78.9 | (78.0, 79.8) |
| Female          | 680                            | 15.7 | (14.7, 16.8) | 1787                           | 21.1 | (20.2, 22.0) |
| Rank            |                                |      |              |                                |      |              |
| OFFR            | 1259                           | 29.1 | (27.8, 30.5) | 3538                           | 41.7 | (40.7, 42.8) |
| NCO             | 2097                           | 48.5 | (47.0, 50.0) | 4336                           | 51.1 | (50.1, 52.2) |
| Other Ranks     | 970                            | 22.4 | (21.2, 23.7) | 606                            | 7.2  | (6.6, 7.7)   |
| Service         |                                |      |              |                                |      |              |
| Navy            | 863                            | 20.0 | (18.8, 21.2) | 2940                           | 34.7 | (33.7, 35.7) |
| Army            | 2463                           | 56.9 | (55.5, 58.4) | 3500                           | 41.3 | (40.2, 42.3) |
| Air Force       | 1000                           | 23.1 | (21.9, 24.4) | 2040                           | 24.1 | (23.2, 25.0) |
| Medical fitness |                                |      |              |                                |      |              |
| Fit             | 2981                           | 68.9 | (67.5, 70.3) | 7116                           | 83.9 | (83.1, 84.7) |
| Unfit           | 1345                           | 31.1 | (29.7, 32.5) | 1364                           | 16.1 | (15.3, 16.9) |

Notes: Denominator – Those who were invited and responded to the survey. Unweighted data.

**Table A.4 CIDI response rates for stratified Transitioned ADF, by Service, sex, rank and MEC status**

|                 | Stratified Transitioned ADF CIDI<br>(n = 1384 (selected); n = 745 (responded)) |          |             |                 |
|-----------------|--|----------|-------------|-----------------|
|                 | Population   | Selected | Respondents | Response rate % |
| Service         |  |          |             |                 |
| Navy            | 5671   | 285      | 150         | 52.6            |
| Army            | 15,038   | 795      | 424         | 53.3            |
| Air Force       | 4223   | 304      | 171         | 56.3            |
| Sex             |  |          |             |                 |
| Male            | 21,671   | 1140     | 631         | 55.4            |
| Female          | 3261   | 235      | 109         | 45.0            |
| Rank            |  |          |             |                 |
| OFFR            | 4063   | 423      | 252         | 59.6            |
| NCO             | 7866   | 694      | 389         | 56.1            |
| Other Ranks     | 13,003   | 267      | 104         | 39.0            |
| Medical fitness |  |          |             |                 |
| Fit             | 18,273   | 932      | 521         | 55.9            |
| Unfit           | 6659   | 443      | 219         | 49.4            |
| Total           | 24,932   | 1384     | 745         | 53.8            |

Notes: Denominator – Transitioned ADF Invited to participate in the CIDI interview. Unweighted data.

The characteristics of Transitioned CIDI respondents were as follows:

- **Sex.** Consistent with the Transitioned ADF population, the CIDI sample was predominantly male; transitioned females were, however, less likely to complete a CIDI interview than transitioned males.
- **Age.** Transitioned CIDI respondents were significantly older (45.6 years) (SE = 0.4) than non-respondents (40.4 years) (SE = 0.5).
- **Rank.** CIDI respondents comprised 33.8% Officers, 52.2% Non-Commissioned Officers and 14.0% Other Ranks. ADF members in the Other Ranks had a significantly lower response rate (39.0%) compared with above 50% for those invited among Non-Commissioned Officers and Officers.
- **Service.** A table of 20.1% of CIDI respondents were Navy, 56.9% were Army and 23.0% were Air Force. There was no significant difference between CIDI respondents and non- respondents in relation to Service.
- **Medical fitness.** Transitioned ADF who were medically unfit on transition from the Regular ADF comprised 29.4% of CIDI respondents.

**Table A.5      Demographic characteristics of stratified Transitioned ADF CIDI respondents**

|                 | Stratified Transitioned ADF CIDI respondents<br>(n = 745) |      |              |
|-----------------|---|------|--------------|
|                 | n   | %    | 95% CI       |
| Age (M, SE)     | 45.6  | 0.4  |              |
| Age group       |   |      |              |
| 18–27           | 50  | 6.7  | (5.1, 8.7)   |
| 28–37           | 171   | 23.0 | (20.1, 26.1) |
| 38–47           | 177   | 23.0 | (20.8, 26.9) |
| 48–57           | 179   | 24.0 | (21.1, 27.2) |
| 58+             | 163   | 21.9 | (19.1, 25.0) |
| Sex             |   |      |              |
| Male            | 631   | 84.7 | (81.9, 87.1) |
| Female          | 109   | 14.6 | (12.3, 17.4) |
| Rank            |   |      |              |
| OFFR            | 252   | 33.8 | (30.5, 37.3) |
| NCO             | 389   | 52.2 | (48.6, 55.8) |
| Other Ranks     | 104   | 14.0 | (11.7, 16.6) |
| Service         |   |      |              |
| Navy            | 150   | 20.1 | (17.4, 23.2) |
| Army            | 424   | 56.9 | (53.3, 60.4) |
| Air Force       | 171   | 23.0 | (20.1, 26.1) |
| Medical fitness |   |      |              |
| Fit             | 521   | 69.9 | (66.5, 73.1) |
| Unfit           | 219   | 29.4 | (26.2, 32.8) |

Notes: Denominator – Transitioned ADF Invited to participate in the CIDI interview. Unweighted data.

### ***Mental Health Prevalence and Wellbeing Study group***

A total of 1088 participants from the MHPWS group were invited to participate in the CIDI 3.0. Of those invited, 76.8% (835) completed the interview. Table A.6 shows the response rates.

**Table A.6 CIDI response rates for the MHPWS group, by Service, sex, rank and medical fitness**

|                        | MHPWS CIDI<br>(n = 1088 invited; n = 835 responded) |             |                 |
|------------------------|---|-------------|-----------------|
|                        | Invited   | Respondents | Response rate % |
| <b>Service</b>         |   |             |                 |
| Navy                   | 237   | 175         | 73.8            |
| Army                   | 462   | 349         | 75.5            |
| Air Force              | 389   | 311         | 80.0            |
| <b>Sex</b>             |   |             |                 |
| Male                   | 903   | 698         | 77.3            |
| Female                 | 182   | 135         | 74.2            |
| Missing                | 3   | 2           | 66.7            |
| <b>Rank</b>            |   |             |                 |
| OFFR                   | 451   | 375         | 83.2            |
| NCO                    | 576   | 425         | 73.8            |
| Other Ranks            | 61  | 35          | 57.4            |
| <b>Medical fitness</b> |   |             |                 |
| Fit                    | 758   | 590         | 77.8            |
| Unfit                  | 327   | 243         | 74.3            |
| Missing                | 3   | 2           | 66.7            |
| <b>Total</b>           | <b>1088</b>   | <b>835</b>  | <b>76.8</b>     |

Notes: Denominator – MHPWS sample invited to participate in the CIDI interview. Unweighted data.

The characteristics of the MHPWS group of CIDI respondents were as follows:

- **Sex.** The MHPWS sample consisted of both 2015 Regular and Transitioned ADF members. Consistent with the ADF population, the CIDI sample was predominantly male, and females were less likely to respond than males.
- **Rank.** CIDI respondents in this group consisted of 44.9% Officers, 50.9% Non-Commissioned Officers and 4.2% Other Ranks. Other Ranks were less likely to respond than the other two categories.
- **Service.** A total of 21.0% of survey respondents were Navy, 41.8% were Army and 37.2% were Air Force. There was no difference between CIDI respondents and non-respondents in relation to Service.
- **Medical fitness.** ADF members who were medically unfit were similarly represented in the CIDI respondent group (29.1%) compared with those selected (30.1%). ADF members who were medically fit were also similarly represented in the CIDI respondent group (70.7%) compared with 69.7% in the invited population. The respondent sample was therefore representative in terms of medical fitness of the selected group.

### Combat Zone group

A total of 183 participants from the Combat Zone group were invited to participate in the CIDI 3.0. Of those invited, 76.5% (140) completed the interview. Table A.7 shows the response rates.

**Table A.7** CIDI response rates for the Combat Zone group, by Service, sex, rank and medical fitness

|                 | Combat Zone group CIDI<br>(n = 183 invited; n = 140 responded) |             |                 |
|-----------------|--|-------------|-----------------|
|                 | Invited  | Respondents | Response rate % |
| Service         |  |             |                 |
| Navy            | 10   | 10          | 100             |
| Army            | 143  | 111         | 77.6            |
| Air Force       | 0  | 0           | 0.0             |
| Missing         | 30   | 19          | 63.3            |
| Sex             |  |             |                 |
| Male            | 148  | 118         | 79.7            |
| Female          | 2  | 2           | 100.0           |
| Missing         | 33   | 20          | 60.6            |
| Rank            |  |             |                 |
| OFFR            | 20   | 16          | 80.0            |
| NCO             | 101  | 77          | 76.2            |
| Other Ranks     | 47   | 39          | 83.0            |
| Missing         | 15   | 8           | 53.3            |
| Medical fitness |  |             |                 |
| Fit             | 130  | 103         | 79.2            |
| Unfit           | 21   | 17          | 81.0            |
| Missing         | 32   | 20          | 62.5            |
| Total           | 183  | 140         | 76.5            |

Notes: Denominator – MHPWS sample invited to participate in the CIDI interview. Unweighted data.

The characteristics of the Combat Zone group of CIDI respondents were as follows:

- **Sex.** The Combat Zone CIDI sample consisted of both 2015 Regular ADF and Transitioned ADF members. Consistent with the ADF population, the CIDI sample was almost entirely male. The two females selected both responded.
- **Rank.** CIDI respondents in this group consisted of 11.4% Officers, 55.0% Non-Commissioned Officers and 27.9% Other Ranks. Other Ranks were less likely to respond than the other two ranking categories.
- **Service.** A total of 7.1% of survey respondents were Navy, 79.3% were Army and none were Air Force. There was no difference between CIDI respondents and non-respondents in relation to Service.

- *Medical fitness.* ADF members who were medically unfit were similarly represented in the CIDI respondent group (12.14%) compared with those selected (11.5%). ADF members who were medically fit were also similarly represented in the CIDI respondent group (73.6%) compared with 71.0% in the invited population. The respondent sample was therefore representative in terms of the medical fitness of the selected group.

## A.6 Study overview

Prevalence estimates were obtained using a two-phase design. This well-accepted approach to epidemiological research (Salim & Welsh, 2009) was used in the 2010 Mental Health Prevalence Wellbeing Study (McFarlane et al., 2011). In the first phase participants completed a screening questionnaire. This gave the research team a clear picture of psychological symptoms from a dimensional perspective.

Based on certain key results from the survey and specific demographic factors, a subset of participants was also selected to participate in a one-hour diagnostic mental health telephone interview. Additional biological, neurocognitive testing and magnetic resonance imaging was undergone by participants in the Combat Zone sample. A detailed description of this additional testing is not provided here but will be provided in a subsequent report.

Interview data for the Transitioned ADF were weighted to ensure the representativeness of the prevalence estimates for key subgroups within the total Transitioned ADF population. Self-report survey data were also weighted to be representative of both the Transitioned ADF and the 2015 Regular ADF.

## A.7 Measures

### A.7.1 Phase 1: self-report survey

In phase 1 of the Mental Health and Wellbeing Transition Study Transitioned ADF members and 2015 Regular ADF members were screened for mental health problems, psychological distress, physical health problems, wellbeing factors, pathways to care and occupational exposures using a 60-minute self-report questionnaire that was completed either online or in hard copy. This survey was developed at the beginning of the study period in close consultation with DVA and Defence. Survey anonymity was preserved via the allocation of a unique study ID number to each participant. Participants who had previously completed a survey as part of the 2010 Mental Health Prevalence Wellbeing Study were allocated their same MilHOP study ID number.

Participants were able to complete the survey in one of two ways:

- *Online.* Participants were sent an email that included a secure link to an online invitation package containing the web-based survey. Participants could access the survey only by entering their unique study ID number and password, which was provided to them in the invitation email.
- *In hard copy.* Participants could opt to complete a hard-copy version of the questionnaire, which was mailed to their current postal address.

Each participating sample received a slightly different questionnaire relevant to their current ADF status – Transitioned ADF member, 2015 Regular ADF member, Ab-initio Reservist – in relation to demographics, Service and deployment history. The core-validated measures of psychological and physical health remained the same, however, and replicated where possible the measures previously administered as part of the MHPWS in 2010. This component of the design is crucial for longitudinal comparisons over time and highlights the importance of a consistent approach to the oversight of research design for military and veteran populations over time.

Before roll-out, the online and hard-copy versions of the self-report survey were piloted on a select group of 2015 Regular ADF and Ex-Serving ADF members. Individuals in the pilot group were asked to provide detailed feedback pertinent to the content and adequacy of the survey and the usability of the system/form. Their comments and feedback were subsequently incorporated in the final version of the survey. This ensured that there were no mistakes in the survey or glitches in the system before the study was rolled out. Details of the survey provided to participants belonging to the Combat Zone sample are not provided here but will be provided in a later report.

### ***Part 1: Demographics and service details***

Part 1 of the self-report survey was completed by all samples and comprised the following major sections.

#### ***Demographic information***

Participants were asked to provide demographic information for gender, date of birth and highest educational qualification attained. These items were taken directly from the 2010 MHPWS (McFarlane et al., 2011).

#### ***Household and family structure***

Participants were asked questions about their relationship status, household structure and children. Items in this section were derived from several sources, including the Timor-Leste Family Study (McGuire et al., 2012), the HILDA (Household, Income and

Labour Dynamics in Australia) survey (Watson & Wooden, 2002) and the 2014 Vietnam Veterans Family Study conducted by DVA (Forrest et al., 2014).

#### *Financial status*

Items assessing participants' current financial status, including financial hardship, were taken from the HILDA survey (Watson & Wooden, 2002) and the Health and Wellbeing Survey of Serving and Ex-Serving Personnel of the UK Armed Forces: Phase 2 (Fear et al., 2010).

#### *Homelessness*

This section of the survey consisted of eight questions from the 2010 ABS General Social Survey (Australian Bureau of Statistics, 2011) that dealt with lifetime and recent episodes of homelessness. Items looked at a number of factors:

- participants' experiences of homelessness
- reasons for homelessness
- frequency of homelessness
- details about participants' most recent experience of homelessness – reason for homelessness, time frame, recency
- assistance sought during period(s) of homelessness/helpfulness of these services
- barriers to seeking support.

#### *ADF service details*

Participants were asked a series of questions specific to their employment with the ADF, including the number of years served, current service status, hours worked per week, rank and Service. Depending on their rank and Service, participants were also asked a series of questions pertaining to their specialty and specific role within the ADF. Items in this section were taken from the Australian Bureau of Statistics (Australian Bureau of Statistics, 2008) and the 2011 Australian Defence Force Exit Survey (Shirt, 2012).

#### *Feelings about the ADF*

This section of the survey aimed to assess participants' level of organisational commitment. Four items were taken from Allen and Meyer's Affective Commitment Scale (Allen & John, 1990) and the other four were developed by researchers for the study.

Transitioned ADF members were asked additional questions in part 1 pertaining to the following:

- *Employment status.* In this section of the survey participants were asked about their current employment activities. Examples of options are ‘full time work greater than or equal to 30 hours paid employment per week’, ‘home duties’ and ‘unemployed/looking for work’. Unemployed members were also required to provide a reason for their unemployed status. Items in this section were taken from the Young and Well Cooperative Research Centre standard suite of measures (Young and Well Cooperative Research Centre, 2013) and the Health and Wellbeing Survey of Serving and Ex-Serving Personnel of the UK Armed Forces: Phase 2 (Fear et al., 2010).

Participants were also asked to provide details about their current civilian employment, including the number of hours worked per week, the industry of employment and their main source of income. Items in this section were derived from Health and Wellbeing Survey of Serving and Ex-Serving Personnel of the UK Armed Forces: Phase 2 (Fear et al., 2010), the Australian Defence Force Exit Survey (Shirt, 2012) and the HILDA survey (Watson & Wooden, 2002). In addition, participants were asked to indicate whether they had reported a period of unemployment greater than three months since transitioning and, if so, when this period began. This item was taken from the Australian Gulf War Follow up Health Study (Sim et al., 2015).

- *Reservist status.* In this section of the survey participants were asked about their Reservist status and, where relevant, to provide details pertaining to their Reservist employment, including their full-time/part-time status, the number of hours worked, and weeks away for Reservist work. Items in this section were taken from the Soldier Wellbeing Survey (Riviere et al., 2011; Thomas et al., 2010).
- *Year of transition.* Participants were asked to indicate what year they transitioned into Active Reserves/Inactive Reserves/out of the ADF. These questions were taken from the Health and Wellbeing Survey of Serving and Ex-Serving Personnel of the UK Armed Forces: Phase 2 (Fear et al., 2010) and the Australian Gulf War Follow up Health Study (Sim et al., 2015).
- *Change in relationship status.* Participants were asked to indicate whether their relationship status had changed since transitioning from full-time Regular ADF service. If divorced, separated or widowed since transition, they were asked to provide a date. This item in the survey was taken from the Australian Gulf War Follow up Health Study (Sim et al., 2015).

- *ADF separation details.* This section of the survey comprised two parts. First, participants were asked about their discharge/resignation category. Examples of options are ‘medical discharge’, ‘compassionate grounds’ and ‘end of fixed period engagement’. In part 2 participants were offered a comprehensive list of reasons for leaving the ADF and asked to mark all that played a role in their decision to leave. They were also asked to indicate the main reason for their selections. Items in this section were based on the current exit survey used by the ADF (Shirt, 2012).

Additionally, ADF Reservists were asked questions pertaining to the following:

- *Reservist details.* Participants were asked to provide details in relation to the length of time served as a Reservist, Reservist status, periods of continuous full-time service, hours worked per week in the preceding month, weeks away in the preceding five years, and satisfaction with participation in the Reserves. Items in this section were derived from the Soldier Wellbeing Survey (Riviere et al., 2011; Thomas et al., 2010), the Health and Wellbeing Survey of Serving and Ex-Serving Personnel of the UK Armed Forces: Phase 2 (Fear et al., 2010) and the RAND Guard/Reserve Survey of Officer and Enlisted Personnel (Kirby & Naftel, 1998). Other items were developed specifically by researchers for use in the study.
- *Civilian employment.* Participants were asked a series of questions in relation to their civilian role (if relevant) – employer knowledge of Reservist role, employer attendance at Reservist events, employer support of military affiliation, impact of Reservist duties on civilian role, and a comparison of duties and responsibilities across Reservist and civilian roles. Items in this section were derived from the Soldier Wellbeing Survey (Riviere et al., 2011; Thomas et al., 2010), the Middle East Area of Operations Health Study: Prospective Study (Davy et al., 2012) and the ADF Exit Survey (Shirt, 2012). Information surrounding current employment activities and details of civilian employment was also collected, as described in the section about Transitioned members.
- *Contribution to the ADF.* Participants’ perception of their contribution to the ADF was measured via a single item – ‘How important do you think your contribution is towards the ADF?’ Anchors ranged from ‘not at all important’ to ‘very important’. This item was taken from the RAND Guard/Reserve Survey of Officer and Enlisted Personnel (Kirby & Naftel, 1998).
- *How the ADF deals with Reservists.* Participants’ perceptions of how well the ADF deals with, understands and accepts Reservists were assessed via three items measured on a five-point scale ranging from ‘very poor’ to ‘very good’.

- *Getting help (Reservist specific).* This section of the survey was developed by researchers and looked at mental health problems resulting from the Reservist experience, help sought for these problems, help sought and received from ADF services/non-Defence organisations, and benefits sought and received from DVA.

## ***Part 2: Health and Wellbeing Survey***

Part 2 of the survey was completed by all samples specific to the Mental Health and Wellbeing Transition Study and included factors described in the following sections.

### *Deployments*

Participants were asked to provide detailed information about their deployment history with the ADF. Deployments were grouped into several categories – warlike/active service, non-warlike (peacekeeping) service, humanitarian/disaster relief, Defence aid and border protection. For each applicable deployment listed, participants were asked to indicate which country they were deployed to, the name of the operation, the dates they were deployed, the number of times they were deployed, the total number of months deployed, and whether they were deployed in a combat capacity. Items in this section were adapted from the 2010 Mental Health Prevalence Wellbeing Study (McFarlane et al., 2011).

### *Deployment exposure*

Participants were presented with a list of deployment exposures and asked to indicate how many times they had reported each one during their military career. Response categories ranged from ‘never’ to ‘10+ times’. Examples of events are exposure to ‘hazardous materials’, ‘discharge of weapon in direct combat’ and ‘handled or saw dead bodies’. Items in this section were drawn from the MEAO Census Study (Dobson et al., 2012).

### *Quality of life*

This section of the survey consisted of three items that assessed general health, satisfaction with health, and quality of life. General health was measured via the first item of the Short Form 36 Health Survey (SF36) (Ware & Sherbourne, 1992), referred to as the Form 1, or SF1. The SF1 is a single item that is increasingly being used in population studies as an indicator of overall health status. Items assessing general health and satisfaction with health were taken from the 2011 Australian Gulf War Follow up Health Study (Sim et al., 2015).

### *Depression*

Self-reported depression was examined using the Patient Health Questionnaire – 9 (PHQ-9) (Kroenke et al., 2001). The nine items of the PHQ-9 are scored from zero to three and summed to give a total score between zero and 27. The PHQ-9 provides various levels of diagnostic severity, with higher scores indicating higher levels of depression symptoms.

### *Generalised anxiety disorder*

Generalised anxiety disorder was measured using the Generalised Anxiety Disorder 7 (GAD-7) (Spitzer et al., 2006). Each of the seven items is scored from one to three, providing a total generalised anxiety score ranging between zero and 21. Participants were asked to rate each item in the GAD-7 in relation to the preceding two weeks only.

### *Sleep problems*

Self-perceived insomnia was examined using the Insomnia Severity Index (Bastien et al., 2001), which comprises seven items assessing the severity of sleep-onset and sleep-maintenance difficulties, satisfaction with current sleep pattern, interference with daily functioning, noticeability of impairment attributed to the sleep problem, and degree of distress or concern caused by the sleep problem.

Each item is rated on a scale of zero to four, and the total score ranges from zero to 28. A higher score suggests more severe insomnia.

### *General psychological distress*

The Kessler Psychological Distress Scale (K10) (Kessler et al., 2002) is a short 10-item screening questionnaire that yields a global measure of psychological distress based on symptoms of anxiety and depression experienced in the most recent four-week period. Items are scored from one to five and are summed to give a total score between 10 and 50. Various methods have been used to stratify the scores of the K10. The categories of low (10–15), moderate (16–21), high (22–29) and very high (30–50) that are used in this report are derived from the cut-offs of the K10 that were used in the 2007 ABS Australian National Mental Health and Wellbeing Survey (Slade et al., 2009) and were used to identify levels of psychological distress in the 2010 ADF Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011).

### *Anger*

The Dimensions of Anger Reactions Scale (DAR- 5) (Forbes et al., 2004) is a concise measure of anger. It consists of five items covering anger frequency, intensity and duration, aggression, and interference with social functioning. Items are scored on a five-point Likert scale, generating a severity score ranging from five to 25, with higher scores indicative of worse symptomatology. This scale has been used previously to assess Australian Vietnam veterans, as well as US Afghanistan and Iraq veterans, and shows strong unidimensionality and high levels of internal consistency and criterion validity.

### *Physical violence*

Items dealing with participants' personal experiences with physical violence or threatened violence were taken from the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011).

### *Suicidal ideation and behaviour*

Twelve-month suicidal ideation and behaviour was assessed via four items that looked specifically at suicidal thoughts, plans and attempts. Three of the items used were adapted from the National Survey of Mental Health and Wellbeing (Australian Bureau of Statistics, 2008) and the final item was devised by researchers for use in the current study.

### *Perceptions of mental health*

Items dealing with participants' perceptions of their current and future physical and mental health were developed by researchers for use in the study.

### *Lifetime exposure to traumatic events*

Lifetime exposure to trauma was examined as part of the posttraumatic stress disorder module of the CIDI 3.0 (Haro et al., 2006). Participants were asked to indicate whether or not they had reported the following traumatic events: combat (military or organised non-military group); being a peacekeeper in a war zone or a place of ongoing terror; being an unarmed civilian in a place of war, revolution, military coup or invasion; living as a civilian in a place of ongoing terror for political, ethnic, religious or other reasons; being a refugee; being kidnapped or held captive; being exposed to a toxic chemical that could cause serious harm; being in a life-threatening automobile accident; being in any other life-threatening accident; being in a major natural disaster; being in a man-made disaster; having a life-threatening illness; being beaten by a spouse or romantic partner; being badly beaten by anyone else; being mugged, held up or threatened with a weapon; being raped; being sexually assaulted; being stalked; having someone close to you die; having a child with a life-threatening illness or injury; witnessing serious physical fights at home as a child; having someone close experience a traumatic event; witnessing someone badly injured or killed or unexpectedly seeing a dead body; accidentally injuring or killing someone; purposefully injuring, torturing or killing someone; seeing atrocities or carnage such as mutilated bodies or mass killings; experiencing any other traumatic event. For each applicable event, participants were required to provide further information about their age the first and last time the event took place, the number of times each event took place, and the number of times each event was related to their ADF service. Participants were then required to indicate which of the events they had answered 'yes' to was their worst event.

### *Posttraumatic stress disorder*

The Post Traumatic Stress Disorder Checklist – civilian version (PCL-C) (Weathers et al., 1993) is a 17-item self-report measure designed to assess the symptomatic criteria of PTSD according to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV). The 17 questions of the PCL-C are scored from one to five and are summed to give a total symptom severity score of between 17 and 85. An additional four items from the newly released PCL-5 were also included, giving researchers

flexibility to also measure PTSD symptoms according to the most recent definitional criteria.

#### *Recent life events*

Participants completed a modified 15-item version of the List of Threatening Experiences (Brugha et al., 1985). This brief questionnaire is frequently used to assess recent stressful life events. Participants were asked to indicate 'yes' if the event had occurred in the preceding 12 months and whether or not it was still having an effect on their life. Examples of events are 'your parent, child or spouse died', 'you had a major financial crisis' and 'you broke off a steady relationship'.

#### *Alcohol use*

Alcohol consumption and problem drinking were examined using the Alcohol Use Disorders Identification Test (AUDIT) (Saunders et al., 1993), a brief self-report screening instrument developed by the World Health Organization. This instrument consists of 10 questions to examine the quantity and frequency of alcohol consumption, possible symptoms of dependence, and reactions or problems related to alcohol. The AUDIT is an instrument that is widely used in epidemiological and clinical practice for defining at-risk patterns of drinking (Babor et al., 2001). Currently the recommended WHO risk categories are used with ADF populations and are also therefore the scoring categories used in this study. The process identifies four bands of risk – Band 1 (scores of 0–7) represents those who would benefit from alcohol education; Band 2 (8–15) represents those who are likely to require simple advice; Band 3 (scores of 16–19) are those where counselling and continued monitoring are recommended; Band 4 (scores of 20–40) requires diagnostic evaluation and treatment, including counselling and monitoring (Babor et al., 1989; Babor et al., 2001).

Two supplementary items of the AUDIT were also included in the questionnaire, as well as additional items on consumption to ensure comparability with the Australian National Health Survey 2011–2012 (Australian Bureau of Statistics, 2012).

#### *Tobacco use*

Items assessing tobacco use were taken from the 2013 National Drug Strategy Survey (Australian Institute of Health and Welfare, 2014) and the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011). Participants were asked a series of questions about their past and present tobacco use, including frequency of use, the ages at which they started and stopped smoking daily, and the types of tobacco products they had smoked in the preceding year.

#### *Drug use*

Twelve-month and lifetime drug use in Transitioned ADF only were measured using modified Items from the 2013 National Drug Strategy Survey (Australian Institute of Health and Welfare, 2014). Transitioned ADF were asked a series of questions about

two categories of drugs: illicit drugs (including meth/amphetamines, marijuana, heroin, methadone or buprenorphine, cocaine, hallucinogens, ecstasy, ketamine, GHB, inhalants, opiates, opioids) and prescription drugs (including painkillers/analgesics, tranquilisers/sleeping pills) for non-medical purposes (where the term ‘non-medical purposes’ was defined as either alone or with other drugs in order to induce or enhance a drug experience). Participants were asked if they had ever used these drugs in their lifetime or in the preceding 12 months and the age that they first used them.

### *Functioning*

Functional impairment was assessed via the Sheehan Disability Scale (Sheehan, 1983), a five-item self-report measure of disability due to mental health symptoms in three interrelated domains – work/school, social life and family life. The three items assessing impairment in the three domains are scored from zero to 10 and can thus yield a total global functional impairment score of between zero and 30.

### *Getting help*

This section of the survey was developed by study investigators with specific knowledge and experience in the field. Other items were taken from the National Survey of Mental Health and Wellbeing (Australian Bureau of Statistics, 2008), the CIDI 3.0 (Haro et al., 2006) and the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011) and modified by investigators to suit the current research.

- *Means of informing/assessing and maintaining mental health.* The first series of questions looked at specific help-seeking strategies used by participants to inform/assess and maintain their mental health in the preceding 12 months and whether or not they found these strategies helpful. The 32 items looking at ways in which people informed/assessed their mental health were developed specifically for the study by researchers. The four items looking at the ways in which people maintained their mental health were taken from the CIDI 3.0 (Haro et al., 2006). A single item asked participants to indicate their preferred means of receiving information about their mental health. The options were via telephone, via the internet or in person (face to face). This item was developed by researchers for use in the study.
- *Barriers to and stigmas relating to care.* Participants were asked to rate the degree to which a list of ‘concerns’ might affect their decision to seek help on a five-point scale. Anchors ranged from ‘strongly disagree’ to ‘strongly agree’. Items in the section were taken from the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011), the Canadian Air Forces Recruit Mental Health Service Use Questionnaire (Fikretoglu et al., 2014) and the Solider Wellbeing Survey (Riviere et al., 2011; Thomas et al., 2010), with several additions by investigators. Examples of items are ‘I wouldn’t know where to get help’, ‘it’s too expensive’ and

'I don't trust mental health professionals'. This section of the survey also included a question that tapped into unmet needs for help. The question targeted individuals who expressed concerns about their mental health but did not seek help. Participants were presented with a list of seven barriers and asked to indicate how much they disagreed with each one on a five-point scale ranging from 'strongly disagree' to 'strongly agree'. Examples of statements are 'I can still function effectively' and 'I didn't know where to get help'. Items addressing barriers to care in both of the sets of questions just listed fell into the following categories:

- perceived control
  - self-stigma
  - public stigma
  - perceived stigma
  - mental health literacy
  - physical barrier to care
  - career barriers.
- *Concerns about mental health.* Items addressing participants' concerns about their mental health were developed specifically for the study by investigators.
  - *Assistance with mental health.* Items addressing assistance sought for mental health were taken from the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011).
  - *Help received/pathways into care.* Participants were asked whether they had ever sought or received help from the following doctors or professionals for their own mental health in the preceding 12 months or outside the preceding 12 months:
    - general practitioner/medical officer
    - psychologist
    - psychiatrist
    - other mental health professional.

For each of the professionals listed, participants were asked to indicate what services they received, whether they were satisfied with the services, and what compensation (if any) was received. These items were taken from the CIDI (Haro et al., 2006) and adapted for use in the current study. Participants were also asked whether they had ever used the following services in the preceding 12 months or outside of the preceding 12 months:

- inpatient treatment, hospital admission
- hospital-based PTSD program
- residential alcohol and other drug program

For each of the treatments/programs listed, participants were asked to indicate whether they were satisfied with the service and how the service was paid for. These items were taken from the CIDI (Haro et al., 2006) and adapted for use in the current study.

- *Satisfaction with mental health services received.* Participants were asked to rate their satisfaction/dissatisfaction with a series of factors associated with receiving mental healthcare/services. Items included accessibility, cost, location, effectiveness, health professional competence, health professional friendliness, convenience, confidentiality and Medicare cap. Participants were required to provide answers in relation to their experiences in the preceding 12 months only.
- *Doctor-diagnosed mental health conditions.* This section of the survey asked participants about mental health problems or conditions they had ever been diagnosed with or treated for by a medical doctor. If a participant said 'yes' to any of the items listed, they were also asked to specify the year they were first diagnosed, whether they had been treated by a doctor for the condition in the preceding year, and whether they had taken medication for the condition in the preceding month. Items in this section were derived from the 2011 Australian Gulf War Follow up Health Study (Sim et al., 2015).
- *Undiagnosed mental health conditions.* Participants were presented with a list of mental disorders and asked to indicate whether they currently had (or had ever had) each disorder without having been diagnosed or treated for it. Conditions included alcohol abuse or dependence, drug abuse or dependency, stress or anxiety, depression, and PTSD. This question was developed by researchers at the Centre for Traumatic Stress Studies in order to tap into undiagnosed mental conditions.
- *Help-seeking latency.* In order to assess help-seeking latency, participants were asked to indicate when they first sought help for their own mental health. Options included 'within 3 months of becoming concerned' or 'within 1 year of becoming concerned'. Alternatively, participants were able to specify the number of years since becoming concerned. This item was developed by researchers for use in the study.

- *Recommendation to seek help/assistance with seeking help.* This section of the survey comprised two questions. The first asked participants whether someone else suggested that they seek help for their mental health condition. The second asked participants whether someone else practically assisted them in seeking care. Options included their GP, a medical officer, partner, other family member, friend/colleague, or their supervisor/manager/Commander. These questions were developed by researchers for use in the study.
- *Reasons for seeking care.* Participants were asked to indicate what primary and secondary reason led them to seek care. Examples included 'anger', 'depression' and 'gambling'. The two questions were developed by researchers for use in the study.

#### *Health professionals*

In this section of the survey participants were presented with an exhaustive list of health professionals and asked to indicate which of them they had consulted for their own health in the preceding 12 months. Participants were also asked to indicate how many times they had consulted a general practitioner and/or specialist doctor in the preceding two weeks. All items in the section were taken from the Australian Gulf War Follow up Health Study (Sim et al., 2015).

#### *Family and children*

This section of the survey consisted of several scales looking at participants' relationships with their family and children:

- Family support and strain were assessed via items of relevance from an adapted version of the Schuster Social Support Scale (Schuster et al., 1990). Affective support was indicated by responses to questions about how often family made them feel cared for and how often family expressed interest in how they were faring. Negative interactions were indicated by responses to questions about how often family made too many demands on them, how often family criticised them, and how often family created tensions or arguments with them. All items were answered on a four-point Likert-type scale ranging from 'often' to 'never'.
- Items assessing participants' relationship with their current partner, arguments with their current partner and abuse reported by the partner were taken from the Timor-Leste Family Study (McGuire et al., 2012).
- A single item looking at how often participants had contact with family members not living with them was taken from the 2014 Vietnam Veterans Family Study (Forrest et al., 2014).

- Items assessing the impact of military service on participants' relationships, employment, physical health, mental health and financial situation were taken from the 2014 Vietnam Veterans Family Study (Forrest et al., 2014).
- Two items assessing relationship satisfaction were taken from the HILDA survey (Watson & Wooden, 2002). Participants were required to rate their relationship with their partner and their children on an 11-point Likert-type scale ranging from 'completely dissatisfied' to 'completely satisfied'.
- Items measuring conflict during childhood, parental mental health and parental substance abuse were taken from the Longitudinal Study of Australian Children (Gray & Sanson 2005).
- Global parental self-efficacy was assessed via a single item taken from the Longitudinal Study of Australian Children (Gray & Sanson 2005). Participants were required to rate their competency as a parent on a five-point Likert-type scale ranging from 'not very good at being a parent' to 'a very good parent'.
- Parental warmth was measured using six items from the Child Rearing Questionnaire (Paterson & Sanson, 1999). These items were also used in the Longitudinal Study of Australian Children (Gray & Sanson 2005). Participants were required to answer questions in this section thinking about their first-born child aged between 4 and 17 years who lived with them 50% or more of the time in the preceding six months. They were required to indicate how often each listed event took place on a five-point Likert-type scale ranging from 'never/almost never' to 'always/almost always'. Examples of events are 'how often did you hug or hold this child for no particular reason' and 'how often did you enjoy listening to this child and doing things with him/her'.
- Parental anger was measured using five items from the National Longitudinal Study of Children & Youth (Statistics Canada, 2003). Participants were required to indicate how often each listed event took place on a five-point Likert-type scale ranging from 'never/almost never' to 'all the time'. Examples of events are 'how often are you angry when you punish this child' and 'how often do you tell this child that he/she is not as good as the others'.

#### *Friends and other social contacts*

This section of the survey consisted of several scales looking at participants' friends and social contacts:

- Social support and strain were assessed via items of relevance from an adapted version of the Schuster Social Support Scale (Schuster et al., 1990). Affective support was indicated by responses to questions about how often friends made

them feel cared for and how often friends expressed interest in how they were doing. Negative interactions were indicated by responses to questions about how often friends made too many demands on them, how often they criticised them, and how often they created tensions or arguments with them. All items were answered on a four-point Likert-type scale ranging from 'often' to 'never'.

- A single item looking at how often participants had contact with friends not living with them was taken from the 2014 Vietnam Veterans Family Study (Forrest et al., 2014).
- A single item assessing how satisfied participants were with their friendships was taken from the HILDA survey (Watson & Wooden, 2002). Participants were required to rate their relationship on an 11-point Likert-type scale ranging from 'completely dissatisfied' to 'completely satisfied'.
- Questions looking at how many ex-service organisations participants belonged to and how these organisations benefited them were taken from the 2011 Australian Gulf War Follow up Health Study (Sim et al., 2015).

### *Resilience*

The Ohio State University Brief Resilience Scale (BRS) (Smith et al., 2008) was included to assess participants' ability to bounce back or recover from stress. Participants were asked to indicate the extent to which they agreed or disagreed with six anchored statements. The BRS is scored by reverse coding items 2, 6 and 6 and finding the mean of the six items.

The final item in this section assessed global happiness via the Delighted–Terrible scale (Andrews & Crandall, 1976), one of the more common approaches to collecting subjective quality-of-life data.

### *Gambling*

The Problem Gambling Severity Index (Stinchfield et al., 2007) is a widely used nine-item scale for measuring the severity of gambling problems in the general population. Each item is scored from zero to three. The higher the total score, the greater the risk of problem gambling behaviour.

### *Driving*

Items examining risky driving were sourced from the Australian Institute of Family Studies (Smart et al., 2005) and looked specifically at driving over the speed limit and driving while affected by alcohol. Participants were asked to consider the last 10 times they drove and how many times in that period they engaged in risky driving behaviour.

### *Experience with the law*

Participants were asked a series of questions about their experiences with the law, including whether they had ever been arrested, whether they had ever been convicted of a crime in a court of law and whether they had ever been sent to prison. For any that applied, participants were also asked to indicate whether the event occurred before entry into the ADF, before transition from Regular ADF service or since transition from Regular ADF service. Items in this section of the survey were sourced from the Australian Gulf War Follow up Health Study (Sim et al., 2015).

### *Internet use*

This section of the survey aimed to ascertain what role the internet played in improving the mental health and wellbeing of participants. Items were taken from the Young and Well National Survey (Burns et al., 2013) and looked specifically at internet use patterns, means of accessing the internet, use of the internet for social support, use of the internet for obtaining information relating to mental health, use of the internet for managing mental health, barriers to using the internet for mental health, and the efficacy of the internet in meeting needs.

### *Emerging technologies*

The use of new and emerging technologies for health and wellbeing was assessed via a series of items developed by the Young and Well Cooperative Research Centre (Burns et al., 2013; Young and Well Cooperative Research Centre, 2013). Questions looked at participants' current use of new and emerging technologies, barriers to use, types of new and emerging technologies used, the use of new and emerging technologies for health and wellbeing improvement, reasons for using new and emerging technologies for health and wellbeing, other reasons for using new and emerging technologies, the types of new and emerging technologies participants would use if money were not a factor, and the early adoption of new technologies.

### *Head injuries*

This section of the survey consisted of two scales. First, a self-report version of the Ohio State University Traumatic Brain Injury Identification Method (OSU TBI-ID) (Corrigan & Bogner, 2007) was adapted by researchers for specific use in the current Programme. The OSU TBI-ID is a standardised measure designed to elicit an individual's lifetime history of traumatic brain injury. Questions focused on the types of head/neck injuries incurred, symptoms reported (for example, loss of consciousness, being dazed and confused, loss of memory), age the first and last time the symptoms occurred, frequency of symptoms, loss of consciousness related to a drug overdose or being choked, and the occurrence of multiple blows to the head in relation to a history of abuse, contact sports or ADF training/deployment. Second, a modified version of the Post-concussion Syndrome Checklist (PCS) (Gouvier et al., 1992), which had been used as part of the 2012 Middle East Area of Operations Health Study (Davy et al., 2012) was

used. This modified version of the scale required participants to indicate the degree to which they had reported a list of 11 symptoms in the preceding four weeks as a result of an injury to their head or neck.

#### *Physical exercise*

In order to assess physical activity, participants were asked to complete the Short Last 7 Days Self-Administered version of The International Physical Activity Questionnaire (IPAQ, 2002). Questions asked participants to indicate the number of days, the number of times, and the amount of time they spent doing vigorous, moderate and light physical activity in the preceding seven days, as well as the amount of time they spent sedentary.

#### *Pain*

Items assessing pain intensity and disability were taken from the Australian Gulf War Follow up Health Study (Sim et al., 2015). Participants were asked to answer a series of questions on a scale of one to 10 about their current pain, worst pain and average pain in the preceding six months. They were also asked to indicate how much their pain had interfered with their daily activities, their recreational/social activities, and their ability to work in the preceding six months.

#### *Injuries*

This section of the survey was developed by researchers for the current Programme. It looked at injuries sustained during an individual's military career that required time off work. For each injury type, participants were asked to specify how many injuries were sustained during their military career, how many were sustained whilst on deployment and how many were sustained during training. Participants were also asked to indicate all the body sites where the injuries occurred.

#### *Respiratory health*

This section of the survey asked participants about any respiratory symptoms reported in the preceding 12 months. Items were derived from the European Community Respiratory Health Survey 1 (Burney et al., 1994). Examples of symptoms that were assessed are wheezing or whistling, breathlessness, tightness in the chest, shortness of breath, coughing, phlegm, nasal allergies and asthma.

#### *Physical health*

Items assessing current physical health were taken from the Australian Gulf War Follow up Health Study (Sim et al., 2015). This 67-item adapted version of the self-report symptom questionnaire included respiratory, cardiovascular, musculoskeletal, dermatological, gastrointestinal, genitourinary, neurological and cognitive symptoms. For every symptom reported in the preceding month, participants were also required to provide an indication of symptom severity on a three-point Likert scale (mild, moderate, severe).

### *Doctor-diagnosed medical conditions*

This 43-item self-report questionnaire asked participants about medical problems or conditions they had been diagnosed with or treated for by a medical doctor over their lifetime. If a participant said 'yes' to any of the items listed, they were also asked to specify the year they were first diagnosed, whether they had been treated by a doctor for the condition in the preceding year and whether they had taken medications for the condition in the preceding month. Items in this section were derived from the Australian Gulf War Follow up Health Study (Sim et al., 2015).<sup>3</sup>

### **A.7.2 Phase 2: diagnostic interview**

In phase 2 of the research a subsample of individuals was selected to participate in a one-hour telephone interview using the CIDI (Kessler & Ustun, 2004).

The CIDI provided the research team with an assessment of mental disorders based on the definitions and criteria of two classification systems: the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) and the *International Statistical Classification of Diseases and Related Health Problems*, 10th revision (ICD-10) (World Health Organization, 1994). The CIDI was selected because of its highly structured nature and its widespread use in epidemiological studies worldwide, including in the 2010 MHPWS, conducted by the Centre for Traumatic Stress Studies, and the 2007 NSMHW, conducted by the Australian Bureau of Statistics.

The CIDI was administered to consenting participants by a team of trained interviewers from the Hunter Research Foundation in Newcastle, New South Wales. Their diagnostic inter-rater reliability was closely monitored by supervisors based at the research centre throughout the study period.

### ***Twelve-month and lifetime ICD-10 mental disorders***

The CIDI was used to assess the 12-month and lifetime ICD-10 rates for depressive episode, dysthymia, bipolar affective disorder, panic attack, panic disorder, agoraphobia, social phobia, specific phobia, GAD, obsessive-compulsive disorder, PTSD, adult separation disorder, harmful alcohol use and dependence, suicidal ideation and behaviour, and intermittent explosive disorder. Clinical calibration studies report that the CIDI has good validity (Haro et al., 2006). Throughout the report, ICD-10 prevalence rates are presented with hierarchy rules applied to directly compare them with the Australian national rates (Slade et al., 2009). For all ICD-10 disorders, the standard CIDI algorithms were applied: to qualify for a 12-month diagnosis, individuals would therefore be required to meet lifetime criteria initially and then have reported symptoms in the 12 months before the interview.

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<sup>3</sup> For more detail about the individual measures listed in the foregoing section, including information about scoring, please refer to the relevant chapters in each commissioned report.

### ***Lifetime trauma exposure***

Lifetime exposure to trauma was examined as part of the PTSD module of the CIDI. The following criterion A events listed in the CIDI were examined: combat (military or organised non-military group); being a peacekeeper in a war zone or place of ongoing terror; being an unarmed civilian in a place of war, revolution, military coup or invasion; living as a civilian in a place of ongoing terror for political, ethnic, religious or other reasons; being a refugee; being kidnapped or held captive; being exposed to a toxic chemical that could cause serious harm; being in a life-threatening motor vehicle accident; being in any other life-threatening accident; being in a major natural disaster; being in a man-made disaster; having a life-threatening illness; being beaten by a parent or guardian as a child; being beaten by a spouse or romantic partner; being badly beaten by anyone else; being mugged, held up, or threatened with a weapon; being raped; being sexually assaulted; being stalked; having someone close to you die; having a child with a life-threatening illness or injury; witnessing serious physical fights at home as a child; having someone close experience a traumatic event; witnessing someone badly injured or killed or unexpectedly seeing a dead body; accidentally injuring or killing someone; purposefully injuring, torturing or killing someone; seeing atrocities or carnage such as mutilated bodies or mass killings; experiencing any other traumatic event; and experiencing any other event that the participant did not want to talk about.

## **A.8 Stratification procedure**

In phase 2 of the research 1807 Transitioned ADF members were invited to participate in a one-hour telephone interview using the CIDI (Kessler & Ustun, 2004). In addition to two subgroups of Transitioned ADF in sample 5 (Combat Zone) and sample 6 (MHPWS), who were all eligible to complete a CIDI, CIDI invitations preferenced groups accounting for the smallest proportion of the actual population (for example, females) and those with high scores on the Posttraumatic Stress Disorder Checklist and AUDIT to increase the representativeness of the sample and optimise the ability to capture low-prevalence mental disorders.

These participants were selected for a CIDI interview based on rank, sex, Service and scores on the PCL and AUDIT, with screening scores on the PCL and AUDIT categorised into three bands:

- band 3 = PCL >27, AUDIT >9
- band 2 = PCL 21–27, AUDIT 7–9
- band 1 = PCL ≤20, AUDIT ≤6.

Using the method proposed by Salim and Welsh (2009), the stratification procedure aimed to oversample those respondents in band 3 (greatest likelihood of disorder). A smaller proportion from bands 1 and 2 were also sampled, to control for the possibility of over-inflated mental disorder estimates. Transitioned ADF in samples 5 and 6 were also allocated a band, as can be seen in Table A.8, to ensure they were accounted for during sampling.

Based on the predicted proportions of Transitioned ADF survey respondents who would score in each band on the PCL and AUDIT, according to the population characteristics of sex, rank and Service, the following stratification algorithm was used to generate lists of eligible CIDI participants from among Transitioned ADF survey completers who consented to complete a CIDI:

1. band 3
2. female band 2
3. female band 1
4. male Navy band 2
5. male Navy band 3
6. male Army band 3
7. male Army band 1
8. male Air Force band 2.

Table A.8 shows the final distribution of eligible Transitioned ADF across the strata used for selection into the CIDI and the number who responded. Of the 1049 Transitioned ADF who completed a CIDI, 47.1% were in band 3, 21.4% in band 2 and 24.6% in band 1. The final sample comprised 55.4% Army, 18.9% Navy and 25.2% Air Force, with the majority of respondents being male (85.9%). A total of 78 CIDI respondents were missing band, sex or Service data and were excluded from the final weighted population.

**Table A.8 Stratification characteristics of the Transitioned ADF CIDI sample**

|           | Transitioned ADF CIDI |                       |                      |                        |                      |                        |                      |                        |
|-----------|-----------------------|-----------------------|----------------------|------------------------|----------------------|------------------------|----------------------|------------------------|
|           | No band*              |                       | Band 1               |                        | Band 2               |                        | Band 3               |                        |
|           | Invited<br>(n = 110)  | Completed<br>(n = 72) | Invited<br>(n = 408) | Completed<br>(n = 258) | Invited<br>(n = 335) | Completed<br>(n = 225) | Invited<br>(n = 954) | Completed<br>(n = 494) |
| Army      |                       |                       |                      |                        |                      |                        |                      |                        |
| Male      | 52                    | 37                    | 152                  | 94                     | 155                  | 109                    | 515                  | 272                    |
| Female    | 15                    | 10                    | 35                   | 19                     | 31                   | 15                     | 66                   | 25                     |
| Navy      |                       |                       |                      |                        |                      |                        |                      |                        |
| Male      | 20                    | 8                     | 73                   | 43                     | 57                   | 41                     | 140                  | 71                     |
| Female    | 1                     | 1                     | 17                   | 10                     | 8                    | 4                      | 40                   | 20                     |
| Air Force |                       |                       |                      |                        |                      |                        |                      |                        |
| Male      | 17                    | 13                    | 104                  | 77                     | 74                   | 50                     | 152                  | 86                     |
| Female    | 4                     | 3                     | 25                   | 14                     | 8                    | 5                      | 34                   | 16                     |
| Missing   | 1                     | -                     | 2                    | 1                      | 2                    | 1                      | 7                    | 4                      |

Note: Table includes Combat Zone and MHPWS participants who were invited to participate but were not stratified.

## A.9 Weighting

The statistical weighting process used in the Mental Health and Wellbeing Transition Study replicated that used in the MHPWS and allowed for the inference of results for the Transitioned ADF and 2015 Regular ADF populations. Two types of weights were used in the study:

- the survey respondent weights, which corrected for differential non-response on the survey for Transitioned ADF and 2015 Regular ADF
- two-phase CIDI respondent weights, which compensated for differential non-response on the survey and for oversampling or undersampling of specific cases where participants went on to be interviewed with the CIDI. These weights apply to the Transitioned ADF only and were used to generate 12-month and lifetime ICD-10 mental disorder prevalence estimates for the entire Transitioned ADF.

The weighting procedure involves the allocation of a representative value or ‘weight’ to the data for each respondent, based on key variables that are known for the entire population (respondents and non-respondents). This weight indicates how many individuals in the entire population are represented by each actual respondent. Weighting data allow for inference of results for an entire population, in this case the Transitioned ADF, by assigning a representative value to each ‘actual’ case (respondent) in the data. If a case has a weight of 4, it means that case counts in the data as four identical cases. By using known characteristics about each individual within the population (in this case, age, sex, rank and medical fitness), the weight assigned to respondents indicates how many ‘like’ individuals in the entire population (based on those characteristics) each respondent represents.

Weighting is used to correct for differential non-response and to account for systematic biases that may be present in study respondents (for example, oversampling of high scorers for CIDI). Both types of weights were used in this study.

The two types of weights were combined to give each respondent a single weight within the data. This methodology provides representative weights for the population, improving the accuracy of the estimated data, and requires that every individual in the population has actual data on the key variables that determine representativeness.

The Transitioned ADF weights were derived from the distinct strata of sex, Service and rank, as well as medical fitness, a dichotomous variable derived from Medical Employment Classification Status (see details of reclassification in the next section). Constraints due to consent meant that MEC status was missing for a number of participants. As medical fitness was a key weighting variable both in providing a proxy health status for each individual in the population and to enable comparisons with the 2010 ADF Mental Health Prevalence and Wellbeing Study, a data perturbation approach was taken to deal with the missing data (see Section A.10). Once missing MEC status was addressed, there remained 313 (1.2%) of the Transitioned ADF with missing information on the strata variables and therefore the final population was 24,932, with all weighted analyses of the Transitioned ADF summing to this.

The 2015 Regular ADF weights were derived from the distinct strata of sex, Service, rank, medical fitness, and whether the individual completed a study as part of MilHOP. Inclusion of this additional stratification variable was to account for the targeted sampling of the MilHOP cohort, who were then over-represented in the current serving respondents. A MilHOP flag variable (yes/no = 1/0) was therefore created and used in the weighting process in order to reduce this bias. There were 192 (0.4%) 2015 Regular ADF with missing information on the strata variables, reducing the final weighted population for analysis to 52,500. Tables C.1, C.2 and C.3 show the study population and respondents within each stratum used for weighting and approximately how many persons within each subpopulation each study respondent represents.

#### **A.9.1 Re-classification of Medical Employment Classification for study**

MEC is an administrative system designed to monitor physical fitness and medical standards in the ADF. It is divided into four levels (either current or on discharge from the Regular ADF):

- *MEC 1.* Members are medically fit for employment in a deployed or seagoing environment without restriction.
- *MEC 2.* Members have medical conditions that require access to various levels of medical support or employment restrictions; however, they remain medically fit for duties in their occupation in a deployed or seagoing environment. In allocation

of subclassifications of MEC 2, access to the level of medical support will always take precedence over specified employment restrictions.

- *MEC 3.* Members have medical conditions that make them medically unfit for duties in their occupation in a deployed or seagoing environment. The member so classified should be medically managed towards recovery and should be receiving active medical management with the intention of regaining MEC 1 or 2 within 12 months of allocation of MEC 3. After a maximum of 12 months their MEC is to be reviewed. If still medically unfit for military duties in any operational environment, they are to be downgraded to MEC 4 or, if appropriate, referred to a Medical Employment Classification Review Board (MECRB) for consideration of an extension to remain MEC 3.
- *MEC 4.* Members who are medically unfit for deployment or seagoing service in the long term. Members who are classified as MEC 4 for their military occupation will be subject to review and confirmation of their classification by a MECRB.

MEC status was collapsed to create a new variable, 'Medical fitness', which was used in the current program of research. Medical fitness was defined thus:

- *Fit.* Those who are categorised as fully employable and deployable or deployable with restrictions. Participants are classified as fit if they fall into MEC 1 or MEC 2 or are assigned a perturbed MEC value of 'fit'.
- *Unfit.* Those who are not fit for deployment, original occupation and/or further service. 'Unfit' can include those who are undergoing rehabilitation, transitioning to alternative return-to-work arrangements or in the process of being medically discharged from the ADF. Participants are classified as unfit if they fall into MEC 3 or MEC 4 or are assigned a perturbed MEC value of 'unfit'.

### **A.9.2 Estimates from the survey**

To maximise the actual real data available for analysis, *survey* weights were calculated for each section of the survey separately. This resolved the difficulty of differential responses to various sections of the survey, whereby individuals potentially completed some but not all parts of the survey. A 'survey section respondent' was defined as anyone who answered at least one question in that particular section of the survey. There were 29 section respondent weight variables. For the purpose of analysis, the weights used were always for the primary outcome variable of interest.

### **A.9.3 Estimates from the CIDI**

CIDI weights were derived for the Transitioned ADF based on strata including band (cut-offs based on PCL and AUDIT), sex and Service. These strata were used to weight the CIDI responses to the entire population. Within each stratum, the weight was

calculated as the population size divided by the number of CIDI respondents for that stratum. Because there was no band for non-respondents, the population size within each stratum was estimated by multiplying the known sex by service population total by the observed proportion belonging to the band of interest in the corresponding stratum. A finite population correction was also applied to adjust the variance estimates for the reasonably large sampling fraction in each stratum.

Post-stratification by the variables of sex, Service and rank was used to adjust the weights so that the estimates reproduced the known population totals and to correct for differential non-response by rank.

## **A.10 Unit-level perturbation of MEC values**

### **A.10.1 Methodology**

Because of the nature of the consent provided for individuals on the Study Roll, access to identified data for weighting purposes required the consent of the individual participants. The Australian Institute of Health and Welfare carried out a perturbation process that provided each non-consenting record with a releasable MEC value. Perturbation used the observed values of MEC for the non-consenters to give an appropriate value to each non-consenting record. This was achieved simply by fitting a model using releasable data items as predictors in a model of MEC using the non-consenters. A logistic regression model was used. This resulted in a set of probabilities of each record taking on MEC values. A Monte Carlo approach used these probabilities to randomly assign a synthetic MEC value to each record. These synthetic MEC values reflect each individual's characteristics. The generation was constrained so that aggregate totals remained consistent with totals of unperturbed values.

The perturbation approach allowed the unit records to better reflect the MEC status of individuals. This allowed researchers to use the unit records to perform more accurate analyses and tabulations. The perturbed values did not assume a broad level of homogeneity within the combinations of variables as an aggregate weighting approach but, rather, allowed the individual characteristics of each person to inform the perturbed value they were assigned.

### **A.10.2 Results**

The perturbation process was constrained at the source level. Tables A.9 and A.10 show that this was achieved, since the counts of 'fit', 'unfit' and 'missing' were the same for both the original and the perturbed values.

The missing values were assumed to happen at random within the source file. This meant that a participant's original missing value could be given to any other participant, regardless of their sex, Service, rank or age. As such, the numbers of 'fit'

and ‘unfit’ totals at these constraining levels for the perturbed data do not exactly line up with the original totals (see Table A.10 for totals by Service type).

**Table A.9** Counts of categories, by source

| Source | Original MEC value |       |         | Perturbed MEC value |       |         |
|--------|--------------------|-------|---------|---------------------|-------|---------|
|        | Fit                | Unfit | Missing | Fit                 | Unfit | Missing |
| ABIN   | 138                | 7     | 0       | 138                 | 7     | 0       |
| CURR   | 891                | 196   | 2       | 891                 | 196   | 2       |
| TRAN   | 271                | 159   | 1       | 271                 | 159   | 1       |

**Table A.10** Counts of categories, by Service type

| Service   | Original MEC value |       |         | Perturbed MEC value |       |         |
|-----------|--------------------|-------|---------|---------------------|-------|---------|
|           | Fit                | Unfit | Missing | Fit                 | Unfit | Missing |
| Army      | 254                | 63    | 0       | 255                 | 60    | 2       |
| Navy      | 613                | 191   | 3       | 614                 | 193   | 0       |
| Air Force | 433                | 108   | 0       | 431                 | 109   | 1       |

## A.11 Contact strategy and recruitment methods

### A.11.1 Promotion of the study

Before the research team made initial direct contact a number of strategies were used to promote the study to participants.

#### *Advertising via print media*

The study team developed promotional posters that were placed in Service newspapers, on DVA and Defence internet and intranet sites, on bases, at ex-service organisations, and on the University of Adelaide website.

#### *Ministerial media release*

On 11 June 2014 the Hon. Michael Ronaldson, the then Minister for Veterans’ Affairs, issued a media release launching the Transition and Wellbeing Research Programme in the wider community, disseminating information and generating interest among ADF members. The Executive Dean of Faculty of Health Sciences, members of the Scientific Advisory Committee and members of the investigative team were all present. The launch and media release generated inquiries, which the Centre for Traumatic Stress Studies research team responded to promptly and effectively, following strict protocol.

#### *Targeted briefs to ADF leadership*

Information sessions were held to brief Commanders and other key influencers in the broader Defence community about the importance of the research.

### ***Letter to ex-service organisations***

A letter introducing the Transition and Wellbeing Research Programme and an accompanying fact sheet were sent to all relevant ex-service organisations to disseminate information and generate support for the study.

### ***Distribution of study briefing packs***

Briefing packs containing study/promotional materials were distributed to ex-service organisations as another means of promoting the study among the target population.

### ***Social media strategy***

A series of social media conversations, promotions and advertisements were rolled out via the Transition and Wellbeing Research Programme's Facebook page (Facebook/aumilresearch) and Twitter account (@aumilresearch) throughout the study period. These accounts were managed by the Centre for Traumatic Stress Studies research team. The primary objectives of the social media campaign were to raise awareness of the Programme among 2015 Regular ADF and Ex-Serving ADF members, their families and their social networks; engage other advocates and key stakeholders; provide another platform for participants to engage with the research team; and disseminate previous military research conducted by the CTSS.

#### **A.11.2 Development of the Military and Veteran Health Research Study Roll**

Participants' contact details and demographic information were obtained via the Military and Veteran Health Research Study Roll, which was created by the Australian Institute of Health and Welfare in collaboration with DVA and Defence. This process involved integrating contact information from:

- Defence's PMKeyS database
- DVA client databases
- the National Death Index
- ComSuper's member database
- the MilHOP dataset.

To ensure the information was current and reflected the most recent posting cycles, a final PMKeys download was received immediately before the study began and integrated into the dataset. This integrated dataset was passed on to the research team only after an opt-out process. This involved DVA and Defence contacting participants via their websites, email, hard-copy letter, service newspapers and a media campaign, providing detailed information about the Study Roll and its broader purpose. The contact information, basic service history and demographic information for individuals who did not opt out of this process within four weeks of the campaign

beginning were then passed on to the CTSS for the Transition and Wellbeing Research Programme. Participants could still opt out of the Study Roll after the four-week campaign via an opt-out website or email managed by Defence. This website was open for three months and individuals who opted out of the Study Roll through this website were excluded from sampling. To prevent the families of deceased Defence members being approached, the Study Roll was cross-checked against the National Death Index before the opt-out email was sent to individuals and again approximately four weeks before data collection began. All new deaths recorded by Defence were immediately communicated to the research team.

#### **A.11.3 Self-selection procedure**

Details of eligible Ex-Serving members who were not passed on to the CTSS at the beginning of the study period but who subsequently self-selected into the study were sent to the Australian Institute of Health and Welfare for inclusion in the Study Roll. These members were sent an invitation package, following the standard study protocol. Participants Defence deemed ineligible were required to provide proof of their service to the CTSS in order to participate. Reservists who self-selected into the study were included in the dataset only if they appeared on the original Study Roll.

#### **A.11.4 Sampling by data integrator**

Before recruitment, the AIHW created samples for the research Programme:

- all members who transitioned from full-time Regular ADF service between 2010 and 2014
- all ADF members who participated in MilHOP, excluding members who indicated they did not wish to be contacted for further research
- a stratified random sample of 5040 2015 Regular ADF members
- 22,638 currently serving Ab-initio Reservists, noting that only Reservists with contact information were invited to participate.

The stratified random sample of 5040 2015 Regular ADF members was drawn from the remainder of members not already listed as MilHOP participants. This sample did not include those who were deceased or who had opted out of the Transition and Wellbeing Research Programme. Stratification was based on:

- Service – Navy, Army, Air Force
- sex
- rank code – Officer/enlistee.

The contact information and demographics for each of the subpopulations just listed, with the exception of individuals who opted out of the Study Roll, were then passed on to CTSS researchers for recruitment and weighting purposes.

#### **A.11.5 Phase 1: distribution of self-report survey**

Recruitment for the study was staggered across the entire data collection period. Online invitation packages were distributed to participants in batches. The first batch of invitation emails was rolled out to participants in June 2015. Each email contained a unique study ID number and token password, as well as a secure link to an online invitation package. This package contained the self-report survey and all associated study materials, including information sheets and consent forms. Invitation packs were uniquely tailored to participants' current serving status and eligibility criteria. Where email addresses were not available or on request, hard-copy versions of the invitation package were posted to participants.

#### ***Follow-up of survey non-respondents***

To maximise participation rates, a multifaceted approach to following up survey non-respondents was used:

- *Reminder emails.* These were sent to all non-respondents two, four and six weeks after the invitation package was distributed and one month before the survey was closed. Participants who preferred to complete a hard-copy version of the survey were directed to call or email the study team. This was specified in all reminder email correspondence.
- *SMS reminders.* These were sent to all non-respondents concurrently to alert them to their emails. This included members who had not yet begun the survey, as well as individuals who had partially completed it.
- *Targeted telephone follow-up.* A selection of high-priority participants was targeted via a structured telephone follow-up process. These participants were members of the MHPWS CIDI cohort. It was important to maximise the response rate for this longitudinal cohort with existing data points, to enable mapping of the trajectory of disorders. Telephone follow-up was also extended to participants without email addresses, partial completers and other target groups with low response rates, to ensure representativeness. Specifically, this included:
  - Transitioned ADF members with a landline phone number but no email address or mobile number
  - Transitioned ADF members with a landline phone number and Defence email address only but no mobile phone number
  - partial completers from all cohorts

- participants with bounced emails from sole non-Defence email addresses, with a landline phone number but no mobile number
- participants who nominated family members for the Family Study but did not provide contact details for family
- all other Transitioned ADF members and Ab-initio Reservists who had not begun the survey.

Trained research staff at the CTSS made the phone calls following a structured script. The calls were made at a variety of times during the day and evening to optimise contact opportunities. A maximum of 10 attempts were made to speak to each participant twice. Where no contact was made and a telephone message service was available, a reminder message was left on two of these 10 occasions only, leaving the study free-call number and email address.

- *Hard-copy letters.* Hard-copy invitation letters containing the study free-call number and email address as well as a link to the online survey were sent to three groups of members:
  - all Transitioned ADF non-respondents
  - all Ab-initio Reservist non-respondents
  - all 2015 Regular ADF non-respondents who did not participate in MilHOP.

#### **A.11.6 Phase 2: diagnostic Interview**

##### ***Selection***

In phase 2 a sub-group of Transitioned and Regular ADF members from eligible samples was targeted to participate in a one-hour telephone interview using the World Mental Health Survey Initiative version of the WHO CIDI 3.0. To be eligible for recruitment, potential interviewees must have completed the self-report measures and have provided consent in the Mental Health and Wellbeing Transition Study consent form to being contacted to participate in a telephone interview. The following groups were targeted:

- a stratified sample of ADF members who had transitioned out of full-time Service since 2010. Transitioned ADF survey respondents were invited to complete a CIDI based on their scores on the PCL and AUDIT screening measures, and demographic characteristics were used to further preference participants to ensure the CIDI sample represented the entire cross-section of population characteristics as far as was possible

- all MHPWS ADF members who were interviewed using the CIDI in 2010. This included individuals who met ICD-10 diagnostic criteria for either a 12-month ICD-10 affective, anxiety or alcohol disorder in 2010, as well as individuals who were sub-syndromal or had no disorder
- a sample of ADF members who participated in the MEAO Prospective Health Study between 2010 and 2012.

### ***Recruitment***

Recruitment calls were made by trained interviewers at the Hunter Research Foundation; the interviewers could not see the scores of participants on the self-report measures. Telephone calls were made at a variety of times during the day and evening, taking into account participants' preferences, so as to optimise contact opportunities.

To ensure that the most recent contact details were used, a download of current phone numbers was obtained from PMKeyS immediately before the study began and intermittently throughout the interview period.

Participants were contacted by telephone using contact details obtained through:

- the Australian Institute of Health and Welfare
- PMKeyS
- participants providing contact details and alternative contact details either online or in hard copy as part of phase 1 of the Mental Health and Wellbeing Transition Study
- participants providing contact details and alternative contact details either online or in hard copy as part of MiLHOP study.

The first telephone call was made using the primary phone number provided in the contact information sheet completed in phase 1. In the absence of this information, a phone number obtained from one of the sources just listed was used.

A maximum of 10 attempts were made to speak to the participant before that participant was removed from the pool. When no contact was made, a reminder message was left on two of the 10 occasions, along with the study's free-call number and email address.

Where telephone contact was made, research officers explained the aims, purpose and requirements of the interview and, if agreement was granted, an interview time was arranged.

## ***Interview***

At the beginning of each interview participants were reminded that participation was voluntary, they could stop the interview at any point, and they could withdraw from the study at any time without any impact on their career or entitlements. If the participant agreed to proceed with the interview, verbal consent was obtained and recorded. Following this, the highly structured interview began.

At the end of the interview participants were given sufficient time to debrief, ask questions and provide interview-related feedback. If at any time the participant indicated that they were feeling distressed or suicidal, interviewers implemented the relevant duty of care protocols.

### **A.12 Medicare and Pharmaceutical Benefits Scheme/Repatriation Pharmaceutical Benefits Scheme data linkage**

As part of the broader research Programme, participants were also invited to fill out a consent form authorising the study to gain access to complete Medicare, Pharmaceutical Benefit Scheme and Repatriation Pharmaceutical Benefits Scheme data. Data for each consenting participant were obtained for a five-year period before their scheduled interview date and included information about their medical visits, procedures, associated costs and prescription medications filled at pharmacies. Consent forms for this component of the research were sent securely to the Department of Human Services, which holds this information confidentially.

### **A.13 Statistical analysis**

Analyses were conducted in Stata version 13.1 or SAS version 9.2. All analyses were conducted using weighted estimates of totals, means and proportions, except where specified otherwise. Standard errors were estimated using linearisation, except where specified otherwise.

Subgroup analyses were conducted on each of the 12-month ICD-10 mental disorders using demographic and deployment history predictors, including sex (male, female), age (18–27, 28–37, 38–47, 48–57, 58+), 2015 Regular ADF service or service at transition (Navy, Army, Air Force), 2015 Regular ADF rank or rank on transition (Officer, Non-Commissioned Officer, Other Ranks), years of service in the Regular ADF (<3 months, 3 months – 3.9 years, 4–7.9 years, 8–11.9 years, 12–15.9 years, 16–19.9 years, 20+ years) and deployment status (ever deployed, never deployed). For members of the Transitioned ADF, specific transition factors were included – transition status (Ex-Serving, Inactive Reservist, Active Reservist), reason for discharge (medical discharge, other reason), years since transition (0, 1, 2, 3, 4, 5) and DVA client status (DVA client, not a DVA client).

Comparisons between the prevalence of 12-month ICD-10 disorders among subgroups were analysed using weighted logistic regressions. All regressions involved variables for age, sex, Service and rank. Comparisons between the prevalence of 12-month ICD-10 disorder classes (affective disorders, anxiety disorders, alcohol disorders) among subgroups were analysed using a weighted multinomial logistic regression, with the number of disorder classes as the outcome. The regression involved the covariates age, sex, Service and rank. Comparisons between the prevalence of self-reported suicidal behaviour among subgroups were analysed using weighted logistic regressions. All regressions included the covariates age, sex, Service and rank.

For the self-report measures, the proportion (n%) of ADF members in each subgroup is presented. Comparisons between the mean total scores among subgroups were also analysed where appropriate, using weighted multiple linear regressions. All regressions included the covariates age, sex, Service and rank. Comparisons between the prevalence of self-reported alcohol consumption and problems with drinking were analysed using weighted logistic regressions. A proportional odds model was considered for analysis. The main assumption of this approach was violated, however, so the ordinal response was dichotomised by means of several cut-offs. All regressions included the covariates age, sex, Service and rank.

To compare the mental health and wellbeing of the 2015 Regular ADF with that of the 2010 Regular ADF, a direct numerical comparison was performed. This did not include standardisation or tests of statistical significance. Since these two samples cannot be considered independent, between-group differences should be interpreted with caution, noting that some members of the 2015 Regular ADF sample were also represented in the 2010 Regular ADF sample. The problem of individual change in symptoms and disorders over time in this group will be dealt with in the future longitudinal report.

To compare estimates in the Transitioned ADF with those for the Australian community, direct standardisation was applied to estimates in the 2014–15 National Health Survey. The NHS data were restricted to people aged 18 to 71 (consistent with the Transition and Wellbeing Research Programme transition population). The data were standardised by sex, employment status (employed or not) and age category (18–27, 28–37, 38–47, 48–57 and 58+). Standard errors for the NHS data were estimated using the replication weights provided in the NHS data file.

## **A.14 Ethical considerations**

In order to combat potential risks and ensure that participation in the study was completely free from coercion, participants were made explicitly aware that their involvement in the study was voluntary and that they could decline to participate in

and were free to withdraw from the project at any time. This was emphasised in all study materials. Second, whether or not an individual chose to participate in the study was not communicated to senior staff in the ADF; nor were members asked directly to participate in the study by a uniformed Officer. This also ensured that recruitment was free from coercion.

In order to manage potential risks to participants in relation to both phase 1 and phase 2 of the research, a duty of care protocol was established and strictly adhered to by the research team.

## **A.15 Ethical approvals**

The study protocol was approved by the DVA Human Research Ethics Committee (E014/018) and was mutually recognised by the Directorate, Defence Health Research, and the University of Adelaide Human Research Ethics Committee. The study protocol was also submitted to the Australian Institute of Health and Welfare Ethics Committee and received approval (EO 2015/1/163).

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## Annex B Odds ratio tables

Tables B.1 and B.2 describe the adjusted odds ratios and interpretations that relate to the corresponding tables throughout this report.

As a general guide to interpreting the strength of the associations, the odds ratios were categorised as follows (Monsoon, 1990):

- OR = 0.9–1.0 to 1.0–1.2 indicates no association.
- OR = 0.7–0.9 to 1.2–1.5 indicates weak association.
- OR = 0.4–0.7 to 1.5–3.0 indicates moderate association.
- OR = 0.1–0.4 to 3.0–10.0 indicates strong association.

**Table B.1 Odds ratios for comparisons of Transitioned vs 2015 Regular ADF and DVA client vs non-DVA client (stratified by Transitioned and 2015 Regular ADF)**

| Results table   | Outcome   | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|-----------------|---|--------------------------------------|----------------------|--|-------------------------|
| Health symptoms |   |                                      |                      |  |                         |
| Table 4.5       | Avoiding doing things or situations                           | Transitioned ADF vs 2015 Regular ADF | 1.86 (1.43, 2.42)    | Transitioned ADF 86% more likely to avoid doing things or situations               | Moderate                |
|                 | Feeling that your bowel movement is not finished              | Transitioned ADF vs 2015 Regular ADF | 1.52 (1.16, 1.99)    | Transitioned ADF 52% more likely to feel that your bowel movement is not finished  | Moderate                |
|                 | Burning sensation in the sex organs                           | Transitioned ADF vs 2015 Regular ADF | 3.47 (2.41, 5.00)    | Transitioned ADF 3.4 times more likely to feel burning sensation in the sex organs | Strong                  |
|                 | Changeable bowel function (mixture of diarrhoea/constipation) | Transitioned ADF vs 2015 Regular ADF | 1.66 (1.27, 2.16)    | Transitioned ADF 66% more likely have changeable bowel function                    | Moderate                |
|                 | Chest pain  | Transitioned ADF vs 2015 Regular ADF | 1.64 (1.11, 2.42)    | Transitioned ADF 64% more likely to have chest pain                                | Moderate                |
|                 | Constipation  | Transitioned ADF vs 2015 Regular ADF | 1.45 (1.05, 2.00)    | Transitioned ADF 45% more likely to have constipation                              | Weak                    |
|                 | Diarrhoea   | Transitioned ADF vs 2015 Regular ADF | 1.12 (0.85, 1.49)    | No association   | –                       |
|                 | Difficulty finding the right word                             | Transitioned ADF vs 2015 Regular ADF | 1.83 (1.44, 2.32)    | Transitioned ADF 83% more likely to have difficulty finding the right word         | Moderate                |
|                 | Difficulty speaking   | Transitioned ADF vs 2015 Regular ADF | 1.43 (0.88, 2.30)    | No association   | –                       |
|                 | Feeling disorientated   | Transitioned ADF vs 2015 Regular ADF | 1.73 (0.93, 3.19)    | No association   | –                       |
|                 | Distressing dreams  | Transitioned ADF vs 2015 Regular ADF | 2.82 (2.08, 3.83)    | Transitioned ADF 2.8 times more likely to have distressing dreams                  | Moderate                |
|                 | Dizziness, fainting or blackouts                              | Transitioned ADF vs 2015 Regular ADF | 1.35 (0.90, 2.04)    | No association   | –                       |
|                 | Double vision   | Transitioned ADF vs 2015 Regular ADF | 1.83 (1.11, 3.00)    | Transitioned ADF 83% more likely to have double vision                             | Moderate                |
|                 | Dry mouth   | Transitioned ADF vs 2015 Regular ADF | 1.52 (1.10, 2.09)    | Transitioned ADF 52% more likely to have dry mouth                                 | Moderate                |
|                 | Faster breathing than normal                                  | Transitioned ADF vs 2015 Regular ADF | 1.20 (0.80, 1.81)    | No association   | –                       |
|                 | Fatigue   | Transitioned ADF vs 2015 Regular ADF | 1.12 (0.88, 1.42)    | No association   | –                       |
|                 | Feeling distant or cut off from others                        | Transitioned ADF vs 2015 Regular ADF | 1.80 (1.38, 2.35)    | Transitioned ADF 80% more likely to feel distant or cut off from others            | Moderate                |
|                 | Feeling jumpy/easily startled                                 | Transitioned ADF vs 2015 Regular ADF | 2.15 (1.58, 2.92)    | Transitioned ADF 2 times more likely to feel jumpy/easily startled                 | Moderate                |
|                 | Feeling unrefreshed after sleep                               | Transitioned ADF vs 2015 Regular ADF | 1.48 (1.17, 1.88)    | Transitioned ADF 48% more likely to feel unrefreshed after sleep                   | Weak                    |
|                 | Feeling feverish  | Transitioned ADF vs 2015 Regular ADF | 1.60 (1.07, 2.41)    | Transitioned ADF 60% more likely to feel feverish                                  | Moderate                |
|                 | Flatulence or burping   | Transitioned ADF vs 2015 Regular ADF | 1.50 (1.18, 1.90)    | Transitioned ADF 50% more likely to have flatulence                                | Weak                    |

| Results table | Outcome  | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|--|--------------------------------------|----------------------|--|-------------------------|
|               | Forgetfulness                                      | Transitioned ADF vs 2015 Regular ADF | 1.67 (1.28, 2.17)    | Transitioned ADF 67% more likely to have forgetfulness               | Moderate                |
|               | Headaches  | Transitioned ADF vs 2015 Regular ADF | 0.97 (0.77, 1.23)    | No association   | –                       |
|               | Indigestion  | Transitioned ADF vs 2015 Regular ADF | 1.51 (1.11, 2.05)    | Transitioned ADF 51% more likely to have indigestion                 | Moderate                |
|               | Intolerance to alcohol                             | Transitioned ADF vs 2015 Regular ADF | 3.02 (1.75, 5.19)    | Transitioned ADF 3 times more likely to have intolerance to alcohol  | Strong                  |
|               | Irritability/outbursts of anger                    | Transitioned ADF vs 2015 Regular ADF | 1.67 (1.31, 2.12)    | Transitioned ADF 67% more likely to have irritability                | Moderate                |
|               | Itchy or painful eyes                              | Transitioned ADF vs 2015 Regular ADF | 1.71 (1.34, 2.18)    | Transitioned ADF 71% more likely to have itchy or painful eyes       | Moderate                |
|               | Joint stiffness                                    | Transitioned ADF vs 2015 Regular ADF | 1.33 (1.04, 1.69)    | Transitioned ADF 33% more likely to have joint stiffness             | Weak                    |
|               | Loss of, or decrease in, appetite                  | Transitioned ADF vs 2015 Regular ADF | 2.26 (1.60, 3.20)    | Transitioned ADF 2.2 times more likely to have loss of appetite      | Moderate                |
|               | Loss of balance or co-ordination                   | Transitioned ADF vs 2015 Regular ADF | 3.47 (2.68, 4.49)    | Transitioned ADF 3.5 times more likely to have loss of balance       | Strong                  |
|               | Loss of concentration                              | Transitioned ADF vs 2015 Regular ADF | 1.79 (1.38, 2.32)    | Transitioned ADF 79% more likely to have loss of concentration       | Moderate                |
|               | Loss of interest in sex                            | Transitioned ADF vs 2015 Regular ADF | 2.08 (1.60, 2.71)    | Transitioned ADF 2 times more likely to have loss of interest in sex | Moderate                |
|               | Low back pain                                      | Transitioned ADF vs 2015 Regular ADF | 1.47 (1.16, 1.86)    | Transitioned ADF 47% more likely to have low back pain               | Weak                    |
|               | Lump in throat                                     | Transitioned ADF vs 2015 Regular ADF | 1.89 (1.09, 3.28)    | Transitioned ADF 89% more likely to have lump in throat              | Moderate                |
|               | General muscle aches or pains                      | Transitioned ADF vs 2015 Regular ADF | 1.24 (0.98, 1.58)    | No association   | –                       |
|               | Nausea   | Transitioned ADF vs 2015 Regular ADF | 1.13 (0.76, 1.67)    | No association   | –                       |
|               | Night sweats which soak the bed sheets             | Transitioned ADF vs 2015 Regular ADF | 2.09 (1.54, 2.85)    | Transitioned ADF 2 times more likely to have night sweats            | Moderate                |
|               | Numbness in fingers/toes                           | Transitioned ADF vs 2015 Regular ADF | 1.56 (1.11, 2.20)    | Transitioned ADF 56% more likely to have numbness in fingers/toes    | Moderate                |
|               | Pain in the face, jaw, in front of ear, or in ear  | Transitioned ADF vs 2015 Regular ADF | 1.33 (0.97, 1.84)    | No association   | –                       |
|               | Pain without swelling or redness in several joints | Transitioned ADF vs 2015 Regular ADF | 1.18 (0.89, 1.56)    | No association   | –                       |
|               | Pain on passing urine                              | Transitioned ADF vs 2015 Regular ADF | 2.10 (0.78, 5.62)    | No association   | –                       |
|               | Passing urine more often                           | Transitioned ADF vs 2015 Regular ADF | 2.40 (1.86, 3.10)    | Transitioned ADF 2.4 times more likely to pass urine more often      | Moderate                |
|               | Persistent cough                                   | Transitioned ADF vs 2015 Regular ADF | 1.18 (0.82, 1.71)    | No association   | –                       |
|               | Rapid heartbeat                                    | Transitioned ADF vs 2015 Regular ADF | 1.51 (1.09, 2.09)    | Transitioned ADF 51% more likely to have rapid heartbeat             | Moderate                |
|               | Rash or skin irritation                            | Transitioned ADF vs 2015 Regular ADF | 1.07 (0.78, 1.46)    | No association   | –                       |
|               | ringing in the ears                                | Transitioned ADF vs 2015 Regular ADF | 1.87 (1.45, 2.41)    | Transitioned ADF 87% more likely to have ringing in ears             | Moderate                |

| Results table | Outcome   | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|---|--------------------------------------|----------------------|---|-------------------------|
|               | Seizures  | Transitioned ADF vs 2015 Regular ADF | 17.58 (6.40, 48.28)  | Transitioned ADF 17 times more likely to have seizures. Interpret with caution        | Strong                  |
|               | Increased sensitivity to light                                  | Transitioned ADF vs 2015 Regular ADF | 1.64 (1.11, 2.40)    | Transitioned ADF 64% more likely to have sensitivity to light                         | Moderate                |
|               | Increased sensitivity to noise                                  | Transitioned ADF vs 2015 Regular ADF | 1.96 (1.40, 2.74)    | Transitioned ADF almost 2 times more likely to have increased sensitivity to noise    | Moderate                |
|               | Increased sensitivity to smells or odours                       | Transitioned ADF vs 2015 Regular ADF | 2.42 (1.48, 3.98)    | Transitioned ADF 2.4 times more likely to have increased sensitivity to smells/odours | Moderate                |
|               | Problems with sexual functioning                                | Transitioned ADF vs 2015 Regular ADF | 1.95 (1.41, 2.70)    | Transitioned ADF almost 2 times more likely to have problems with sexual functioning  | Moderate                |
|               | Shaking   | Transitioned ADF vs 2015 Regular ADF | 1.61 (1.03, 2.51)    | Transitioned ADF 61% more likely to have shaking                                      | Moderate                |
|               | Feeling short of breath at rest                                 | Transitioned ADF vs 2015 Regular ADF | 1.77 (1.12, 2.79)    | Transitioned ADF 77% more likely to have short of breath at rest                      | Moderate                |
|               | Skin infections   | Transitioned ADF vs 2015 Regular ADF | 1.20 (0.72, 1.99)    | No association  | –                       |
|               | Skin ulcers   | Transitioned ADF vs 2015 Regular ADF | 2.02 (1.02, 4.01)    | Transitioned ADF 2 times more likely to have skin ulcers                              | Moderate                |
|               | Sleeping difficulties   | Transitioned ADF vs 2015 Regular ADF | 1.25 (0.98, 1.59)    | No association  | –                       |
|               | Sore throat   | Transitioned ADF vs 2015 Regular ADF | 0.92 (0.69, 1.24)    | No association  | –                       |
|               | Stomach bloating  | Transitioned ADF vs 2015 Regular ADF | 1.69 (1.25, 2.29)    | Transitioned ADF 69% more likely to have stomach bloating                             | Moderate                |
|               | Stomach cramps  | Transitioned ADF vs 2015 Regular ADF | 1.01 (0.73, 1.41)    | No association  | –                       |
|               | Tender/painful swelling of lymph glands in neck armpit or groin | Transitioned ADF vs 2015 Regular ADF | 1.87 (1.16, 3.03)    | Transitioned ADF 87% more likely to have swelling of lymph glands                     | Moderate                |
|               | Tingling in fingers and arms                                    | Transitioned ADF vs 2015 Regular ADF | 1.61 (1.17, 2.22)    | Transitioned ADF 61% more likely to have tingling in fingers/arms                     | Moderate                |
|               | Tingling in legs and toes                                       | Transitioned ADF vs 2015 Regular ADF | 1.54 (1.08, 2.20)    | Transitioned ADF 54% more likely to have tingling in legs/toes                        | Moderate                |
|               | Unable to breathe deeply enough                                 | Transitioned ADF vs 2015 Regular ADF | 1.52 (1.05, 2.21)    | Transitioned ADF 52% more likely to be unable to breathe deeply enough                | Moderate                |
|               | Vomiting  | Transitioned ADF vs 2015 Regular ADF | 0.76 (0.41, 1.39)    | No association  | –                       |
|               | Unintended weight gain greater than 4kg                         | Transitioned ADF vs 2015 Regular ADF | 1.24 (0.87, 1.75)    | No association  | –                       |
|               | Unintended weight loss greater than 4kg                         | Transitioned ADF vs 2015 Regular ADF | 2.22 (1.40, 3.50)    | Transitioned ADF 2 times more likely to have reported unintended weight loss          | Moderate                |
|               | Wheezing  | Transitioned ADF vs 2015 Regular ADF | 1.68 (1.17, 2.42)    | Transitioned ADF 68% more likely to have wheezing                                     | Moderate                |

| Results table | Outcome   | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|---|---|----------------------|---|-------------------------|
| Table 4.6     | Avoiding doing things or situations                           | Transitioned ADF (DVA client vs Non-DVA client) | 2.92 (2.38, 3.58)    | Among Transitioned ADF, DVA clients 2.9 times more likely to avoid doing things                   | Moderate                |
|               | Feeling that your bowel movement is not finished              | Transitioned ADF (DVA client vs Non-DVA client) | 1.80 (1.44, 2.25)    | Among Transitioned ADF, DVA clients 80% more likely to feel that bowel movement is not finished   | Moderate                |
|               | Burning sensation in the sex organs                           | Transitioned ADF (DVA client vs Non-DVA client) | 2.40 (1.21, 4.78)    | Among Transitioned ADF, DVA clients 2.4 times more likely to feel burning sensation in sex organs | Moderate                |
|               | Changeable bowel function (mixture of diarrhoea/constipation) | Transitioned ADF (DVA client vs Non-DVA client) | 1.72 (1.35, 2.18)    | Among Transitioned ADF, DVA clients 72% more likely to feel changeable bowel function             | Moderate                |
|               | Chest pain  | Transitioned ADF (DVA client vs Non-DVA client) | 1.79 (1.36, 2.35)    | Among Transitioned ADF, DVA clients 79% more likely to have chest pain                            | Moderate                |
|               | Constipation  | Transitioned ADF (DVA client vs Non-DVA client) | 2.33 (1.81, 3.02)    | Among Transitioned ADF, DVA clients 2.3 times more likely to have constipation                    | Moderate                |
|               | Diarrhoea   | Transitioned ADF (DVA client vs Non-DVA client) | 1.63 (1.31, 2.03)    | Among Transitioned ADF, DVA clients 63% more likely to have diarrhoea                             | Moderate                |
|               | Difficulty finding the right word                             | Transitioned ADF (DVA client vs Non-DVA client) | 1.70 (1.40, 2.07)    | Among Transitioned ADF, DVA clients 70% more likely to have difficulty finding the right word     | Moderate                |
|               | Difficulty speaking   | Transitioned ADF (DVA client vs Non-DVA client) | 1.70 (1.26, 2.29)    | Among Transitioned ADF, DVA clients 70% more likely to have difficulty speaking                   | Moderate                |
|               | Feeling disorientated   | Transitioned ADF (DVA client vs Non-DVA client) | 2.89 (2.01, 4.15)    | Among Transitioned ADF, DVA clients 2.8 times more likely to feel disorientated                   | Moderate                |
|               | Distressing dreams  | Transitioned ADF (DVA client vs Non-DVA client) | 2.54 (2.03, 3.16)    | Among Transitioned ADF, DVA clients 2.5 times more likely to have distressing dreams              | Moderate                |
|               | Dizziness, fainting or blackouts                              | Transitioned ADF (DVA client vs Non-DVA client) | 1.79 (1.33, 2.39)    | Among Transitioned ADF, DVA clients 79% more likely to have dizziness, fainting or blackouts      | Moderate                |
|               | Double vision   | Transitioned ADF (DVA client vs Non-DVA client) | 2.33 (1.65, 3.28)    | Among Transitioned ADF, DVA clients 2.3 times more likely to have double vision                   | Moderate                |
|               | Dry mouth   | Transitioned ADF (DVA client vs Non-DVA client) | 2.44 (1.92, 3.12)    | Among Transitioned ADF, DVA clients 2.4 times more likely to have dry mouth                       | Moderate                |
|               | Faster breathing than normal                                  | Transitioned ADF (DVA client vs Non-DVA client) | 2.12 (1.61, 2.78)    | Among Transitioned ADF, DVA clients 2.2 times more likely to have faster breathing than normal    | Moderate                |
|               | Fatigue   | Transitioned ADF (DVA client vs Non-DVA client) | 2.16 (1.75, 2.65)    | Among Transitioned ADF, DVA clients 2 times more likely to have fatigue                           | Moderate                |

| Results table | Outcome                                | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|--|---|----------------------|--|-------------------------|
|               | Feeling distant or cut off from others | Transitioned ADF (DVA client vs Non-DVA client) | 2.38 (1.94, 2.93)    | Among Transitioned ADF, DVA clients 2.4 times more likely to feel distant or cut off from others | Moderate                |
|               | Feeling jumpy/easily startled          | Transitioned ADF (DVA client vs Non-DVA client) | 3.08 (2.47, 3.85)    | Among Transitioned ADF, DVA clients 3 times more likely to feel jumpy/easily startled            | Strong                  |
|               | Feeling unrefreshed after sleep        | Transitioned ADF (DVA client vs Non-DVA client) | 2.50 (2.04, 3.06)    | Among Transitioned ADF, DVA clients 2.5 times more likely to feel unrefreshed after sleep        | Moderate                |
|               | Feeling feverish                       | Transitioned ADF (DVA client vs Non-DVA client) | 2.45 (1.82, 3.31)    | Among Transitioned ADF, DVA clients 2.5 times more likely to feel feverish                       | Moderate                |
|               | Flatulence or burping                  | Transitioned ADF (DVA client vs Non-DVA client) | 1.77 (1.46, 2.16)    | Among Transitioned ADF, DVA clients 71% more likely to have flatulence                           | Moderate                |
|               | Forgetfulness                          | Transitioned ADF (DVA client vs Non-DVA client) | 2.08 (1.70, 2.54)    | Among Transitioned ADF, DVA clients 2 times more likely to have forgetfulness                    | Moderate                |
|               | Headaches                              | Transitioned ADF (DVA client vs Non-DVA client) | 1.95 (1.59, 2.37)    | Among Transitioned ADF, DVA clients 95% more likely to have headaches                            | Moderate                |
|               | Indigestion                            | Transitioned ADF (DVA client vs Non-DVA client) | 2.10 (1.67, 2.64)    | Among Transitioned ADF, DVA clients 2 times more likely to have indigestion                      | Moderate                |
|               | Intolerance to alcohol                 | Transitioned ADF (DVA client vs Non-DVA client) | 1.94 (1.38, 2.72)    | Among Transitioned ADF, DVA clients 94% more likely to have intolerance to alcohol               | Moderate                |
|               | Irritability/outbursts of anger        | Transitioned ADF (DVA client vs Non-DVA client) | 2.55 (2.09, 3.11)    | Among Transitioned ADF, DVA clients 2.5 times more likely to have irritability                   | Moderate                |
|               | Itchy or painful eyes                  | Transitioned ADF (DVA client vs Non-DVA client) | 1.30 (1.05, 1.60)    | Among Transitioned ADF, DVA clients 30% more likely to have itchy or painful eyes                | Weak                    |
|               | Joint stiffness                        | Transitioned ADF (DVA client vs Non-DVA client) | 3.39 (2.78, 4.14)    | Among Transitioned ADF, DVA clients 3.4 times more likely to have joint stiffness                | Strong                  |
|               | Loss of, or decrease in, appetite      | Transitioned ADF (DVA client vs Non-DVA client) | 2.15 (1.66, 2.77)    | Among Transitioned ADF, DVA clients 2 times more likely to have loss of appetite                 | Moderate                |
|               | Loss of balance or co-ordination       | Transitioned ADF (DVA client vs Non-DVA client) | 2.14 (1.62, 2.82)    | Among Transitioned ADF, DVA clients 2 times more likely to have loss of balance                  | Moderate                |
|               | Loss of concentration                  | Transitioned ADF (DVA client vs Non-DVA client) | 2.08 (1.70, 2.55)    | Among Transitioned ADF, DVA clients 2 times more likely to have loss of concentration            | Moderate                |
|               | Loss of interest in sex                | Transitioned ADF (DVA client vs Non-DVA client) | 2.21 (1.80, 2.72)    | Among Transitioned ADF, DVA clients 2.2 times more likely to have loss of interest in sex        | Moderate                |

| Results table | Outcome  | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|--|---|----------------------|--|-------------------------|
|               | Low back pain                                      | Transitioned ADF (DVA client vs Non-DVA client) | 2.62 (2.15, 3.19)    | Among Transitioned ADF, DVA clients 2.6 times more likely to have low back pain  | Moderate                |
|               | Lump in throat                                     | Transitioned ADF (DVA client vs Non-DVA client) | 2.08 (1.37, 3.14)    | Among Transitioned ADF, DVA clients 2 times more likely to have lump in throat   | Moderate                |
|               | General muscle aches or pains                      | Transitioned ADF (DVA client vs Non-DVA client) | 2.24 (1.84, 2.73)    | Among Transitioned ADF, DVA clients 2.2 times more likely to have general muscle aches   | Moderate                |
|               | Nausea   | Transitioned ADF (DVA client vs Non-DVA client) | 2.53 (1.88, 3.39)    | Among Transitioned ADF, DVA clients 2.5 times more likely to have nausea   | Moderate                |
|               | Night sweats which soak the bed sheets             | Transitioned ADF (DVA client vs Non-DVA client) | 2.25 (1.76, 2.88)    | Among Transitioned ADF, DVA clients 2.2 times more likely to have night sweats   | Moderate                |
|               | Numbness in fingers/toes                           | Transitioned ADF (DVA client vs Non-DVA client) | 2.52 (2.00, 3.19)    | Among Transitioned ADF, DVA clients 2.5 times more likely to have numbness in fingers/toes   | Moderate                |
|               | Pain in the face, jaw, in front of ear, or in ear  | Transitioned ADF (DVA client vs Non-DVA client) | 2.48 (1.91, 3.22)    | Among Transitioned ADF, DVA clients 2.5 times more likely to have pain in face   | Moderate                |
|               | Pain without swelling or redness in several joints | Transitioned ADF (DVA client vs Non-DVA client) | 3.32 (2.67, 4.13)    | Among Transitioned ADF, DVA clients 3.3 times more likely to have pain without swelling  | Strong                  |
|               | Pain on passing urine                              | Transitioned ADF (DVA client vs Non-DVA client) | 2.16 (1.24, 3.77)    | Among Transitioned ADF, DVA clients 2 times more likely to have pain on passing urine  | Moderate                |
|               | Passing urine more often                           | Transitioned ADF (DVA client vs Non-DVA client) | 1.68 (1.25, 2.26)    | Among Transitioned ADF, DVA clients 68% more likely to pass urine more often   | Moderate                |
|               | Persistent cough                                   | Transitioned ADF (DVA client vs Non-DVA client) | 1.44 (1.10, 1.90)    | Among Transitioned ADF, DVA clients 44% more likely to have persistent cough   | Weak                    |
|               | Rapid heartbeat                                    | Transitioned ADF (DVA client vs Non-DVA client) | 1.70 (1.35, 2.14)    | Among Transitioned ADF, DVA clients 70% more likely to have rapid heartbeat  | Moderate                |
|               | Rash or skin irritation                            | Transitioned ADF (DVA client vs Non-DVA client) | 1.61 (1.28, 2.01)    | Among Transitioned ADF, DVA clients 61% more likely to have rash or skin irritation  | Moderate                |
|               | ringing in the ears                                | Transitioned ADF (DVA client vs Non-DVA client) | 2.24 (1.84, 2.74)    | Among Transitioned ADF, DVA clients 2.2 times more likely to have ringing in ears  | Moderate                |
|               | Seizures   | Transitioned ADF (DVA client vs Non-DVA client) | 7.83 (2.05, 29.97)   | Among Transitioned ADF, DVA clients 7 times more likely to have seizures. Interpret with caution due to wide confidence intervals. | Strong                  |
|               | Increased sensitivity to light                     | Transitioned ADF (DVA client vs Non-DVA client) | 2.55 (1.90, 3.43)    | Among Transitioned ADF, DVA clients 2.5 times more likely to have increased sensitivity to light                                   | Moderate                |

| Results table | Outcome   | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|---|---|----------------------|--|-------------------------|
|               | Increased sensitivity to noise                                  | Transitioned ADF (DVA client vs Non-DVA client) | 2.29 (1.81, 2.91)    | Among Transitioned ADF, DVA clients 2.3 times more likely to have increased sensitivity to noise       | Moderate                |
|               | Increased sensitivity to smells or odours                       | Transitioned ADF (DVA client vs Non-DVA client) | 2.73 (1.91, 3.90)    | Among Transitioned ADF, DVA clients 2.7 times more likely to have increased sensitivity to smell/odour | Moderate                |
|               | Problems with sexual functioning                                | Transitioned ADF (DVA client vs Non-DVA client) | 3.14 (2.43, 4.05)    | Among Transitioned ADF, DVA clients 3 times more likely to have problem with sexual functioning        | Strong                  |
|               | Shaking   | Transitioned ADF (DVA client vs Non-DVA client) | 2.59 (1.91, 3.51)    | Among Transitioned ADF, DVA clients 2.6 times more likely to have shaking                              | Moderate                |
|               | Feeling short of breath at rest                                 | Transitioned ADF (DVA client vs Non-DVA client) | 2.04 (1.52, 2.73)    | Among Transitioned ADF, DVA clients 2 times more likely to have shortness of breath at rest            | Moderate                |
|               | Skin infections   | Transitioned ADF (DVA client vs Non-DVA client) | 1.69 (1.16, 2.47)    | Among Transitioned ADF, DVA clients 69% more likely to have skin infections                            | Moderate                |
|               | Skin ulcers   | Transitioned ADF (DVA client vs Non-DVA client) | 2.07 (1.07, 4.00)    | Among Transitioned ADF, DVA clients 2 times more likely to have skin ulcers                            | Moderate                |
|               | Sleeping difficulties   | Transitioned ADF (DVA client vs Non-DVA client) | 1.85 (1.51, 2.28)    | Among Transitioned ADF, DVA clients 85% more likely to have sleeping difficulties                      | Moderate                |
|               | Sore throat   | Transitioned ADF (DVA client vs Non-DVA client) | 1.46 (1.14, 1.86)    | Among Transitioned ADF, DVA clients 46% more likely to have sore throat                                | Weak                    |
|               | Stomach bloating  | Transitioned ADF (DVA client vs Non-DVA client) | 1.71 (1.34, 2.17)    | Among Transitioned ADF, DVA clients 71% more likely to have stomach bloating                           | Moderate                |
|               | Stomach cramps  | Transitioned ADF (DVA client vs Non-DVA client) | 2.04 (1.60, 2.61)    | Among Transitioned ADF, DVA clients 2 times more likely to have stomach cramps                         | Moderate                |
|               | Tender/painful swelling of lymph glands in neck armpit or groin | Transitioned ADF (DVA client vs Non-DVA client) | 1.77 (1.20, 2.62)    | Among Transitioned ADF, DVA clients 77% more likely to have swelling of lymph glands                   | Moderate                |
|               | Tingling in fingers and arms                                    | Transitioned ADF (DVA client vs Non-DVA client) | 2.27 (1.83, 2.82)    | Among Transitioned ADF, DVA clients 2.2 times more likely to have tingling in fingers/arms             | Moderate                |
|               | Tingling in legs and toes                                       | Transitioned ADF (DVA client vs Non-DVA client) | 2.85 (2.20, 3.70)    | Among Transitioned ADF, DVA clients 2.8 times more likely to have tingling in legs/toes                | Moderate                |
|               | Unable to breathe deeply enough                                 | Transitioned ADF (DVA client vs Non-DVA client) | 2.14 (1.65, 2.77)    | Among Transitioned ADF, DVA clients 2 times more likely to be unable to breathe deeply enough          | Moderate                |
|               | Vomiting  | Transitioned ADF (DVA client vs Non-DVA client) | 1.80 (1.18, 2.75)    | Among Transitioned ADF, DVA clients 80% more likely to have vomiting                                   | Moderate                |

| Results table                             | Outcome                                 | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---|---|---|----------------------|---|-------------------------|
|   | Unintended weight gain greater than 4kg | Transitioned ADF (DVA client vs Non-DVA client) | 2.88 (2.21, 3.75)    | Among Transitioned ADF, DVA clients 2.9 times more likely to have unintended weight gain    | Moderate                |
|   | Unintended weight loss greater than 4kg | Transitioned ADF (DVA client vs Non-DVA client) | 1.98 (1.20, 3.27)    | Among Transitioned ADF, DVA clients 2 times more likely to have unintended weight loss      | Moderate                |
|   | Wheezing                                | Transitioned ADF (DVA client vs Non-DVA client) | 1.51 (1.16, 1.96)    | Among Transitioned ADF, DVA clients 51% more likely to have wheezing                        | Moderate                |
| Self-reported doctor-diagnosed conditions |   |   |                      |   |                         |
| Table 5.5                                 | Any circulatory condition               | Transitioned ADF vs 2015 Regular ADF            | 1.40 (1.07, 1.84)    | Transitioned ADF 40% more likely to have any circulatory condition                          | Weak                    |
|   | Angina                                  | Transitioned ADF vs 2015 Regular ADF            | 0.80 (0.24, 2.65)    | No association  | –                       |
|   | High blood pressure                     | Transitioned ADF vs 2015 Regular ADF            | 1.58 (1.16, 2.14)    | Transitioned ADF 58% more likely to have high BP  | Moderate                |
|   | High cholesterol                        | Transitioned ADF vs 2015 Regular ADF            | 1.15 (0.84, 1.58)    | No association  | –                       |
|   | Heart attack/myocardial infarction      | Transitioned ADF vs 2015 Regular ADF            | 0.72 (0.29, 1.81)    | No association  | –                       |
|   | Stroke                                  | Transitioned ADF vs 2015 Regular ADF            | 0.83 (0.24, 2.87)    | No association  | –                       |
|   | Treated in past year                    | Transitioned ADF vs 2015 Regular ADF            | 1.25 (0.90, 1.73)    | No association  |                         |
|   | Medications in past month               | Transitioned ADF vs 2015 Regular ADF            | 1.18 (0.96, 1.46)    | No association  |                         |
| Table 5.6                                 | Any circulatory condition               | Transitioned ADF (DVA client vs Non-DVA client) | 1.30 (1.05, 1.62)    | Among Transitioned ADF, DVA clients 30% more likely to have any circulatory condition       | Weak                    |
|   | Angina                                  | Transitioned ADF (DVA client vs Non-DVA client) | 0.88 (0.46, 1.69)    | No association  | –                       |
|   | High blood pressure                     | Transitioned ADF (DVA client vs Non-DVA client) | 1.17 (0.91, 1.50)    | No association  | –                       |
|   | High cholesterol                        | Transitioned ADF (DVA client vs Non-DVA client) | 1.40 (1.11, 1.77)    | Among Transitioned ADF, DVA clients 40% more likely to have high cholesterol                | Weak                    |
|   | Heart attack/myocardial infarction      | Transitioned ADF (DVA client vs Non-DVA client) | 0.90 (0.53, 1.51)    | No association  | –                       |
|   | Stroke                                  | Transitioned ADF (DVA client vs Non-DVA client) | 1.23 (0.63, 2.41)    | No association  | –                       |
|   | Treated in past year                    | Transitioned ADF (DVA client vs Non-DVA client) | 1.69 (1.32, 2.16)    | Among Transitioned ADF, DVA clients 1.7 times more likely to have been treated in past year | Moderate                |

| Results table | Outcome                       | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|-------------------------------|---|----------------------|---|-------------------------|
| Table 5.9     | Medications in past month     | Transitioned ADF (DVA client vs Non-DVA client) | 1.58 (1.23, 2.02)    | Among Transitioned ADF, DVA clients 1.6 times more likely to have taken medications in past 12 months | Moderate                |
|               | Any digestive conditions      | Transitioned ADF vs 2015 Regular ADF            | 1.09 (0.77, 1.55)    | No association  | –                       |
|               | Cirrhosis                     | Transitioned ADF vs 2015 Regular ADF            | 0.46 (0.13, 1.63)    | No association  | –                       |
|               | Colitis/Crohn's disease       | Transitioned ADF vs 2015 Regular ADF            | 1.00 (0.31, 3.23)    | No association  | –                       |
|               | Hepatitis                     | Transitioned ADF vs 2015 Regular ADF            | 0.78 (0.25, 2.46)    | No association  | –                       |
|               | Irritable bowel syndrome      | Transitioned ADF vs 2015 Regular ADF            | 1.20 (0.62, 2.33)    | No association  | –                       |
|               | Polyps in bowel               | Transitioned ADF vs 2015 Regular ADF            | 0.91 (0.60, 1.37)    | No association  | –                       |
|               | Temporomandibular dysfunction | Transitioned ADF vs 2015 Regular ADF            | 0.98 (0.30, 3.17)    | No association  | –                       |
|               | Ulcers                        | Transitioned ADF vs 2015 Regular ADF            | 0.71 (0.32, 1.57)    | No association  | –                       |
| Table 5.10    | Treated in past year          | Transitioned ADF vs 2015 Regular ADF            | 0.75 (0.46, 1.23)    | No association  | –                       |
|               | Medications in past month     | Transitioned ADF vs 2015 Regular ADF            | 1.53 (0.87, 2.70)    | No association  | –                       |
|               | Any digestive conditions      | Transitioned ADF (DVA client vs Non-DVA client) | 2.24 (1.68, 2.98)    | Among Transitioned ADF, DVA clients 2.2 times more likely to have any digestive conditions            | Moderate                |
|               | Cirrhosis                     | Transitioned ADF (DVA client vs Non-DVA client) | 1.29 (0.55, 3.04)    | No association  | –                       |
|               | Colitis/Crohn's disease       | Transitioned ADF (DVA client vs Non-DVA client) | 1.33 (0.61, 2.94)    | No association  | –                       |
|               | Hepatitis                     | Transitioned ADF (DVA client vs Non-DVA client) | 0.97 (0.43, 2.17)    | No association  | –                       |
|               | Irritable bowel syndrome      | Transitioned ADF (DVA client vs Non-DVA client) | 2.59 (1.58, 4.23)    | Among Transitioned ADF, DVA clients 2.5 times more likely to have IBS                                 | Moderate                |
|               | Polyps in bowel               | Transitioned ADF (DVA client vs Non-DVA client) | 2.00 (1.40, 2.85)    | Among Transitioned ADF, DVA clients 2 times more likely to have polyps in bowel                       | Moderate                |
|               | Temporomandibular dysfunction | Transitioned ADF (DVA client vs Non-DVA client) | 1.21 (0.62, 2.36)    | No association  | –                       |
|               | Ulcers                        | Transitioned ADF (DVA client vs Non-DVA client) | 2.27 (1.29, 4.00)    | Among Transitioned ADF, DVA clients 2.2 times more likely to have ulcers                              | Moderate                |
|               | Treated in past year          | Transitioned ADF (DVA client vs Non-DVA client) | 2.82 (1.67, 4.74)    | Among Transitioned ADF, DVA clients 2.8 times more likely to have been treated in past year           | Moderate                |

| Results table | Outcome  | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|--|---|----------------------|---|-------------------------|
| Table 5.13    | Medications in past month                            | Transitioned ADF (DVA client vs Non-DVA client) | 2.40 (1.32, 4.35)    | Among Transitioned ADF, DVA clients 2.4 times more likely to have taken medications in past 12 months | Moderate                |
|               | Any musculoskeletal and connective tissue conditions | Transitioned ADF vs 2015 Regular ADF            | 1.49 (1.14, 1.96)    | Transitioned ADF 49% more likely to have any musculoskeletal conditions                               | Weak                    |
|               | Chronic low back pain                                | Transitioned ADF vs 2015 Regular ADF            | 1.61 (1.13, 2.29)    | Transitioned ADF 61% more likely to have chronic low back pain  | Moderate                |
|               | Carpal tunnel  | Transitioned ADF vs 2015 Regular ADF            | 1.00 (0.51, 1.94)    | No association  | –                       |
|               | Fibrositis   | Transitioned ADF vs 2015 Regular ADF            | 0.86 (0.22, 3.34)    | No association  | –                       |
|               | Gout   | Transitioned ADF vs 2015 Regular ADF            | 1.26 (0.65, 2.42)    | No association  | –                       |
|               | Neck pain  | Transitioned ADF vs 2015 Regular ADF            | 1.65 (0.92, 2.96)    | No association  | –                       |
|               | Osteoarthritis                                       | Transitioned ADF vs 2015 Regular ADF            | 1.55 (0.91, 2.64)    | No association  | –                       |
|               | Osteoporosis   | Transitioned ADF vs 2015 Regular ADF            | 0.89 (0.25, 3.16)    | No association  | –                       |
|               | Other inflammatory arthritis                         | Transitioned ADF vs 2015 Regular ADF            | 1.53 (0.63, 3.71)    | No association  | –                       |
|               | Rheumatoid arthritis                                 | Transitioned ADF vs 2015 Regular ADF            | 1.10 (0.37, 3.27)    | No association  | –                       |
|               | Other musculoskeletal condition                      | Transitioned ADF vs 2015 Regular ADF            | 1.00 (0.68, 1.49)    | No association  | –                       |
|               | Treated in past year                                 | Transitioned ADF vs 2015 Regular ADF            | 1.10 (0.79, 1.51)    | No association  | –                       |
| Table 5.14    | Medications in past month                            | Transitioned ADF vs 2015 Regular ADF            | 1.50 (1.05, 2.14)    | Transitioned ADF, 1.5 times more likely to have taken medications in past 12 months                   | Moderate                |
|               | Any musculoskeletal and connective tissue conditions | Transitioned ADF (DVA client vs Non-DVA client) | 4.61 (3.72, 5.72)    | Among Transitioned ADF, DVA clients 4.6 times more likely to have any musculoskeletal conditions      | Strong                  |
|               | Arthritis  | Transitioned ADF (DVA client vs Non-DVA client) | 3.89 (2.54, 5.96)    | Among Transitioned ADF, DVA clients 3.9 times more likely to have arthritis                           | Strong                  |
|               | Chronic low back pain                                | Transitioned ADF (DVA client vs Non-DVA client) | 4.92 (3.75, 6.44)    | Among Transitioned ADF, DVA clients almost 5 times more likely to have chronic low back pain          | Strong                  |
|               | Carpal tunnel  | Transitioned ADF (DVA client vs Non-DVA client) | 1.21 (0.74, 1.96)    | No association  | –                       |
|               | Fibrositis   | Transitioned ADF (DVA client vs Non-DVA client) | 1.11 (0.51, 2.42)    | No association  | –                       |
|               | Gout   | Transitioned ADF (DVA client vs Non-DVA client) | 1.54 (0.96, 2.48)    | No association  | –                       |

| Results table | Outcome                         | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|---------------------------------|---|----------------------|---|-------------------------|
|               | Neck pain                       | Transitioned ADF (DVA client vs Non-DVA client) | 4.07 (2.75, 6.04)    | Among Transitioned ADF, DVA clients 4 times more likely to have neck pain                             | Strong                  |
|               | Osteoarthritis                  | Transitioned ADF (DVA client vs Non-DVA client) | 4.62 (3.08, 6.92)    | Among Transitioned ADF, DVA clients 4.6 times more likely to have osteoarthritis                      | Strong                  |
|               | Osteoporosis                    | Transitioned ADF (DVA client vs Non-DVA client) | 1.67 (0.76, 3.66)    | No association  | –                       |
|               | Other inflammatory arthritis    | Transitioned ADF (DVA client vs Non-DVA client) | 3.64 (1.80, 7.36)    | Among Transitioned ADF, DVA clients 3.6 times more likely to have inflammatory arthritis              | Strong                  |
|               | Rheumatoid arthritis            | Transitioned ADF (DVA client vs Non-DVA client) | 2.03 (1.05, 3.92)    | Among Transitioned ADF, DVA clients 2 times more likely to have rheumatoid arthritis                  | Moderate                |
|               | Other musculoskeletal condition | Transitioned ADF (DVA client vs Non-DVA client) | 3.78 (2.72, 5.25)    | Among Transitioned ADF, DVA clients 3.8 times more likely to have other musculoskeletal conditions    | Strong                  |
|               | Treated in past year            | Transitioned ADF (DVA client vs Non-DVA client) | 5.13 (3.89, 6.76)    | Among Transitioned ADF, DVA clients 5.1 times more likely to have been treated in past year           | Strong                  |
|               | Medications in past month       | Transitioned ADF (DVA client vs Non-DVA client) | 6.18 (4.51, 8.48)    | Among Transitioned ADF, DVA clients 6.2 times more likely to have taken medications in past 12 months | Strong                  |
| Table 5.17    | Any nervous system condition    | Transitioned ADF vs 2015 Regular ADF            | 1.48 (1.01, 2.17)    | Transitioned ADF 48% more likely to have any nervous system condition                                 | Weak                    |
|               | Epilepsy                        | Transitioned ADF vs 2015 Regular ADF            | 0.97 (0.26, 3.59)    | No association  | –                       |
|               | Migraines                       | Transitioned ADF vs 2015 Regular ADF            | 1.50 (0.94, 2.41)    | No association  | –                       |
|               | Motor neurone disease           | Transitioned ADF vs 2015 Regular ADF            | 0.64 (0.15, 2.72)    | No association  | –                       |
|               | Multiple sclerosis              | Transitioned ADF vs 2015 Regular ADF            | 0.59 (0.14, 2.47)    | No association  | –                       |
|               | Sleep apnoea                    | Transitioned ADF vs 2015 Regular ADF            | 1.17 (0.65, 2.11)    | No association  | –                       |
|               | Treated in past year            | Transitioned ADF vs 2015 Regular ADF            | 1.35 (0.74, 2.47)    | No association  | –                       |
|               | Medications in past month       | Transitioned ADF vs 2015 Regular ADF            | 2.51 (1.92, 3.26)    | Transitioned ADF, 2.5 times more likely to have taken medications in past 12 months                   | Moderate                |
| Table 5.18    | Any nervous system condition    | Transitioned ADF (DVA client vs Non-DVA client) | 2.25 (1.69, 3.00)    | Among Transitioned ADF, DVA clients 2.2 times more likely to have any nervous system condition        | Moderate                |
|               | Epilepsy                        | Transitioned ADF (DVA client vs Non-DVA client) | 1.13 (0.55, 2.36)    | No association  | –                       |

| Results table | Outcome                    | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|----------------------------|---|----------------------|---|-------------------------|
|               | Migraines                  | Transitioned ADF (DVA client vs Non-DVA client) | 1.85 (1.27, 2.69)    | Among Transitioned ADF, DVA clients 85% more likely to have migraines                                 | Moderate                |
|               | Motor neurone disease      | Transitioned ADF (DVA client vs Non-DVA client) | 1.08 (0.44, 2.66)    | No association  | –                       |
|               | Multiple sclerosis         | Transitioned ADF (DVA client vs Non-DVA client) | 1.38 (0.56, 3.38)    | No association  | –                       |
|               | Sleep apnoea               | Transitioned ADF (DVA client vs Non-DVA client) | 2.28 (1.54, 3.38)    | Among Transitioned ADF, DVA clients 2.2 times more likely to have sleep apnoea                        | Moderate                |
|               | Treated in past year       | Transitioned ADF (DVA client vs Non-DVA client) | 2.40 (1.54, 3.75)    | Among Transitioned ADF, DVA clients 2.4 times more likely to have been treated in past year           | Moderate                |
|               | Medications in past month  | Transitioned ADF (DVA client vs Non-DVA client) | 4.10 (2.42, 6.95)    | Among Transitioned ADF, DVA clients 4.1 times more likely to have taken medications in past 12 months | Strong                  |
| Table 5.21    | Any respiratory conditions | Transitioned ADF vs 2015 Regular ADF            | 0.93 (0.63, 1.38)    | No association  | –                       |
|               | COPD                       | Transitioned ADF vs 2015 Regular ADF            | 0.81 (0.24, 2.71)    | No association  | –                       |
|               | Pneumonia                  | Transitioned ADF vs 2015 Regular ADF            | 1.19 (0.64, 2.21)    | No association  | –                       |
|               | Sinus                      | Transitioned ADF vs 2015 Regular ADF            | 0.85 (0.55, 1.31)    | No association  | –                       |
|               | Treated in past year       | Transitioned ADF vs 2015 Regular ADF            | 0.98 (0.53, 1.80)    | No association  | –                       |
|               | Medications in past month  | Transitioned ADF vs 2015 Regular ADF            | 1.30 (0.85, 2.00)    | No association  | –                       |
| Table 5.22    | Any respiratory conditions | Transitioned ADF (DVA client vs Non-DVA client) | 1.68 (1.26, 2.25)    | Among Transitioned ADF, DVA clients 68% more likely to have any respiratory conditions                | Moderate                |
|               | COPD                       | Transitioned ADF (DVA client vs Non-DVA client) | 1.18 (0.54, 2.59)    | No association  | –                       |
|               | Pneumonia                  | Transitioned ADF (DVA client vs Non-DVA client) | 1.40 (0.85, 2.30)    | No association  | –                       |
|               | Sinus                      | Transitioned ADF (DVA client vs Non-DVA client) | 1.65 (1.20, 2.26)    | Among Transitioned ADF, DVA clients 65% more likely to have sinus                                     | Moderate                |
|               | Treated in past year       | Transitioned ADF (DVA client vs Non-DVA client) | 1.93 (1.20, 3.11)    | Among Transitioned ADF, DVA clients 1.9 times more likely to have been treated in past year           | Moderate                |
|               | Medications in past month  | Transitioned ADF (DVA client vs Non-DVA client) | 2.26 (1.22, 4.22)    | Among Transitioned ADF, DVA clients 2.3 times more likely to have taken medications in past 12 months | Moderate                |

| Results table | Outcome  | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|--|---|----------------------|--|-------------------------|
| Table 5.25    | Any neoplasms, skin cancers including melanoma | Transitioned ADF vs 2015 Regular ADF            | 0.82 (0.57, 1.18)    | No association   | –                       |
|               | Melanoma                                       | Transitioned ADF vs 2015 Regular ADF            | 0.57 (0.25, 1.31)    | No association   | –                       |
|               | Other skin cancer                              | Transitioned ADF vs 2015 Regular ADF            | 0.89 (0.64, 1.25)    | No association   | –                       |
|               | Treated in past year                           | Transitioned ADF vs 2015 Regular ADF            | 0.84 (0.51, 1.41)    | No association   | –                       |
|               | Medications in past month                      | Transitioned ADF vs 2015 Regular ADF            | 1.34 (0.75, 2.39)    | No association   | –                       |
| Table 5.26    | Any neoplasms, skin cancers including melanoma | Transitioned ADF (DVA client vs Non-DVA client) | 1.99 (1.45, 2.72)    | Among Transitioned ADF, DVA clients 2 times more likely to have any Neoplasms, Skin Cancers including melanoma | Moderate                |
|               | Melanoma                                       | Transitioned ADF (DVA client vs Non-DVA client) | 1.65 (0.80, 3.39)    | Among Transitioned ADF, DVA clients 65% more likely to have other skin cancer                                  | Moderate                |
|               | Other skin cancer                              | Transitioned ADF (DVA client vs Non-DVA client) | 1.89 (1.37, 2.61)    | Among Transitioned ADF, DVA clients 89% more likely to have other skin cancer                                  | Moderate                |
|               | Treated in past year                           | Transitioned ADF (DVA client vs Non-DVA client) | 1.93 (1.21, 3.07)    | Among Transitioned ADF, DVA clients 1.9 times more likely to have been treated in past year                    | Moderate                |
|               | Medications in past month                      | Transitioned ADF (DVA client vs Non-DVA client) | 3.53 (1.48, 8.38)    | Among Transitioned ADF, DVA clients 3.5 times more likely to have taken medications in past 12 months          | Strong                  |
| Table 5.29    | Any skin conditions                            | Transitioned ADF vs 2015 Regular ADF            | 0.92 (0.62, 1.36)    | No association   | –                       |
|               | Dermatitis                                     | Transitioned ADF vs 2015 Regular ADF            | 0.84 (0.47, 1.50)    | No association   | –                       |
|               | Eczema   | Transitioned ADF vs 2015 Regular ADF            | 0.96 (0.51, 1.82)    | No association   | –                       |
|               | Psoriasis                                      | Transitioned ADF vs 2015 Regular ADF            | 0.95 (0.50, 1.79)    | No association   | –                       |
|               | Treated in past year                           | Transitioned ADF vs 2015 Regular ADF            | 0.91 (0.48, 1.71)    | No association   | –                       |
|               | Medications in past month                      | Transitioned ADF vs 2015 Regular ADF            | 1.57 (1.14, 2.17)    | Transitioned ADF, 1.6 times more likely to have taken medications in past 12 months                            | Moderate                |
| Table 5.30    | Any skin conditions                            | Transitioned ADF (DVA client vs Non-DVA client) | 1.24 (0.92, 1.67)    | No association   | –                       |
|               | Dermatitis                                     | Transitioned ADF (DVA client vs Non-DVA client) | 1.59 (1.04, 2.43)    | Among Transitioned ADF, DVA clients 59% more likely to have dermatitis   | Moderate                |
|               | Eczema   | Transitioned ADF (DVA client vs Non-DVA client) | 1.21 (0.77, 1.90)    | No association   | –                       |

| Results table | Outcome                            | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|------------------------------------|---|----------------------|---|-------------------------|
|               | Psoriasis                          | Transitioned ADF (DVA client vs Non-DVA client) | 0.61 (0.26, 1.44)    | No association  | –                       |
|               | Treated in past year               | Transitioned ADF (DVA client vs Non-DVA client) | 1.65 (1.00, 2.71)    | Among Transitioned ADF, DVA clients times more likely to have been treated in past year | Moderate                |
|               | Medications in past month          | Transitioned ADF (DVA client vs Non-DVA client) | 1.49 (0.89, 2.47)    | No association  | –                       |
| Table 5.33    | Chronic fatigue syndrome           | Transitioned ADF vs 2015 Regular ADF            | 1.05 (0.34, 3.23)    | No association  | –                       |
|               | Diabetes                           | Transitioned ADF vs 2015 Regular ADF            | 1.29 (0.54, 3.04)    | No association  | –                       |
|               | Hearing loss                       | Transitioned ADF vs 2015 Regular ADF            | 1.69 (1.15, 2.48)    | Transitioned ADF 69% more likely to have hearing loss                                   | Moderate                |
|               | Impotence                          | Transitioned ADF vs 2015 Regular ADF            | 1.62 (0.72, 3.64)    | No association  | –                       |
|               | Kidney disease                     | Transitioned ADF vs 2015 Regular ADF            | 1.11 (0.54, 2.28)    | No association  | –                       |
|               | Other cancer, tumour or malignancy | Transitioned ADF vs 2015 Regular ADF            | 1.12 (0.60, 2.11)    | No association  | –                       |
|               | Traumatic brain injury             | Transitioned ADF vs 2015 Regular ADF            | 0.92 (0.28, 2.97)    | No association  | –                       |
| Table 5.34    | Chronic fatigue syndrome           | Transitioned ADF (DVA client vs Non-DVA client) | 1.70 (0.86, 3.34)    | No association  | –                       |
|               | Diabetes                           | Transitioned ADF (DVA client vs Non-DVA client) | 1.21 (0.74, 1.98)    | No association  | –                       |
|               | Hearing loss                       | Transitioned ADF (DVA client vs Non-DVA client) | 3.91 (2.96, 5.15)    | Among Transitioned ADF, DVA clients almost 4 times more likely to have hearing loss     | Strong                  |
|               | Impotence                          | Transitioned ADF (DVA client vs Non-DVA client) | 2.35 (1.41, 3.91)    | Among Transitioned ADF, DVA clients almost 2.3 times more likely to have impotence      | Moderate                |
|               | Kidney disease                     | Transitioned ADF (DVA client vs Non-DVA client) | 1.24 (0.74, 2.07)    | No association  | –                       |
|               | Other cancer, tumour or malignancy | Transitioned ADF (DVA client vs Non-DVA client) | 1.72 (1.12, 2.64)    | Among Transitioned ADF, DVA clients almost 72% more likely to have other cancer         | Moderate                |
|               | Traumatic brain injury             | Transitioned ADF (DVA client vs Non-DVA client) | 1.97 (0.86, 4.51)    | No association  | –                       |

| Results table      | Outcome  | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|--------------------|--|---|----------------------|---|-------------------------|
| Respiratory health |  |   |                      |   |                         |
| Table 6.1          | Wheeze   | Transitioned ADF vs 2015 Regular ADF            | 1.29 (0.95, 1.75)    | No association  | –                       |
|                    | Woken with tightness in chest                                    | Transitioned ADF vs 2015 Regular ADF            | 1.24 (0.83, 1.85)    | No association  | –                       |
|                    | Attack of shortness of breath during the day whilst at rest      | Transitioned ADF vs 2015 Regular ADF            | 1.58 (1.04, 2.40)    | Transitioned ADF 58% more likely to have had attack of shortness of breath whilst at rest during the day                    | Moderate                |
|                    | Attack of shortness of breath following strenuous activity       | Transitioned ADF vs 2015 Regular ADF            | 1.08 (0.76, 1.54)    | No association  | –                       |
|                    | Woken by attack of shortness of breath                           | Transitioned ADF vs 2015 Regular ADF            | 2.21 (1.36, 3.59)    | Transitioned ADF 2 times more likely to have been woken by attack of shortness of breath                                    | Moderate                |
|                    | Woken by attack of coughing                                      | Transitioned ADF vs 2015 Regular ADF            | 1.25 (0.96, 1.62)    | No association  | –                       |
|                    | Cough first thing in the morning                                 | Transitioned ADF vs 2015 Regular ADF            | 1.28 (0.82, 2.00)    | No association  | –                       |
|                    | Cough during the day or at night                                 | Transitioned ADF vs 2015 Regular ADF            | 0.96 (0.66, 1.42)    | No association  | –                       |
|                    | Phlegm from chest in morning during winter                       | Transitioned ADF vs 2015 Regular ADF            | 1.45 (1.10, 1.90)    | Transitioned ADF 45% more likely to have phlegm from chest in morning during winter   | Weak                    |
|                    | Phlegm from chest during day or at night during winter           | Transitioned ADF vs 2015 Regular ADF            | 1.52 (1.10, 2.12)    | Transitioned ADF 52% more likely to have phlegm from chest during day or at night during winter                             | Moderate                |
|                    | Trouble breathing  | Transitioned ADF vs 2015 Regular ADF            | 1.20 (0.85, 1.69)    | No association  | –                       |
|                    | Disabled from walking by condition other than heart/lung disease | Transitioned ADF vs 2015 Regular ADF            | 2.45 (1.31, 4.58)    | Transitioned ADF almost 2.5 times more likely to have been disabled from walking by condition other than heart/lung disease | Moderate                |
|                    | Shortness of breath  | Transitioned ADF vs 2015 Regular ADF            | 1.75 (1.09, 2.81)    | Transitioned ADF 75% more likely to have shortness of breath  | Moderate                |
|                    | Nasal allergies  | Transitioned ADF vs 2015 Regular ADF            | 1.02 (0.79, 1.31)    | No association  | –                       |
|                    | Asthma (ever)  | Transitioned ADF vs 2015 Regular ADF            | 1.27 (0.92, 1.76)    | No association  | –                       |
|                    | Asthma confirmed by doctor                                       | Transitioned ADF vs 2015 Regular ADF            | 1.31 (0.96, 1.80)    | No association  | –                       |
|                    | Asthma in last 12 months   | Transitioned ADF vs 2015 Regular ADF            | 2.45 (1.72, 3.50)    | Transitioned ADF 2.5 times more likely to have Asthma in the last 12 months   | Moderate                |
|                    | Asthma medication currently                                      | Transitioned ADF vs 2015 Regular ADF            | 1.92 (1.23, 3.01)    | Transitioned ADF 1.9 times more likely take Asthma medication currently   | Moderate                |
| Table 6.2          | Wheeze   | Transitioned ADF (DVA client vs Non-DVA client) | 1.20 (0.94, 1.52)    | No association  | –                       |

| Results table | Outcome  | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|--|---|----------------------|---|-------------------------|
|               | Woken with tightness in chest                                    | Transitioned ADF (DVA client vs Non-DVA client) | 1.85 (1.43, 2.40)    | Among Transitioned ADF, DVA clients 85% more likely to have woken with tightness in chest   | Moderate                |
|               | Attack of shortness of breath during the day whilst at rest      | Transitioned ADF (DVA client vs Non-DVA client) | 1.84 (1.37, 2.49)    | Among Transitioned ADF, DVA clients 85% more likely to have attack of shortness of breath during the day whilst at rest               | Moderate                |
|               | Attack of shortness of breath following strenuous activity       | Transitioned ADF (DVA client vs Non-DVA client) | 1.72 (1.31, 2.25)    | Among Transitioned ADF, DVA clients 72% more likely to have attack of shortness of breath following strenuous activity                | Moderate                |
|               | Woken by attack of shortness of breath                           | Transitioned ADF (DVA client vs Non-DVA client) | 2.38 (1.66, 3.42)    | Among Transitioned ADF, DVA clients 2 times more likely to have been woken by attack of shortness of breath                           | Moderate                |
|               | Woken by attack of coughing                                      | Transitioned ADF (DVA client vs Non-DVA client) | 1.47 (1.16, 1.85)    | Among Transitioned ADF, DVA clients 47% more likely to have woken by attack of coughing   | Weak                    |
|               | Cough first thing in the morning                                 | Transitioned ADF (DVA client vs Non-DVA client) | 1.46 (1.07, 1.98)    | Among Transitioned ADF, DVA clients 46% more likely to have cough first thing in the morning  | Weak                    |
|               | Cough during the day or at night                                 | Transitioned ADF (DVA client vs Non-DVA client) | 1.46 (1.11, 1.93)    | Among Transitioned ADF, DVA clients 46% more likely to have cough during the day or night   | Weak                    |
|               | Phlegm from chest in morning during winter                       | Transitioned ADF (DVA client vs Non-DVA client) | 2.11 (1.61, 2.76)    | Among Transitioned ADF, DVA clients 2 times more likely to have phlegm from chest in the morning during winter                        | Moderate                |
|               | Phlegm from chest during day or at night during winter           | Transitioned ADF (DVA client vs Non-DVA client) | 1.98 (1.49, 2.63)    | Among Transitioned ADF, DVA clients 2 times more likely to have phlegm from chest during day or night during winter                   | Moderate                |
|               | Trouble breathing  | Transitioned ADF (DVA client vs Non-DVA client) | 1.88 (1.46, 2.43)    | Among Transitioned ADF, DVA clients 88% more likely to have trouble breathing   | Moderate                |
|               | Disabled from walking by condition other than heart/lung disease | Transitioned ADF (DVA client vs Non-DVA client) | 8.32 (4.78, 14.48)   | Among Transitioned ADF, DVA clients 8 times more likely to have been disabled from walking by condition other than heart/lung disease | Strong                  |
|               | Shortness of breath  | Transitioned ADF (DVA client vs Non-DVA client) | 2.38 (1.75, 3.25)    | Among Transitioned ADF, DVA clients 2.3 times more likely to have shortness of breath   | Moderate                |
|               | Nasal allergies  | Transitioned ADF (DVA client vs Non-DVA client) | 1.07 (0.87, 1.32)    | No association  | –                       |
|               | Asthma ever  | Transitioned ADF (DVA client vs Non-DVA client) | 1.08 (0.84, 1.40)    | No association  | –                       |
|               | Asthma confirmed by doctor                                       | Transitioned ADF (DVA client vs Non-DVA client) | 1.09 (0.83, 1.42)    | No association  | –                       |
|               | Asthma in last 12 months   | Transitioned ADF (DVA client vs Non-DVA client) | 0.88 (0.51, 1.52)    | No association  | –                       |

| Results table  | Outcome                          | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|----------------|----------------------------------|---|----------------------|---|-------------------------|
|                | Asthma medication currently      | Transitioned ADF (DVA client vs Non-DVA client) | 1.15 (0.73, 1.82)    | No association  | –                       |
| Injuries       |                                  |   |                      |   |                         |
| Table 7.5      | Injury type (any)                | Transitioned ADF vs 2015 Regular ADF            | 1.35 (1.03, 1.77)    | Transitioned ADF 35% more likely to have had any type of injury                                   | Weak                    |
|                | Injury type (fracture)           | Transitioned ADF vs 2015 Regular ADF            | 1.10 (0.85, 1.42)    | No association  | –                       |
|                | Injury type (musculoskeletal)    | Transitioned ADF vs 2015 Regular ADF            | 1.26 (0.99, 1.62)    | No association  | –                       |
|                | Injury type (heat stress)        | Transitioned ADF vs 2015 Regular ADF            | 2.15 (1.50, 3.08)    | Transitioned ADF 2 times more likely to have had heat stress type of injury                       | Moderate                |
|                | Injury type (cold/exposure)      | Transitioned ADF vs 2015 Regular ADF            | 1.36 (0.89, 2.08)    | No association  | –                       |
|                | Injury type (burn, excl sunburn) | Transitioned ADF vs 2015 Regular ADF            | 1.80 (1.37, 2.37)    | Transitioned ADF 80% more likely to have had burn type of injury                                  | Moderate                |
| Table 7.6      | Injury type (any)                | Transitioned ADF (DVA client vs Non-DVA client) | 4.01 (3.11, 5.17)    | Among Transitioned ADF, DVA clients 4 times more likely to have had any type of injury            | Strong                  |
|                | Injury type (fracture)           | Transitioned ADF (DVA client vs Non-DVA client) | 1.84 (1.50, 2.26)    | Among Transitioned ADF, DVA clients 84% more likely to have had a fracture                        | Moderate                |
|                | Injury type (musculoskeletal)    | Transitioned ADF (DVA client vs Non-DVA client) | 3.37 (2.72, 4.17)    | Among Transitioned ADF, DVA clients 3 times more likely to have had a musculoskeletal type injury | Strong                  |
|                | Injury type (heat stress)        | Transitioned ADF (DVA client vs Non-DVA client) | 1.64 (1.22, 2.19)    | Among Transitioned ADF, DVA clients 64% more likely to have had a heat stress type injury         | Moderate                |
|                | Injury type (cold/exposure)      | Transitioned ADF (DVA client vs Non-DVA client) | 2.07 (1.19, 3.59)    | Among Transitioned ADF, DVA clients 2 times more likely to have had a cold/exposure type injury   | Moderate                |
|                | Injury type (burn, excl sunburn) | Transitioned ADF (DVA client vs Non-DVA client) | 1.77 (1.05, 3.00)    | Among Transitioned ADF, DVA clients 77% more likely to have had a burn type injury                | Moderate                |
| Pain           |                                  |   |                      |   |                         |
| Table 8.1      | Pain (low vs none)               | Transitioned ADF vs 2015 Regular ADF            | 0.82 (0.54, 1.25)    | No association  | –                       |
|                | Pain (high vs none)              | Transitioned ADF vs 2015 Regular ADF            | 1.16 (0.71, 1.91)    | No association  | –                       |
| Table 8.2      | Pain (high vs none)              | Transitioned ADF (DVA client vs Non-DVA client) | 6.27 (4.16, 9.46)    | Among Transitioned ADF, DVA clients 6 times more likely to have higher pain                       | Strong                  |
| Sleep problems |                                  |   |                      |   |                         |
| Table 9.1      | Sleep (insomnia vs no insomnia)  | Transitioned ADF vs 2015 Regular ADF            | 2.52 (1.84, 3.47)    | Transitioned ADF 2.5 times more likely to have insomnia   | Moderate                |

| Results table                             | Outcome   | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---|---|---|----------------------|--|-------------------------|
| Table 9.2                                 | Sleep (insomnia vs no insomnia)                                     | Transitioned ADF (DVA client vs Non-DVA client) | 3.06 (2.44, 3.82)    | Among Transitioned ADF, DVA clients 3 times more likely to have insomnia   | Strong                  |
| Lifestyle risk factors                    |   |   |                      |  |                         |
| Table 10.1                                | Body mass index (overweight vs normal)                              | Transitioned ADF vs 2015 Regular ADF            | 1.02 (0.75, 1.39)    | No association   | –                       |
|   | Body mass index (obese vs normal)                                   | Transitioned ADF vs 2015 Regular ADF            | 1.26 (0.89, 1.78)    | No association   | –                       |
| Table 10.2                                | Body mass index (obese vs normal)                                   | Transitioned ADF (DVA client vs Non-DVA client) | 2.20 (1.66, 2.92)    | Among Transitioned ADF, DVA clients 2.2 times more likely to be obese  | Moderate                |
| Table 10.5                                | Physical exercise (inactive vs HEPA active)                         | Transitioned ADF vs 2015 Regular ADF            | 1.64 (1.18, 2.29)    | Transitioned ADF 64% more likely to be inactive (compared to being HEPA active)  | Moderate                |
|   | Physical exercise (minimally active vs HEPA active)                 | Transitioned ADF vs 2015 Regular ADF            | 1.19 (0.88, 1.60)    | No association   | –                       |
| Table 10.6                                | Physical exercise (inactive vs HEPA active)                         | Transitioned ADF (DVA client vs Non-DVA client) | 1.29 (1.00, 1.64)    | No association   | –                       |
| Table 10.9                                | Smoking (former vs never smoked)                                    | Transitioned ADF vs 2015 Regular ADF            | 1.18 (0.94, 1.48)    | No association   | –                       |
|   | Smoking (smoker vs never smoked)                                    | Transitioned ADF vs 2015 Regular ADF            | 1.09 (0.77, 1.53)    | No association   | –                       |
| Table 10.10                               | Smoking (smoker vs never smoked)                                    | Transitioned ADF (DVA client vs Non-DVA client) | 1.17 (0.89, 1.56)    | No association   | –                       |
| Self-perceived health and quality of life |   |   |                      |  |                         |
| Table 11.1                                | Self-perceived health (fair–poor vs excellent–good)                 | Transitioned ADF vs 2015 Regular ADF            | 1.53 (1.21, 1.94)    | Transitioned ADF are 53% more likely to have lower self-perceived health   | Moderate                |
|   | Self-perceived health (fair–poor vs excellent–good)                 | Transitioned ADF (DVA client vs Non-DVA client) | 4.16 (3.44, 5.03)    | Among Transitioned ADF, DVA clients 4 times more likely to have lower self-perceived health                            | Strong                  |
| Table 11.5                                | Self-perceived satisfaction with health (dissatisfied vs satisfied) | Transitioned ADF vs 2015 Regular ADF            | 1.43 (1.15, 1.79)    | Transitioned ADF are 43% more likely to have lower self-perceived satisfaction with health                             | Weak                    |
| Table 11.6                                | Self-perceived satisfaction with health (dissatisfied vs satisfied) | Transitioned ADF (DVA client vs Non-DVA client) | 3.43 (2.82, 4.18)    | Among Transitioned ADF, DVA clients almost 3.5 times more likely to have lower self-perceived satisfaction with health | Strong                  |
| Table 11.9                                | Self-perceived quality of life (poor vs good)                       | Transitioned ADF vs 2015 Regular ADF            | 2.57 (1.72, 3.85)    | Transitioned ADF are 2.5 times more likely to have lower self-perceived quality of life                                | Moderate                |
| Table 11.10                               | Self-perceived quality of life (poor vs good)                       | Transitioned ADF (DVA client vs Non-DVA client) | 4.95 (3.72, 6.58)    | Among Transitioned ADF, DVA clients 5 times more likely to have lower self-perceived quality of life                   | Strong                  |

| Results table                 | Outcome   | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|-------------------------------|---|---|----------------------|--|-------------------------|
| Table 11.13                   | Self-perceived satisfaction with life (dissatisfied vs satisfied) | Transitioned ADF vs 2015 Regular ADF            | 1.23 (0.97, 1.57)    | No association   | –                       |
| Table 11.14                   | Self-perceived satisfaction with life (dissatisfied vs satisfied) | Transitioned ADF (DVA client vs Non-DVA client) | 2.22 (1.82, 2.72)    | Among Transitioned ADF, DVA clients 2 times more likely to have lower self-perceived satisfaction with life        | Moderate                |
| Table 11.17                   | Physical health (past year) (fair vs excellent)                   | Transitioned ADF vs 2015 Regular ADF            | 1.33 (1.05, 1.68)    | Transitioned ADF 33% more likely to have lower self-perceived physical health                                      | Weak                    |
| Table 11.8                    | Physical health (past year) (fair vs excellent)                   | Transitioned ADF (DVA client vs Non-DVA client) | 2.89 (2.36, 3.54)    | Among Transitioned ADF, DVA clients almost 3 times more likely to have lower self-perceived physical health        | Moderate                |
| Health service use            |   |   |                      |  |                         |
| 12-month health professionals |   |   |                      |  |                         |
| Table 12.1                    | Any health service  | Transitioned vs 2015 Regular ADF                | 0.61 (0.44, 0.83)    | Transitioned 39% less likely to have gone to 'any' health service (2015 Regular ADF 1.6 times more likely)         | Moderate                |
|                               | Alcohol or drug worker  | Transitioned vs 2015 Regular ADF                | 0.72 (0.26, 2.03)    | No association   | –                       |
|                               | Audiologist   | Transitioned vs 2015 Regular ADF                | 0.75 (0.52, 1.07)    | No association   | –                       |
|                               | Casualty or emergency ward  | Transitioned vs 2015 Regular ADF                | 1.31 (0.96, 1.80)    | No association   | –                       |
|                               | Chiropractor  | Transitioned vs 2015 Regular ADF                | 2.45 (1.68, 3.58)    | Transitioned 2.4 time more likely to have seen chiropractor  | Moderate                |
|                               | Accredited counsellor   | Transitioned vs 2015 Regular ADF                | 1.18 (0.79, 1.75)    | No association   | –                       |
|                               | Day clinic for minor surgery or diagnostic tests (excl. x-ray)    | Transitioned vs 2015 Regular ADF                | 0.66 (0.52, 0.83)    | Transitioned 34% less likely to have gone to day clinic for minor surgery (2015 Regular ADF 1.5 times more likely) | Weak                    |
|                               | Dentist or dental professional                                    | Transitioned vs 2015 Regular ADF                | 0.27 (0.22, 0.34)    | Transitioned 73% less likely to have gone to dentist (2015 Regular ADF 3.7 times more likely)                      | Strong                  |
|                               | Diabetes educator   | Transitioned vs 2015 Regular ADF                | 2.26 (1.49, 3.42)    | Transitioned 2.2 time more likely to have seen diabetes educator   | Moderate                |
|                               | Dietician/nutritionist  | Transitioned vs 2015 Regular ADF                | 0.53 (0.35, 0.80)    | Transitioned 47% less likely to have gone to dietician/nutritionist (2015 Regular ADF 1.9 times more likely)       | Moderate                |
|                               | General practitioner  | Transitioned vs 2015 Regular ADF                | 1.33 (1.03, 1.72)    | Transitioned 33% more likely to have seen GP   | Weak                    |
|                               | Naturopath  | Transitioned vs 2015 Regular ADF                | 1.55 (0.60, 4.00)    | No association   | –                       |
|                               | Osteopath   | Transitioned vs 2015 Regular ADF                | 3.13 (2.29, 4.26)    | Transitioned 3 time more likely to have seen osteopath   | Moderate                |
|                               | Outpatients section of a hospital                                 | Transitioned vs 2015 Regular ADF                | 0.68 (0.53, 0.87)    | Transitioned 32% less likely to have gone to outpatients (2015 Regular ADF 1.5 times more likely)                  | Weak                    |

| Results table | Outcome  | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|--|---|----------------------|---|-------------------------|
|               | Physiotherapist/hydrotherapist                                 | Transitioned vs 2015 Regular ADF                | 0.68 (0.53, 0.88)    | Transitioned 32% less likely to have gone to physiotherapist (2015 Regular ADF 1.5 times more likely)       | Weak                    |
|               | Psychologist   | Transitioned vs 2015 Regular ADF                | 0.70 (0.53, 0.92)    | Transitioned ADF 30% less likely to have gone to psychologist (2015 Regular ADF 1.4 times more likely)      | Weak                    |
|               | Social worker/welfare officer                                  | Transitioned vs 2015 Regular ADF                | 1.48 (1.04, 2.09)    | Transitioned ADF 48% more likely to have seen social worker/welfare officer                                 | Weak                    |
|               | Specialist doctor  | Transitioned vs 2015 Regular ADF                | 0.61 (0.50, 0.76)    | Transitioned ADF 39% less likely to have gone to specialist doctor (2015 Regular ADF 1.6 times more likely) | Moderate                |
|               | Other health professional                                      | Transitioned vs 2015 Regular ADF                | 1.38 (0.82, 2.33)    | No association  | –                       |
| Table 12.2    | Any health service   | Transitioned ADF (DVA client vs Non-DVA client) | 1.94 (1.39, 2.69)    | Among Transitioned ADF, DVA clients 94% more likely to have seen GP   | Moderate                |
|               | Alcohol or drug worker   | Transitioned ADF (DVA client vs Non-DVA client) | 3.28 (1.21, 8.88)    | Among Transitioned ADF, DVA clients 3.3 times more likely to have seen alcohol/drug worker                  | Moderate                |
|               | Audiologist  | Transitioned ADF (DVA client vs Non-DVA client) | 2.27 (1.67, 3.08)    | Among Transitioned ADF, DVA clients 2.3 times more likely to have seen audiologist                          | Moderate                |
|               | Casualty or emergency ward                                     | Transitioned ADF (DVA client vs Non-DVA client) | 1.44 (1.12, 1.87)    | Among Transitioned ADF, DVA clients 44% more likely to have been to casualty or emergency ward              | Weak                    |
|               | Chiropractor   | Transitioned ADF (DVA client vs Non-DVA client) | 1.54 (1.17, 2.02)    | Among Transitioned ADF, DVA clients 54% more likely to have seen chiropractor                               | Moderate                |
|               | Accredited counsellor  | Transitioned ADF (DVA client vs Non-DVA client) | 2.29 (1.64, 3.19)    | Among Transitioned ADF, DVA clients 2.3 times more likely to have seen accredited counsellor                | Moderate                |
|               | Day clinic for minor surgery or diagnostic tests (excl. x-ray) | Transitioned ADF (DVA client vs Non-DVA client) | 2.02 (1.63, 2.50)    | Among Transitioned ADF, DVA clients 2 times more likely to have been to day clinic for minor surgery        | Moderate                |
|               | Dentist or dental professional                                 | Transitioned ADF (DVA client vs Non-DVA client) | 1.16 (0.96, 1.40)    | No association  | –                       |
|               | Diabetes educator  | Transitioned ADF (DVA client vs Non-DVA client) | 1.14 (0.63, 2.05)    | No association  | –                       |
|               | Dietician/nutritionist   | Transitioned ADF (DVA client vs Non-DVA client) | 2.47 (1.59, 3.83)    | Among Transitioned ADF, DVA clients 2.5 times more likely to have seen dietician/nutritionist               | Moderate                |
|               | General practitioner   | Transitioned ADF (DVA client vs Non-DVA client) | 2.40 (1.85, 3.10)    | Among Transitioned ADF, DVA clients 2.4 times more likely to have seen GP                                   | Moderate                |

| Results table                      | Outcome                           | Cohort (comparison)                             | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|------------------------------------|-----------------------------------|---|----------------------|--|-------------------------|
|                                    | Naturopath                        | Transitioned ADF (DVA client vs Non-DVA client) | 1.47 (0.92, 2.35)    | No association   | –                       |
|                                    | Osteopath                         | Transitioned ADF (DVA client vs Non-DVA client) | 2.02 (1.22, 3.33)    | Among Transitioned ADF, DVA clients 2 times more likely to have seen osteopath                                 | Moderate                |
|                                    | Outpatients section of a hospital | Transitioned ADF (DVA client vs Non-DVA client) | 1.67 (1.27, 2.19)    | Among Transitioned ADF, DVA clients 67% more likely to have been outpatients of hospital                       | Moderate                |
|                                    | Physiotherapist/hydrotherapist    | Transitioned ADF (DVA client vs Non-DVA client) | 2.99 (2.38, 3.77)    | Among Transitioned ADF, DVA clients 3 times more likely to have seen physiotherapist/hydrotherapist            | Moderate                |
|                                    | Psychologist                      | Transitioned ADF (DVA client vs Non-DVA client) | 3.87 (3.02, 4.95)    | Among Transitioned ADF, DVA clients 3.9 times more likely to have seen psychologist                            | Strong                  |
|                                    | Social worker/welfare officer     | Transitioned ADF (DVA client vs Non-DVA client) | 2.42 (1.51, 3.87)    | Among Transitioned ADF, DVA clients 2.4 times more likely to have seen social worker/welfare officer           | Moderate                |
|                                    | Specialist doctor                 | Transitioned ADF (DVA client vs Non-DVA client) | 3.01 (2.49, 3.64)    | Among Transitioned ADF, DVA clients 3 times more likely to have seen special doctor                            | Strong                  |
|                                    | Other health professional         | Transitioned ADF (DVA client vs Non-DVA client) | 1.57 (1.08, 2.29)    | Among Transitioned ADF, DVA clients 57% more likely to have seen other health professional                     | Moderate                |
| <i>2-week health professionals</i> |                                   |   |                      |  |                         |
| Table 12.1                         | General practitioner              | Transitioned vs 2015 Regular ADF                | 0.66 (0.52, 0.85)    | Transitioned 34% less likely to have seen GP in the past 2 weeks   | Weak                    |
|                                    | Specialist doctor                 | Transitioned vs 2015 Regular ADF                | 0.73 (0.55, 0.97)    | Transitioned 27% less likely to have seen a specialist doctor in the past 2 weeks                              | Weak                    |
|                                    | General practitioner              | Transitioned ADF (DVA client vs Non-DVA client) | 2.44 (1.95, 3.04)    | Among Transitioned ADF, DVA clients 2.4 times more likely to have seen a GP in the past 2 weeks                | Moderate                |
|                                    | Specialist doctor                 | Transitioned ADF (DVA client vs Non-DVA client) | 3.97 (2.99, 5.28)    | Among Transitioned ADF, DVA clients 4.0 times more likely to have seen a specialist doctor in the past 2 weeks | Strong                  |

**Table B.2 Odds ratios for comparisons of Ex-Serving ADF vs Active Reservists, Ex-Serving ADF vs Inactive Reservists, and medical discharge vs other discharge (among Transitioned ADF)**

| Results table   | Outcome   | Cohort (comparison)        | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|-----------------|---|----------------------------|----------------------|---|-------------------------|
| Health symptoms |   |                            |                      |   |                         |
| Table 4.7       | Avoiding doing things or situations                           | Ex-Serving ADF vs Active   | 2.43 (1.95, 3.04)    | Ex-Serving ADF are 2.4 times more likely to avoid doing things or situations                | Moderate                |
|                 | Avoiding doing things or situations                           | Ex-Serving ADF vs Inactive | 1.84 (1.47, 2.31)    | Ex-Serving ADF are 84% more likely to avoid doing things or situations                      | Moderate                |
|                 | Feeling that your bowel movement is not finished              | Ex-Serving ADF vs Active   | 1.39 (1.08, 1.78)    | Ex-Serving ADF are 39% more likely to have feeling that your bowel movement is not finished | Weak                    |
|                 | Feeling that your bowel movement is not finished              | Ex-Serving ADF vs Inactive | 1.19 (0.93, 1.52)    | No association  | –                       |
|                 | Burning sensation in the sex organs                           | Ex-Serving ADF vs Active   | 1.46 (0.68, 3.16)    | No association  | –                       |
|                 | Burning sensation in the sex organs                           | Ex-Serving ADF vs Inactive | 2.09 (1.02, 4.26)    | Ex-Serving ADF are 2 times more likely to have burning sensation in sex organs              | Moderate                |
|                 | Changeable bowel function (mixture of diarrhoea/constipation) | Ex-Serving ADF vs Active   | 1.80 (1.39, 2.33)    | Ex-Serving ADF are 80% more likely to have changeable bowel function                        | Moderate                |
|                 | Changeable bowel function (mixture of diarrhoea/constipation) | Ex-Serving ADF vs Inactive | 1.74 (1.33, 2.27)    | Ex-Serving ADF are 74% more likely to have changeable bowel function                        | Moderate                |
|                 | Chest pain  | Ex-Serving ADF vs Active   | 1.37 (1.02, 1.84)    | Ex-Serving ADF are 37% more likely to have chest pain                                       | Moderate                |
|                 | Chest pain  | Ex-Serving ADF vs Inactive | 1.32 (0.97, 1.80)    | No association  | –                       |
|                 | Constipation  | Ex-Serving ADF vs Active   | 1.92 (1.47, 2.52)    | Ex-Serving ADF are 92% more likely to have constipation                                     | Moderate                |
|                 | Constipation  | Ex-Serving ADF vs Inactive | 1.74 (1.31, 2.32)    | Ex-Serving ADF are 74% more likely to have constipation                                     | Moderate                |
|                 | Diarrhoea   | Ex-Serving ADF vs Active   | 1.64 (1.29, 2.08)    | Ex-Serving ADF are 64% more likely to have diarrhoea  | Moderate                |
|                 | Diarrhoea   | Ex-Serving ADF vs Inactive | 1.49 (1.17, 1.90)    | Ex-Serving ADF are 49% more likely to have diarrhoea  | Weak                    |
|                 | Difficulty finding the right word                             | Ex-Serving ADF vs Active   | 1.39 (1.12, 1.74)    | Ex-Serving ADF are 39% more likely to have difficulty finding the right word                | Weak                    |
|                 | Difficulty finding the right word                             | Ex-Serving ADF vs Inactive | 1.25 (1.00, 1.55)    | No association  | –                       |
|                 | Difficulty speaking   | Ex-Serving ADF vs Active   | 2.28 (1.56, 3.34)    | Ex-Serving ADF are 2.3 times more likely to have difficulty speaking                        | Moderate                |
|                 | Difficulty speaking   | Ex-Serving ADF vs Inactive | 1.86 (1.31, 2.65)    | Ex-Serving ADF are 86% more likely to have difficulty speaking                              | Moderate                |
|                 | Feeling disorientated   | Ex-Serving ADF vs Active   | 2.78 (1.85, 4.17)    | Ex-Serving ADF are 2.8 times more likely to have feeling disorientated                      | Moderate                |

| Results table | Outcome                                | Cohort (comparison)        | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|--|----------------------------|----------------------|---|-------------------------|
|               | Feeling disorientated                  | Ex-Serving ADF vs Inactive | 2.37 (1.61, 3.48)    | Ex-Serving ADF are 2.4 times more likely to have feeling disorientated                | Moderate                |
|               | Distressing dreams                     | Ex-Serving ADF vs Active   | 2.78 (2.19, 3.54)    | Ex-Serving ADF are 2.8 times more likely to have distressing dreams                   | Moderate                |
|               | Distressing dreams                     | Ex-Serving ADF vs Inactive | 2.01 (1.58, 2.56)    | Ex-Serving ADF are 2 times more likely to have distressing dreams                     | Moderate                |
|               | Dizziness, fainting or blackouts       | Ex-Serving ADF vs Active   | 2.18 (1.58, 3.01)    | Ex-Serving ADF are 2 times more likely to have dizziness, fainting or blackouts       | Moderate                |
|               | Dizziness, fainting or blackouts       | Ex-Serving ADF vs Inactive | 2.00 (1.41, 2.82)    | Ex-Serving ADF are 2 times more likely to have dizziness, fainting or blackouts       | Moderate                |
|               | Double vision                          | Ex-Serving ADF vs Active   | 1.58 (1.07, 2.35)    | Ex-Serving ADF are 58% more likely to have double vision                              | Moderate                |
|               | Double vision                          | Ex-Serving ADF vs Inactive | 2.44 (1.72, 3.47)    | Ex-Serving ADF are 2.4 times more likely to have double vision                        | Moderate                |
|               | Dry mouth                              | Ex-Serving ADF vs Active   | 2.23 (1.72, 2.88)    | Ex-Serving ADF are 2.2 times more likely to have dry mouth                            | Moderate                |
|               | Dry mouth                              | Ex-Serving ADF vs Inactive | 1.61 (1.24, 2.08)    | Ex-Serving ADF are 61% more likely to have dry mouth                                  | Moderate                |
|               | Faster breathing than normal           | Ex-Serving ADF vs Active   | 2.19 (1.60, 3.01)    | Ex-Serving ADF are 2.2 times more likely to have faster breathing than normal         | Moderate                |
|               | Faster breathing than normal           | Ex-Serving ADF vs Inactive | 2.00 (1.49, 2.69)    | Ex-Serving ADF are 2 times more likely to have faster breathing than normal           | Moderate                |
|               | Fatigue                                | Ex-Serving ADF vs Active   | 1.50 (1.20, 1.89)    | Ex-Serving ADF are 50% more likely to have fatigue                                    | Weak                    |
|               | Fatigue                                | Ex-Serving ADF vs Inactive | 1.45 (1.15, 1.84)    | Ex-Serving ADF are 45% more likely to have fatigue                                    | Weak                    |
|               | Feeling distant or cut off from others | Ex-Serving ADF vs Active   | 2.01 (1.59, 2.54)    | Ex-Serving ADF are 2 times more likely to have feeling distant or cut off from others | Moderate                |
|               | Feeling distant or cut off from others | Ex-Serving ADF vs Inactive | 1.70 (1.36, 2.13)    | Ex-Serving ADF are 70% more likely to have feeling distant or cut off from others     | Moderate                |
|               | Feeling jumpy/easily startled          | Ex-Serving ADF vs Active   | 2.46 (1.94, 3.12)    | Ex-Serving ADF are 2.5 times more likely to have feeling jumpy/easily startled        | Moderate                |
|               | Feeling jumpy/easily startled          | Ex-Serving ADF vs Inactive | 1.81 (1.42, 2.29)    | Ex-Serving ADF are 80% more likely to have feeling jumpy/easily startled              | Moderate                |
|               | Feeling unrefreshed after sleep        | Ex-Serving ADF vs Active   | 1.77 (1.41, 2.23)    | Ex-Serving ADF are 77% more likely to have feeling unrefreshed after sleep            | Moderate                |
|               | Feeling unrefreshed after sleep        | Ex-Serving ADF vs Inactive | 1.61 (1.27, 2.03)    | Ex-Serving ADF are 61% more likely to have feeling unrefreshed after sleep            | Moderate                |
|               | Feeling feverish                       | Ex-Serving ADF vs Active   | 1.81 (1.32, 2.49)    | Ex-Serving ADF are 81% more likely to have feeling feverish                           | Moderate                |

| Results table | Outcome                           | Cohort (comparison)        | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|-----------------------------------|----------------------------|----------------------|--|-------------------------|
|               | Feeling feverish                  | Ex-Serving ADF vs Inactive | 1.68 (1.19, 2.36)    | Ex-Serving ADF are 68% more likely to have feeling feverish                        | Moderate                |
|               | Flatulence or burping             | Ex-Serving ADF vs Active   | 1.44 (1.16, 1.78)    | Ex-Serving ADF are 44% more likely to have flatulence or burping                   | Weak                    |
|               | Flatulence or burping             | Ex-Serving ADF vs Inactive | 1.29 (1.03, 1.62)    | Ex-Serving ADF are 29% more likely to have flatulence or burping                   | Weak                    |
|               | Forgetfulness                     | Ex-Serving ADF vs Active   | 1.60 (1.28, 2.01)    | Ex-Serving ADF are 60% more likely to have forgetfulness                           | Moderate                |
|               | Forgetfulness                     | Ex-Serving ADF vs Inactive | 1.66 (1.32, 2.09)    | Ex-Serving ADF are 66% more likely to have forgetfulness                           | Moderate                |
|               | Headaches                         | Ex-Serving ADF vs Active   | 1.22 (0.97, 1.53)    | No association   | –                       |
|               | Headaches                         | Ex-Serving ADF vs Inactive | 1.23 (0.98, 1.55)    | No association   | –                       |
|               | Indigestion                       | Ex-Serving ADF vs Active   | 1.37 (1.08, 1.75)    | Ex-Serving ADF are 37% more likely to have indigestion                             | Weak                    |
|               | Indigestion                       | Ex-Serving ADF vs Inactive | 1.41 (1.09, 1.82)    | Ex-Serving ADF are 41% more likely to have indigestion                             | Weak                    |
|               | Intolerance to alcohol            | Ex-Serving ADF vs Active   | 1.58 (1.05, 2.37)    | Ex-Serving ADF are 58% more likely to have intolerance to alcohol                  | Moderate                |
|               | Intolerance to alcohol            | Ex-Serving ADF vs Inactive | 1.21 (0.83, 1.76)    | No association   | –                       |
|               | Irritability/outbursts of anger   | Ex-Serving ADF vs Active   | 1.72 (1.38, 2.14)    | Ex-Serving ADF are 82% more likely to have irritability/outbursts of anger         | Moderate                |
|               | Irritability/outbursts of anger   | Ex-Serving ADF vs Inactive | 1.36 (1.09, 1.70)    | Ex-Serving ADF are 36% more likely to have irritability/outbursts of anger         | Weak                    |
|               | Itchy or painful eyes             | Ex-Serving ADF vs Active   | 1.01 (0.80, 1.28)    | No association   | –                       |
|               | Itchy or painful eyes             | Ex-Serving ADF vs Inactive | 1.01 (0.80, 1.28)    | No association   | –                       |
|               | Joint stiffness                   | Ex-Serving ADF vs Active   | 2.00 (1.61, 2.49)    | Ex-Serving ADF are 2 times more likely to have joint stiffness                     | Moderate                |
|               | Joint stiffness                   | Ex-Serving ADF vs Inactive | 1.85 (1.47, 2.32)    | Ex-Serving ADF are 88% more likely to have joint stiffness                         | Moderate                |
|               | Loss of, or decrease in, appetite | Ex-Serving ADF vs Active   | 2.13 (1.58, 2.87)    | Ex-Serving ADF are 2 times more likely to have loss of, or decrease in, appetite   | Moderate                |
|               | Loss of, or decrease in, appetite | Ex-Serving ADF vs Inactive | 2.17 (1.62, 2.90)    | Ex-Serving ADF are 2.2 times more likely to have loss of, or decrease in, appetite | Moderate                |
|               | Loss of balance or co-ordination  | Ex-Serving ADF vs Active   | 2.45 (1.78, 3.38)    | Ex-Serving ADF are 2.5 times more likely to have loss of balance or co-ordination  | Moderate                |
|               | Loss of balance or co-ordination  | Ex-Serving ADF vs Inactive | 2.32 (1.69, 3.20)    | Ex-Serving ADF are 2.3 times more likely to have loss of balance or co-ordination  | Moderate                |
|               | Loss of concentration             | Ex-Serving ADF vs Active   | 2.02 (1.61, 2.53)    | Ex-Serving ADF are 2 times more likely to have loss of concentration               | Moderate                |
|               | Loss of concentration             | Ex-Serving ADF vs Inactive | 1.86 (1.48, 2.34)    | Ex-Serving ADF are 86% more likely to have loss of concentration                   | Moderate                |

| Results table | Outcome  | Cohort (comparison)        | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|--|----------------------------|----------------------|---|-------------------------|
|               | Loss of interest in sex                            | Ex-Serving ADF vs Active   | 1.85 (1.47, 2.32)    | Ex-Serving ADF are 85% more likely to have loss of interest in sex                                  | Moderate                |
|               | Loss of interest in sex                            | Ex-Serving ADF vs Inactive | 1.58 (1.26, 1.99)    | Ex-Serving ADF are 58% more likely to have loss of interest in sex                                  | Moderate                |
|               | Low back pain                                      | Ex-Serving ADF vs Active   | 1.56 (1.25, 1.96)    | Ex-Serving ADF are 56% more likely to have low back pain  | Moderate                |
|               | Low back pain                                      | Ex-Serving ADF vs Inactive | 1.41 (1.12, 1.77)    | Ex-Serving ADF are 41% more likely to have low back pain  | Weak                    |
|               | Lump in throat                                     | Ex-Serving ADF vs Active   | 1.98 (1.31, 2.99)    | Ex-Serving ADF are 98% more likely to have lump in throat   | Moderate                |
|               | Lump in throat                                     | Ex-Serving ADF vs Inactive | 1.57 (1.02, 2.41)    | Ex-Serving ADF are 57% more likely to have lump in throat   | Moderate                |
|               | General muscle aches or pains                      | Ex-Serving ADF vs Active   | 1.49 (1.19, 1.86)    | Ex-Serving ADF are 49% more likely to have general muscle aches or pains                            | Weak                    |
|               | General muscle aches or pains                      | Ex-Serving ADF vs Inactive | 1.47 (1.17, 1.84)    | Ex-Serving ADF are 47% more likely to have general muscle aches or pains                            | Weak                    |
|               | Nausea   | Ex-Serving ADF vs Active   | 2.30 (1.69, 3.13)    | Ex-Serving ADF are 2.3 times more likely to have nausea   | Moderate                |
|               | Nausea   | Ex-Serving ADF vs Inactive | 1.79 (1.30, 2.45)    | Ex-Serving ADF are 79% more likely to have nausea   | Moderate                |
|               | Night sweats which soak the bed sheets             | Ex-Serving ADF vs Active   | 1.90 (1.45, 2.49)    | Ex-Serving ADF are 90% more likely to have night sweats which soak the bed sheets                   | Moderate                |
|               | Night sweats which soak the bed sheets             | Ex-Serving ADF vs Inactive | 1.74 (1.34, 2.28)    | Ex-Serving ADF are 74% more likely to have night sweats which soak the bed sheets                   | Moderate                |
|               | Numbness in fingers/toes                           | Ex-Serving ADF vs Active   | 2.23 (1.77, 2.81)    | Ex-Serving ADF are 2.2 times more likely to have numbness in fingers/toes                           | Moderate                |
|               | Numbness in fingers/toes                           | Ex-Serving ADF vs Inactive | 2.06 (1.59, 2.66)    | Ex-Serving ADF are 2 times more likely to have numbness in fingers/toes                             | Moderate                |
|               | Pain in the face, jaw, in front of ear, or in ear  | Ex-Serving ADF vs Active   | 1.76 (1.34, 2.31)    | Ex-Serving ADF are 76% more likely to have pain in the face, jaw, in front of ear, or in ear        | Moderate                |
|               | Pain in the face, jaw, in front of ear, or in ear  | Ex-Serving ADF vs Inactive | 1.54 (1.17, 2.03)    | Ex-Serving ADF are 54% more likely to have pain in the face, jaw, in front of ear, or in ear        | Moderate                |
|               | Pain without swelling or redness in several joints | Ex-Serving ADF vs Active   | 2.24 (1.79, 2.79)    | Ex-Serving ADF are 2.2 times more likely to have pain without swelling or redness in several joints | Moderate                |
|               | Pain without swelling or redness in several joints | Ex-Serving ADF vs Inactive | 1.70 (1.35, 2.16)    | Ex-Serving ADF are 70% more likely to have pain without swelling or redness in several joints       | Moderate                |
|               | Pain on passing urine                              | Ex-Serving ADF vs Active   | 2.01 (1.10, 3.68)    | Ex-Serving ADF are 2 times more likely to have pain on passing urine                                | Moderate                |
|               | Pain on passing urine                              | Ex-Serving ADF vs Inactive | 1.50 (0.83, 2.69)    | No association  | –                       |

| Results table | Outcome                                   | Cohort (comparison)        | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|---|----------------------------|----------------------|--|-------------------------|
|               | Passing urine more often                  | Ex-Serving ADF vs Active   | 1.49 (1.11, 2.02)    | Ex-Serving ADF are 49% more likely to have passing urine more often                              | Weak                    |
|               | Passing urine more often                  | Ex-Serving ADF vs Inactive | 1.04 (0.76, 1.43)    | No association   | –                       |
|               | Persistent cough                          | Ex-Serving ADF vs Active   | 1.14 (0.83, 1.57)    | No association   | –                       |
|               | Persistent cough                          | Ex-Serving ADF vs Inactive | 1.34 (0.98, 1.83)    | No association   | –                       |
|               | Rapid heartbeat                           | Ex-Serving ADF vs Active   | 2.03 (1.57, 2.61)    | Ex-Serving ADF are 2 times more likely to have rapid heartbeat                                   | Moderate                |
|               | Rapid heartbeat                           | Ex-Serving ADF vs Inactive | 1.45 (1.12, 1.88)    | Ex-Serving ADF are 45% more likely to have rapid heartbeat                                       | Weak                    |
|               | Rash or skin irritation                   | Ex-Serving ADF vs Active   | 1.25 (0.99, 1.58)    | No association   | –                       |
|               | Rash or skin irritation                   | Ex-Serving ADF vs Inactive | 1.24 (0.96, 1.62)    | No association   | –                       |
|               | ringing in the ears                       | Ex-Serving ADF vs Active   | 1.32 (1.05, 1.65)    | Ex-Serving ADF are 32% more likely to have ringing in the ears                                   | Weak                    |
|               | ringing in the ears                       | Ex-Serving ADF vs Inactive | 1.14 (0.91, 1.44)    | No association   | –                       |
|               | Seizures                                  | Ex-Serving ADF vs Active   | 1.67 (0.35, 7.83)    | No association   | –                       |
|               | Seizures                                  | Ex-Serving ADF vs Inactive | 7.41 (2.34, 23.48)   | Ex-Serving ADF are 7 times more likely to have seizures [interpret with caution due to wide CIs] | Strong                  |
|               | Increased sensitivity to light            | Ex-Serving ADF vs Active   | 1.82 (1.31, 2.54)    | Ex-Serving ADF are 82% more likely to have increased sensitivity to light                        | Moderate                |
|               | Increased sensitivity to light            | Ex-Serving ADF vs Inactive | 1.45 (1.07, 1.98)    | Ex-Serving ADF are 45% more likely to have increased sensitivity to light                        | Weak                    |
|               | Increased sensitivity to noise            | Ex-Serving ADF vs Active   | 1.84 (1.43, 2.36)    | Ex-Serving ADF are 84% more likely to have increased sensitivity to noise                        | Moderate                |
|               | Increased sensitivity to noise            | Ex-Serving ADF vs Inactive | 1.74 (1.34, 2.26)    | Ex-Serving ADF are 74% more likely to have increased sensitivity to noise                        | Moderate                |
|               | Increased sensitivity to smells or odours | Ex-Serving ADF vs Active   | 2.53 (1.73, 3.72)    | Ex-Serving ADF are 2.5 times more likely to have increased sensitivity to smells or odours       | Moderate                |
|               | Increased sensitivity to smells or odours | Ex-Serving ADF vs Inactive | 1.78 (1.22, 2.61)    | Ex-Serving ADF are 78% more likely to have increased sensitivity to smells or odours             | Moderate                |
|               | Problems with sexual functioning          | Ex-Serving ADF vs Active   | 2.40 (1.84, 3.13)    | Ex-Serving ADF are 2.4 times more likely to have problems with sexual functioning                | Moderate                |
|               | Problems with sexual functioning          | Ex-Serving ADF vs Inactive | 2.61 (1.96, 3.49)    | Ex-Serving ADF are 2.6 times more likely to have problems with sexual functioning                | Moderate                |
|               | Shaking                                   | Ex-Serving ADF vs Active   | 2.54 (1.77, 3.65)    | Ex-Serving ADF are 2.5 times more likely to have shaking   | Moderate                |

| Results table | Outcome   | Cohort (comparison)        | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|---|----------------------------|----------------------|---|-------------------------|
|               | Shaking   | Ex-Serving ADF vs Inactive | 2.04 (1.47, 2.83)    | Ex-Serving ADF are 2 times more likely to have shaking                        | Moderate                |
|               | Feeling short of breath at rest                                 | Ex-Serving ADF vs Active   | 1.77 (1.27, 2.46)    | Ex-Serving ADF are 77% more likely to have feeling short of breath at rest    | Moderate                |
|               | Feeling short of breath at rest                                 | Ex-Serving ADF vs Inactive | 1.80 (1.29, 2.51)    | Ex-Serving ADF are 80% more likely to have feeling short of breath at rest    | Moderate                |
|               | Skin infections   | Ex-Serving ADF vs Active   | 1.40 (0.90, 2.16)    | No association  | –                       |
|               | Skin infections   | Ex-Serving ADF vs Inactive | 1.40 (0.93, 2.13)    | No association  | –                       |
|               | Skin ulcers   | Ex-Serving ADF vs Active   | 0.97 (0.50, 1.89)    | No association  | –                       |
|               | Skin ulcers   | Ex-Serving ADF vs Inactive | 0.74 (0.38, 1.45)    | No association  | –                       |
|               | Sleeping difficulties   | Ex-Serving ADF vs Active   | 1.76 (1.39, 2.22)    | Ex-Serving ADF are 76% more likely to have sleeping difficulties              | Moderate                |
|               | Sleeping difficulties   | Ex-Serving ADF vs Inactive | 1.51 (1.19, 1.91)    | Ex-Serving ADF are 51% more likely to have sleeping difficulties              | Moderate                |
|               | Sore throat   | Ex-Serving ADF vs Active   | 0.93 (0.71, 1.22)    | No association  | –                       |
|               | Sore throat   | Ex-Serving ADF vs Inactive | 1.14 (0.87, 1.49)    | No association  | –                       |
|               | Stomach bloating  | Ex-Serving ADF vs Active   | 1.36 (1.05, 1.75)    | Ex-Serving ADF are 36% more likely to have stomach bloating                   | Weak                    |
|               | Stomach bloating  | Ex-Serving ADF vs Inactive | 1.27 (0.96, 1.68)    | No association  | –                       |
|               | Stomach cramps  | Ex-Serving ADF vs Active   | 1.71 (1.31, 2.24)    | Ex-Serving ADF are 71% more likely to have stomach cramps                     | Moderate                |
|               | Stomach cramps  | Ex-Serving ADF vs Inactive | 1.45 (1.11, 1.91)    | Ex-Serving ADF are 45% more likely to have stomach cramps                     | Weak                    |
|               | Tender/painful swelling of lymph glands in neck armpit or groin | Ex-Serving ADF vs Active   | 1.20 (0.79, 1.81)    | No association  | –                       |
|               | Tender/painful swelling of lymph glands in neck armpit or groin | Ex-Serving ADF vs Inactive | 1.07 (0.70, 1.63)    | No association  | –                       |
|               | Tingling in fingers and arms                                    | Ex-Serving ADF vs Active   | 2.31 (1.84, 2.91)    | Ex-Serving ADF are 2.3 times more likely to have tingling in fingers and arms | Moderate                |
|               | Tingling in fingers and arms                                    | Ex-Serving ADF vs Inactive | 2.01 (1.58, 2.57)    | Ex-Serving ADF are 2 times more likely to have tingling in fingers and arms   | Moderate                |
|               | Tingling in legs and toes                                       | Ex-Serving ADF vs Active   | 2.60 (2.01, 3.36)    | Ex-Serving ADF are 2.6 times more likely to have tingling in legs and toes    | Moderate                |
|               | Tingling in legs and toes                                       | Ex-Serving ADF vs Inactive | 2.57 (1.95, 3.39)    | Ex-Serving ADF are 2.6 times more likely to have tingling in legs and toes    | Moderate                |

| Results table | Outcome   | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|---|--------------------------------------|----------------------|---|-------------------------|
|               | Unable to breathe deeply enough                               | Ex-Serving ADF vs Active             | 2.18 (1.63, 2.93)    | Ex-Serving ADF are 2 times more likely to be unable to breathe deeply enough                          | Moderate                |
|               | Unable to breathe deeply enough                               | Ex-Serving ADF vs Inactive           | 1.71 (1.28, 2.28)    | Ex-Serving ADF are 71% more likely to be unable to breathe deeply enough                              | Moderate                |
|               | Vomiting  | Ex-Serving ADF vs Active             | 1.76 (1.12, 2.76)    | Ex-Serving ADF are 76% more likely to have vomiting   | Moderate                |
|               | Vomiting  | Ex-Serving ADF vs Inactive           | 1.41 (0.90, 2.22)    | No association  |                         |
|               | Unintended weight gain greater than 4kg                       | Ex-Serving ADF vs Active             | 2.46 (1.84, 3.29)    | Ex-Serving ADF are 2.5 times more likely to have unintended weight gain greater than 4kg              | Moderate                |
|               | Unintended weight gain greater than 4kg                       | Ex-Serving ADF vs Inactive           | 1.84 (1.39, 2.42)    | Ex-Serving ADF are 84% more likely to have unintended weight gain greater than 4kg                    | Moderate                |
|               | Unintended weight loss greater than 4kg                       | Ex-Serving ADF vs Active             | 2.19 (1.11, 4.35)    | Ex-Serving ADF are 2.2 times more likely to have unintended weight loss greater than 4kg              | Moderate                |
|               | Unintended weight loss greater than 4kg                       | Ex-Serving ADF vs Inactive           | 1.60 (0.97, 2.64)    | No association  | –                       |
|               | Wheezing  | Ex-Serving ADF vs Active             | 1.42 (1.06, 1.89)    | Ex-Serving ADF are 42% more likely to have wheezing   | Weak                    |
|               | Wheezing  | Ex-Serving ADF vs Inactive           | 1.20 (0.88, 1.63)    | No association  | –                       |
| Table 4.8     | Avoiding doing things or situations                           | Medical discharge vs other discharge | 4.20 (3.34, 5.27)    | Medically discharged are 4.2 times more likely to avoid doing things or situations                    | Strong                  |
|               | Feeling that your bowel movement is not finished              | Medical discharge vs other discharge | 2.08 (1.66, 2.59)    | Medically discharged are 2 times more likely to have feeling that your bowel movement is not finished | Moderate                |
|               | Burning sensation in the sex organs                           | Medical discharge vs other discharge | 2.60 (1.54, 4.37)    | Medically discharged are 2.6 times more likely to have burning sensation in the sex organs            | Moderate                |
|               | Changeable bowel function (mixture of diarrhoea/constipation) | Medical discharge vs other discharge | 2.46 (1.95, 3.10)    | Medically discharged are 2.5 times more likely to have changeable bowel function                      | Moderate                |
|               | Chest pain  | Medical discharge vs other discharge | 2.03 (1.56, 2.64)    | Medically discharged are 2 times more likely to have chest pain                                       | Moderate                |
|               | Constipation  | Medical discharge vs other discharge | 2.95 (2.32, 3.75)    | Medically discharged are 3 times more likely to have constipation                                     | Moderate                |
|               | Diarrhoea   | Medical discharge vs other discharge | 2.38 (1.91, 2.98)    | Medically discharged are 2.4 times more likely to have diarrhoea                                      | Moderate                |
|               | Difficulty finding the right word                             | Medical discharge vs other discharge | 2.20 (1.77, 2.74)    | Medically discharged are 2.2 times more likely to have difficulty finding the right word              | Moderate                |
|               | Difficulty speaking   | Medical discharge vs other discharge | 2.79 (2.11, 3.69)    | Medically discharged are 2.8 times more likely to have difficulty speaking                            | Moderate                |

| Results table | Outcome                                | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|--|--------------------------------------|----------------------|---|-------------------------|
|               | Feeling disorientated                  | Medical discharge vs other discharge | 3.88 (2.88, 5.24)    | Medically discharged are 3.9 times more likely to have feeling disorientated                  | Strong                  |
|               | Distressing dreams                     | Medical discharge vs other discharge | 3.34 (2.68, 4.16)    | Medically discharged are 3.3 times more likely to have distressing dreams                     | Strong                  |
|               | Dizziness, fainting or blackouts       | Medical discharge vs other discharge | 3.22 (2.46, 4.22)    | Medically discharged are 3.2 times more likely to have dizziness, fainting or blackouts       | Strong                  |
|               | Double vision                          | Medical discharge vs other discharge | 3.41 (2.55, 4.55)    | Medically discharged are 3.4 times more likely to have double vision                          | Strong                  |
|               | Dry mouth                              | Medical discharge vs other discharge | 2.86 (2.28, 3.59)    | Medically discharged are 2.9 times more likely to have dry mouth                              | Moderate                |
|               | Faster breathing than normal           | Medical discharge vs other discharge | 3.82 (2.97, 4.91)    | Medically discharged are 3.8 times more likely to have faster breathing than normal           | Strong                  |
|               | Fatigue                                | Medical discharge vs other discharge | 3.12 (2.38, 4.10)    | Medically discharged are 3 times more likely to have fatigue                                  | Strong                  |
|               | Feeling distant or cut off from others | Medical discharge vs other discharge | 3.78 (3.01, 4.74)    | Medically discharged are 3.8 times more likely to have feeling distant or cut off from others | Strong                  |
|               | Feeling jumpy/easily startled          | Medical discharge vs other discharge | 3.84 (3.07, 4.79)    | Medically discharged are 3.8 times more likely to have feeling jumpy/easily startled          | Strong                  |
|               | Feeling unrefreshed after sleep        | Medical discharge vs other discharge | 3.29 (2.54, 4.28)    | Medically discharged are 3.3 times more likely to have feeling unrefreshed after sleep        | Strong                  |
|               | Feeling feverish                       | Medical discharge vs other discharge | 3.04 (2.31, 3.99)    | Medically discharged are 3 times more likely to have feeling feverish                         | Strong                  |
|               | Flatulence or burping                  | Medical discharge vs other discharge | 1.93 (1.56, 2.39)    | Medically discharged are 93% more likely to have flatulence or burping                        | Moderate                |
|               | Forgetfulness                          | Medical discharge vs other discharge | 2.86 (2.30, 3.56)    | Medically discharged are 2.8 times more likely to have forgetfulness                          | Moderate                |
|               | Headaches                              | Medical discharge vs other discharge | 2.16 (1.70, 2.75)    | Medically discharged are 2 times more likely to have headaches                                | Moderate                |
|               | Indigestion                            | Medical discharge vs other discharge | 2.12 (1.69, 2.66)    | Medically discharged are 2 times more likely to have indigestion                              | Moderate                |
|               | Intolerance to alcohol                 | Medical discharge vs other discharge | 1.97 (1.43, 2.71)    | Medically discharged are 97% more likely to have intolerance to alcohol                       | Moderate                |
|               | Irritability/outbursts of anger        | Medical discharge vs other discharge | 3.13 (2.48, 3.95)    | Medically discharged are 3 times more likely to have irritability/outbursts of anger          | Strong                  |
|               | Itchy or painful eyes                  | Medical discharge vs other discharge | 1.76 (1.42, 2.19)    | Medically discharged are 76% more likely to have itchy or painful eyes                        | Moderate                |
|               | Joint stiffness                        | Medical discharge vs other discharge | 4.11 (3.23, 5.24)    | Medically discharged are 4 times more likely to have joint stiffness                          | Strong                  |
|               | Loss of, or decrease in, appetite      | Medical discharge vs other discharge | 3.04 (2.40, 3.86)    | Medically discharged are 3 times more likely to have loss of, or decrease in, appetite        | Strong                  |

| Results table | Outcome  | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|--|--------------------------------------|----------------------|---|-------------------------|
|               | Loss of balance or co-ordination                   | Medical discharge vs other discharge | 4.09 (3.18, 5.25)    | Medically discharged are 4 times more likely to have loss of balance or co-ordination                     | Strong                  |
|               | Loss of concentration                              | Medical discharge vs other discharge | 3.31 (2.65, 4.13)    | Medically discharged are 3.3 times more likely to have loss of concentration                              | Strong                  |
|               | Loss of interest in sex                            | Medical discharge vs other discharge | 2.96 (2.37, 3.69)    | Medically discharged are 2.9 times more likely to have loss of interest in sex                            | Moderate                |
|               | Low back pain                                      | Medical discharge vs other discharge | 2.66 (2.10, 3.38)    | Medically discharged are 2.7 times more likely to have low back pain                                      | Moderate                |
|               | Lump in throat                                     | Medical discharge vs other discharge | 2.35 (1.64, 3.37)    | Medically discharged are 2.3 times more likely to have lump in throat                                     | Moderate                |
|               | General muscle aches or pains                      | Medical discharge vs other discharge | 2.84 (2.23, 3.61)    | Medically discharged are 2.8 times more likely to have general muscle aches or pains                      | Moderate                |
|               | Nausea   | Medical discharge vs other discharge | 3.79 (2.92, 4.91)    | Medically discharged are 3.8 times more likely to have nausea   | Strong                  |
|               | Night sweats which soak the bed sheets             | Medical discharge vs other discharge | 3.09 (2.45, 3.90)    | Medically discharged are 3 times more likely to have night sweats which soak the bed sheets               | Strong                  |
|               | Numbness in fingers/toes                           | Medical discharge vs other discharge | 4.30 (3.41, 5.42)    | Medically discharged are 4.3 times more likely to have numbness in fingers/toes                           | Strong                  |
|               | Pain in the face, jaw, in front of ear, or in ear  | Medical discharge vs other discharge | 2.71 (2.12, 3.46)    | Medically discharged are 2.7 times more likely to have pain in the face, jaw, in front of ear, or in ear  | Moderate                |
|               | Pain without swelling or redness in several joints | Medical discharge vs other discharge | 3.93 (3.15, 4.92)    | Medically discharged are 3.9 times more likely to have pain without swelling or redness in several joints | Strong                  |
|               | Pain on passing urine                              | Medical discharge vs other discharge | 2.38 (1.51, 3.73)    | Medically discharged are 2.4 times more likely to have pain on passing urine                              | Moderate                |
|               | Passing urine more often                           | Medical discharge vs other discharge | 2.14 (1.62, 2.83)    | Medically discharged are 2 times more likely to have passing urine more often                             | Moderate                |
|               | Persistent cough                                   | Medical discharge vs other discharge | 1.44 (1.09, 1.90)    | Medically discharged are 44% more likely to have persistent cough   | Weak                    |
|               | Rapid heartbeat                                    | Medical discharge vs other discharge | 2.68 (2.13, 3.38)    | Medically discharged are 2.7 times more likely to have rapid heartbeat                                    | Moderate                |
|               | Rash or skin irritation                            | Medical discharge vs other discharge | 2.01 (1.60, 2.53)    | Medically discharged are 2 times more likely to have rash or skin irritation                              | Moderate                |
|               | ringing in the ears                                | Medical discharge vs other discharge | 1.93 (1.54, 2.42)    | Medically discharged are 93% more likely to have ringing in the ears                                      | Moderate                |
|               | Seizures   | Medical discharge vs other discharge | 6.40 (2.36, 17.34)   | Medically discharged are 6.4 times more likely to have seizures [interpret with caution due to wide CIs]  | Strong                  |

| Results table | Outcome   | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|---|--------------------------------------|----------------------|--|-------------------------|
|               | Increased sensitivity to light                                  | Medical discharge vs other discharge | 3.15 (2.43, 4.07)    | Medically discharged are 3 times more likely to have increased sensitivity to light                              | Strong                  |
|               | Increased sensitivity to noise                                  | Medical discharge vs other discharge | 3.11 (2.47, 3.90)    | Medically discharged are 3 times more likely to have increased sensitivity to noise                              | Strong                  |
|               | Increased sensitivity to smells or odours                       | Medical discharge vs other discharge | 3.36 (2.50, 4.52)    | Medically discharged are 3.4 times more likely to have increased sensitivity to smells or odours                 | Strong                  |
|               | Problems with sexual functioning                                | Medical discharge vs other discharge | 4.51 (3.50, 5.81)    | Medically discharged are 4.5 times more likely to have problems with sexual functioning                          | Strong                  |
|               | Shaking   | Medical discharge vs other discharge | 3.66 (2.79, 4.80)    | Medically discharged are 3.7 times more likely to have shaking   | Strong                  |
|               | Feeling short of breath at rest                                 | Medical discharge vs other discharge | 2.80 (2.14, 3.66)    | Medically discharged are 2.8 times more likely to have feeling short of breath at rest                           | Moderate                |
|               | Skin infections   | Medical discharge vs other discharge | 2.11 (1.47, 3.02)    | Medically discharged are 2 times more likely to have skin infections   | Moderate                |
|               | Skin ulcers   | Medical discharge vs other discharge | 2.02 (1.14, 3.57)    | Medically discharged are 2 times more likely to have skin ulcers   | Moderate                |
|               | Sleeping difficulties   | Medical discharge vs other discharge | 3.76 (2.83, 4.99)    | Medically discharged are 3.8 times more likely to have sleeping difficulties                                     | Strong                  |
|               | Sore throat   | Medical discharge vs other discharge | 1.47 (1.15, 1.88)    | Medically discharged are 47% more likely to have sore throat   | Weak                    |
|               | Stomach bloating  | Medical discharge vs other discharge | 2.31 (1.82, 2.92)    | Medically discharged are 2.3 times more likely to have stomach bloating  | Moderate                |
|               | Stomach cramps  | Medical discharge vs other discharge | 2.40 (1.89, 3.05)    | Medically discharged are 2.4 times more likely to have stomach cramps  | Moderate                |
|               | Tender/painful swelling of lymph glands in neck armpit or groin | Medical discharge vs other discharge | 1.68 (1.18, 2.39)    | Medically discharged are 68% more likely to have Tender/painful swelling of lymph glands in neck armpit or groin | Moderate                |
|               | Tingling in fingers and arms                                    | Medical discharge vs other discharge | 3.66 (2.93, 4.57)    | Medically discharged are 3.7 times more likely to have tingling in fingers and arms                              | Strong                  |
|               | Tingling in legs and toes                                       | Medical discharge vs other discharge | 5.14 (4.08, 6.47)    | Medically discharged are 5 times more likely to have tingling in legs and toes                                   | Strong                  |
|               | Unable to breathe deeply enough                                 | Medical discharge vs other discharge | 2.75 (2.16, 3.51)    | Medically discharged are 2.7 times more likely to be unable to breathe deeply enough                             | Moderate                |
|               | Vomiting  | Medical discharge vs other discharge | 2.98 (2.08, 4.29)    | Medically discharged are 3 times more likely to have vomiting  | Moderate                |
|               | Unintended weight gain greater than 4kg                         | Medical discharge vs other discharge | 3.25 (2.57, 4.11)    | Medically discharged are 3 times more likely to have unintended weight gain greater than 4kg                     | Strong                  |

| Results table                             | Outcome                                 | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---|---|--------------------------------------|----------------------|---|-------------------------|
|   | Unintended weight loss greater than 4kg | Medical discharge vs other discharge | 2.36 (1.52, 3.66)    | Medically discharged are 2.4 times more likely to have unintended weight loss greater than 4kg                        | Moderate                |
|   | Wheezing                                | Medical discharge vs other discharge | 2.03 (1.56, 2.63)    | Medically discharged are 2 times more likely to have wheezing   | Moderate                |
| Self-reported doctor-diagnosed conditions |   |                                      |                      |   |                         |
| Table 5.7                                 | Any circulatory condition               | Ex-Serving ADF vs Active             | 1.61 (1.26, 2.06)    | Ex-Serving ADF are 61% more likely to have any circulatory condition  | Moderate                |
|   | Any circulatory condition               | Ex-Serving ADF vs Inactive           | 1.14 (0.87, 1.49)    | No association  | –                       |
|   | Angina                                  | Ex-Serving ADF vs Active             | 2.35 (1.12, 4.91)    | Ex-Serving ADF are 2.3 times more likely to have angina   | Moderate                |
|   | Angina                                  | Ex-Serving ADF vs Inactive           | 0.97 (0.42, 2.26)    | No association  | –                       |
|   | High blood pressure                     | Ex-Serving ADF vs Active             | 1.60 (1.21, 2.11)    | Ex-Serving ADF are 60% more likely to have high blood pressure  | Moderate                |
|   | High blood pressure                     | Ex-Serving ADF vs Inactive           | 1.16 (0.86, 1.57)    | No association  | –                       |
|   | High cholesterol                        | Ex-Serving ADF vs Active             | 1.34 (1.04, 1.71)    | Ex-Serving ADF are 34% more likely to have high cholesterol   | Weak                    |
|   | High cholesterol                        | Ex-Serving ADF vs Inactive           | 1.17 (0.87, 1.57)    | No association  | –                       |
|   | Heart attack/myocardial infarction      | Ex-Serving ADF vs Active             | 1.50 (0.83, 2.71)    | No association  | –                       |
|   | Heart attack/myocardial infarction      | Ex-Serving ADF vs Inactive           | 0.79 (0.39, 1.60)    | No association  | –                       |
|   | Stroke                                  | Ex-Serving ADF vs Active             | 3.32 (1.55, 7.13)    | Ex-Serving ADF are 3.3 times more likely to have a stroke   | Moderate                |
|   | Stroke                                  | Ex-Serving ADF vs Inactive           | 1.27 (0.53, 3.09)    | No association  | –                       |
|   | Treated in past year                    | Ex-Serving ADF vs Active             | 1.91 (1.48, 2.46)    | Ex-Serving ADF are 1.9 times more likely to have been treated for a circulatory condition in the past year            | Moderate                |
|   | Treated in past year                    | Ex-Serving ADF vs Inactive           | 1.63 (1.24, 2.15)    | Ex-Serving ADF are 1.6 times more likely to have been treated for a circulatory condition in the past year            | Moderate                |
|   | Medications in past month               | Ex-Serving ADF vs Active             | 1.91 (1.45, 2.51)    | Ex-Serving ADF are 1.9 times more likely to have been taken medications for a circulatory condition in the past month | Moderate                |
|   | Medications in past month               | Ex-Serving ADF vs Inactive           | 0.86 (0.66, 1.12)    | No association  |                         |
| Table 5.8                                 | Any circulatory condition               | Medical discharge vs other discharge | 1.98 (1.53, 2.57)    | Medically discharged are 98% more likely to have any circulatory condition  | Moderate                |
|   | Angina                                  | Medical discharge vs other discharge | 1.44 (0.64, 3.24)    | No association  | –                       |
|   | High blood pressure                     | Medical discharge vs other discharge | 1.81 (1.38, 2.38)    | Medically discharged are 81% more likely to have high blood pressure  | Moderate                |
|   | High cholesterol                        | Medical discharge vs other discharge | 1.75 (1.32, 2.33)    | Medically discharged are 75% more likely to have high Cholesterol   | Moderate                |

| Results table | Outcome                            | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|------------------------------------|--------------------------------------|----------------------|--|-------------------------|
|               | Heart attack/myocardial infarction | Medical discharge vs other discharge | 1.37 (0.74, 2.55)    | No association   | –                       |
|               | Stroke                             | Medical discharge vs other discharge | 1.88 (0.88, 4.02)    | No association   | –                       |
|               | Treated in past year               | Medical discharge vs other discharge | 2.79 (2.11, 3.69)    | Medically discharged are 2.8 times more likely to have been treated in past year           | Moderate                |
|               | Medications in past month          | Medical discharge vs other discharge | 3.14 (2.37, 4.16)    | Medically discharged are 3.1 times more likely to have taken medications in the past month | Moderate                |
| Table 5.11    | Any digestive conditions           | Ex-Serving ADF vs Active             | 1.32 (0.96, 1.80)    | No association   | –                       |
|               | Any digestive conditions           | Ex-Serving ADF vs Inactive           | 1.68 (1.23, 2.31)    | Ex-Serving ADF are 68% more likely to have any digestive conditions                        | Moderate                |
|               | Cirrhosis                          | Ex-Serving ADF vs Active             | 2.24 (0.86, 5.82)    | No association   | –                       |
|               | Cirrhosis                          | Ex-Serving ADF vs Inactive           | 0.81 (0.25, 2.56)    | No association   | –                       |
|               | Colitis/Crohn's disease            | Ex-Serving ADF vs Active             | 2.29 (1.07, 4.89)    | Ex-Serving ADF are 2.3 times more likely to have colitis/Crohn's disease                   | Moderate                |
|               | Colitis/Crohn's disease            | Ex-Serving ADF vs Inactive           | 0.92 (0.39, 2.18)    | No association   | –                       |
|               | Hepatitis                          | Ex-Serving ADF vs Active             | 3.11 (1.44, 6.69)    | Ex-Serving ADF are 3 times more likely to have hepatitis                                   | Strong                  |
|               | Hepatitis                          | Ex-Serving ADF vs Inactive           | 0.84 (0.35, 2.01)    | No association   | –                       |
|               | Irritable bowel syndrome           | Ex-Serving ADF vs Active             | 2.51 (1.63, 3.87)    | Ex-Serving ADF are 2.5 times more likely to have IBS                                       | Moderate                |
|               | Irritable bowel syndrome           | Ex-Serving ADF vs Inactive           | 2.03 (1.20, 3.43)    | Ex-Serving ADF are 2 times more likely to have IBS   | Moderate                |
|               | Polyps in bowel                    | Ex-Serving ADF vs Active             | 1.04 (0.71, 1.51)    | No association   | –                       |
|               | Polyps in bowel                    | Ex-Serving ADF vs Inactive           | 1.42 (0.95, 2.12)    | No association   | –                       |
|               | Temporomandibular dysfunction      | Ex-Serving ADF vs Active             | 0.69 (0.28, 1.69)    | No association   | –                       |
|               | Temporomandibular dysfunction      | Ex-Serving ADF vs Inactive           | 0.82 (0.33, 2.03)    | No association   | –                       |
|               | Ulcers                             | Ex-Serving ADF vs Active             | 2.07 (1.10, 3.88)    | Ex-Serving ADF are 2 times more likely to have ulcers                                      | Moderate                |
|               | Ulcers                             | Ex-Serving ADF vs Inactive           | 1.53 (0.85, 2.77)    | No association   | –                       |
|               | Treated in past year               | Ex-Serving ADF vs Active             | 1.25 (0.82, 1.90)    | No association   | –                       |
|               | Treated in past year               | Ex-Serving ADF vs Inactive           | 1.75 (1.00, 3.07)    | Ex-Serving ADF are 1.8 times more likely to have been treated in the past year             | Moderate                |
|               | Medications in past month          | Ex-Serving ADF vs Active             | 1.98 (1.15, 3.43)    | Ex-Serving ADF are 2 times more likely to have taken medications in the past month         | Moderate                |

| Results table | Outcome  | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|--|--------------------------------------|----------------------|---|-------------------------|
| Table 5.12    | Medications in past month                            | Ex-Serving ADF vs Inactive           | 2.86 (1.61, 5.08)    | Ex-Serving ADF are 2.9 times more likely to have ulcers   | Moderate                |
|               | Any digestive conditions                             | Medical discharge vs other discharge | 2.08 (1.57, 2.75)    | Medically discharged are 2 times more likely to have any digestive conditions                         | Moderate                |
|               | Cirrhosis  | Medical discharge vs other discharge | 1.29 (0.46, 3.57)    | No association  | –                       |
|               | Colitis/Crohn's disease                              | Medical discharge vs other discharge | 1.76 (0.80, 3.89)    | No association  | –                       |
|               | Hepatitis  | Medical discharge vs other discharge | 0.76 (0.26, 2.18)    | No association  | –                       |
|               | Irritable bowel syndrome                             | Medical discharge vs other discharge | 2.64 (1.72, 4.04)    | Medically discharged are 2.6 times more likely to have IBS  | Moderate                |
|               | Polyps in bowel                                      | Medical discharge vs other discharge | 1.80 (1.27, 2.55)    | Medically discharged are 80% more likely to have polyps in bowel                                      | Moderate                |
|               | Temporomandibular dysfunction                        | Medical discharge vs other discharge | 0.97 (0.45, 2.10)    | No association  | –                       |
| Table 5.15    | Ulcers   | Medical discharge vs other discharge | 2.00 (1.18, 3.39)    | Medically discharged are 2 times more likely to have ulcers   | Moderate                |
|               | Treated in past year                                 | Medical discharge vs other discharge | 2.67 (1.75, 4.08)    | Medically discharged are 2.7 times more likely to have been treated in the past year                  | Moderate                |
|               | Medications in past month                            | Medical discharge vs other discharge | 4.38 (2.78, 6.90)    | Medically discharged are 4.4 times more likely to have taken medications in the past month            | Strong                  |
|               | Any musculoskeletal and connective tissue conditions | Ex-Serving ADF vs Active             | 2.22 (1.79, 2.76)    | Ex-Serving ADF are 2.2 times more likely to have any Musculoskeletal and Connective Tissue Conditions | Moderate                |
|               | Any musculoskeletal and connective tissue conditions | Ex-Serving ADF vs Inactive           | 2.31 (1.82, 2.93)    | Ex-Serving ADF are 2.3 times more likely to have any Musculoskeletal and Connective Tissue Conditions | Moderate                |
|               | Arthritis  | Ex-Serving ADF vs Active             | 1.89 (1.37, 2.61)    | Ex-Serving ADF are 89% more likely to have arthritis  | Moderate                |
|               | Arthritis  | Ex-Serving ADF vs Inactive           | 1.79 (1.18, 2.71)    | Ex-Serving ADF are 79% more likely to have arthritis  | Moderate                |
|               | Chronic low back pain                                | Ex-Serving ADF vs Active             | 2.51 (1.99, 3.17)    | Ex-Serving ADF are 2.5 times more likely to have chronic low back pain                                | Moderate                |
|               | Chronic low back pain                                | Ex-Serving ADF vs Inactive           | 2.69 (2.08, 3.48)    | Ex-Serving ADF are 2.7 times more likely to have chronic low back pain                                | Moderate                |
|               | Carpal tunnel  | Ex-Serving ADF vs Active             | 1.63 (1.11, 2.41)    | Ex-Serving ADF are 63% more likely to have carpal tunnel  | Moderate                |
|               | Carpal tunnel  | Ex-Serving ADF vs Inactive           | 1.15 (0.62, 2.13)    | No association  | –                       |
|               | Fibrositis   | Ex-Serving ADF vs Active             | 1.00 (0.36, 2.75)    | No association  | –                       |
|               | Fibrositis   | Ex-Serving ADF vs Inactive           | 1.18 (0.37, 3.76)    | No association  | –                       |
|               | Gout   | Ex-Serving ADF vs Active             | 1.38 (0.90, 2.10)    | No association  | –                       |
|               | Gout   | Ex-Serving ADF vs Inactive           | 0.94 (0.54, 1.63)    | No association  | –                       |

| Results table | Outcome  | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|--|--------------------------------------|----------------------|---|-------------------------|
|               | Neck pain  | Ex-Serving ADF vs Active             | 2.00 (1.54, 2.61)    | Ex-Serving ADF are 2 times more likely to have neck pain  | Moderate                |
|               | Neck pain  | Ex-Serving ADF vs Inactive           | 2.18 (1.48, 3.22)    | Ex-Serving ADF are 2.2 times more likely to have neck pain  | Moderate                |
|               | Osteoarthritis                                       | Ex-Serving ADF vs Active             | 2.53 (1.94, 3.29)    | Ex-Serving ADF are 2.5 times more likely to have osteoarthritis   | Moderate                |
|               | Osteoarthritis                                       | Ex-Serving ADF vs Inactive           | 2.48 (1.72, 3.58)    | Ex-Serving ADF are 2.5 times more likely to have osteoarthritis   | Moderate                |
|               | Osteoporosis   | Ex-Serving ADF vs Active             | 0.87 (0.32, 2.36)    | No association  | –                       |
|               | Osteoporosis   | Ex-Serving ADF vs Inactive           | 1.02 (0.38, 2.73)    | No association  | –                       |
|               | Other inflammatory arthritis                         | Ex-Serving ADF vs Active             | 1.57 (0.87, 2.83)    | No association  | –                       |
|               | Other inflammatory arthritis                         | Ex-Serving ADF vs Inactive           | 1.59 (0.82, 3.06)    | No association  | –                       |
|               | Rheumatoid arthritis                                 | Ex-Serving ADF vs Active             | 1.98 (1.12, 3.51)    | Ex-Serving ADF are 98% more likely to have rheumatoid arthritis   | Moderate                |
|               | Rheumatoid arthritis                                 | Ex-Serving ADF vs Inactive           | 1.25 (0.58, 2.70)    | No association  | –                       |
|               | Other musculoskeletal condition                      | Ex-Serving ADF vs Active             | 1.93 (1.49, 2.51)    | Ex-Serving ADF are 93% more likely to have other musculoskeletal condition                                | Moderate                |
|               | Other musculoskeletal condition                      | Ex-Serving ADF vs Inactive           | 1.72 (1.26, 2.35)    | Ex-Serving ADF are 72% more likely to have other musculoskeletal condition                                | Moderate                |
|               | Treated in past year                                 | Ex-Serving ADF vs Active             | 2.28 (1.81, 2.87)    | Ex-Serving ADF are 2.3 times more likely to have been treated in the past year                            | Moderate                |
|               | Treated in past year                                 | Ex-Serving ADF vs Inactive           | 2.47 (1.90, 3.21)    | Ex-Serving ADF are 2.5 times more likely to have been treated in the past year                            | Moderate                |
|               | Medications in past month                            | Ex-Serving ADF vs Active             | 2.81 (2.17, 3.65)    | Ex-Serving ADF are 2.8 times more likely to have taken medications in the past month                      | Moderate                |
|               | Medications in past month                            | Ex-Serving ADF vs Inactive           | 2.99 (2.23, 4.00)    | Ex-Serving ADF are 3 times more likely to have taken medications in the past month                        | Moderate                |
| Table 5.16    | Any musculoskeletal and connective tissue conditions | Medical discharge vs other discharge | 5.06 (3.96, 6.47)    | Medically discharged are 5 times more likely to have any Musculoskeletal and Connective Tissue Conditions | Strong                  |
|               | Arthritis  | Medical discharge vs other discharge | 3.04 (2.19, 4.24)    | Medically discharged are 3 times more likely to have arthritis  | Strong                  |
|               | Chronic low back pain                                | Medical discharge vs other discharge | 4.28 (3.36, 5.45)    | Medically discharged are 4.3 times more likely to have chronic low back pain                              | Strong                  |
|               | Carpal tunnel  | Medical discharge vs other discharge | 1.85 (1.16, 2.94)    | Medically discharged are 85% more likely to have carpal tunnel  | Moderate                |
|               | Fibrositis   | Medical discharge vs other discharge | 1.35 (0.58, 3.12)    | No association  | –                       |

| Results table | Outcome                         | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|---------------------------------|--------------------------------------|----------------------|--|-------------------------|
|               | Gout                            | Medical discharge vs other discharge | 1.37 (0.82, 2.27)    | No association   | –                       |
|               | Neck pain                       | Medical discharge vs other discharge | 3.68 (2.73, 4.96)    | Medically discharged are 3.7 times more likely to have neck pain                           | Strong                  |
|               | Osteoarthritis                  | Medical discharge vs other discharge | 4.37 (3.24, 5.88)    | Medically discharged are 4.4 times more likely to have osteoarthritis                      | Strong                  |
|               | Osteoporosis                    | Medical discharge vs other discharge | 1.18 (0.52, 2.69)    | No association   | –                       |
|               | Other inflammatory arthritis    | Medical discharge vs other discharge | 2.72 (1.59, 4.64)    | Medically discharged are 2.7 times more likely to have other inflammatory arthritis        | Moderate                |
|               | Rheumatoid arthritis            | Medical discharge vs other discharge | 2.12 (1.13, 3.98)    | Medically discharged are 2 times more likely to have rheumatoid arthritis                  | Moderate                |
|               | Other musculoskeletal condition | Medical discharge vs other discharge | 2.78 (2.13, 3.64)    | Medically discharged are 2.8 times more likely to have other musculoskeletal condition     | Moderate                |
|               | Treated in past year            | Medical discharge vs other discharge | 5.13 (3.89, 6.76)    | Medically discharged are 5.1 times more likely to have been treated in the past year       | Strong                  |
|               | Medications in past month       | Medical discharge vs other discharge | 6.18 (4.51, 8.48)    | Medically discharged are 4.4 times more likely to have taken medications in the past month | Strong                  |
| Table 5.19    | Any nervous system condition    | Ex-Serving ADF vs Active             | 2.52 (1.91, 3.32)    | Ex-Serving ADF are 2.5 times more likely to have any nervous system condition              | Moderate                |
|               | Any nervous system condition    | Ex-Serving ADF vs Inactive           | 1.62 (1.15, 2.27)    | Ex-Serving ADF are 62% more likely to have any nervous system condition                    | Moderate                |
|               | Epilepsy                        | Ex-Serving ADF vs Active             | 4.06 (1.94, 8.51)    | Ex-Serving ADF are 4 times more likely to have epilepsy                                    | Strong                  |
|               | Epilepsy                        | Ex-Serving ADF vs Inactive           | 1.83 (0.67, 5.03)    | No association   | –                       |
|               | Migraines                       | Ex-Serving ADF vs Active             | 1.85 (1.25, 2.74)    | Ex-Serving ADF are 85% more likely to have migraines                                       | Moderate                |
|               | Migraines                       | Ex-Serving ADF vs Inactive           | 1.11 (0.71, 1.73)    | No association   | –                       |
|               | Motor neurone disease           | Ex-Serving ADF vs Active             | 2.42 (0.86, 6.79)    | No association   | –                       |
|               | Motor neurone disease           | Ex-Serving ADF vs Inactive           | 0.70 (0.22, 2.16)    | No association   | –                       |
|               | Multiple sclerosis              | Ex-Serving ADF vs Active             | 2.46 (0.85, 7.12)    | No association   | –                       |
|               | Multiple sclerosis              | Ex-Serving ADF vs Inactive           | 0.63 (0.21, 1.89)    | No association   | –                       |
|               | Sleep apnoea                    | Ex-Serving ADF vs Active             | 2.84 (2.04, 3.96)    | Ex-Serving ADF are 2.8 times more likely to have sleep apnoea                              | Moderate                |
|               | Sleep apnoea                    | Ex-Serving ADF vs Inactive           | 1.78 (1.14, 2.78)    | Ex-Serving ADF are 78% more likely to have sleep apnoea                                    | Moderate                |

| Results table | Outcome                      | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|------------------------------|--------------------------------------|----------------------|--|-------------------------|
|               | Treated in past year         | Ex-Serving ADF vs Active             | 3.07 (2.06, 4.59)    | Ex-Serving ADF are 3 times more likely to have been treated in the past year               | Strong                  |
|               | Treated in past year         | Ex-Serving ADF vs Inactive           | 1.73 (1.00, 2.99)    | Ex-Serving ADF are 73% more likely to have been treated in the past year                   | Moderate                |
|               | Medications in past month    | Ex-Serving ADF vs Active             | 3.54 (1.79, 7.00)    | Ex-Serving ADF are 3.5 times more likely to have taken medications in the past month       | Strong                  |
|               | Medications in past month    | Ex-Serving ADF vs Inactive           | 1.57 (0.89, 2.80)    | Ex-Serving ADF are 57% more likely to have taken medications in the past month             | Moderate                |
| Table 5.20    | Any nervous system condition | Medical discharge vs other discharge | 3.07 (2.32, 4.07)    | Medically discharged are 3 times more likely to have any nervous system condition          | Strong                  |
|               | Epilepsy                     | Medical discharge vs other discharge | 2.10 (0.92, 4.81)    | No association   | –                       |
|               | Migraines                    | Medical discharge vs other discharge | 2.29 (1.59, 3.30)    | Medically discharged are 2.3 times more likely to have migraines                           | Moderate                |
|               | Motor neurone disease        | Medical discharge vs other discharge | 0.83 (0.24, 2.81)    | No association   | –                       |
|               | Multiple sclerosis           | Medical discharge vs other discharge | 1.28 (0.44, 3.70)    | No association   | –                       |
|               | Sleep apnoea                 | Medical discharge vs other discharge | 3.00 (2.09, 4.32)    | Medically discharged are 3 times more likely to have sleep apnoea                          | Strong                  |
|               | Treated in past year         | Medical discharge vs other discharge | 3.70 (2.43, 5.63)    | Medically discharged are 3.7 times more likely to have been treated in the past year       | Strong                  |
|               | Medications in past month    | Medical discharge vs other discharge | 3.42 (2.16, 5.40)    | Medically discharged are 3.4 times more likely to have taken medications in the past month | Strong                  |
| Table 5.23    | Any respiratory conditions   | Ex-Serving ADF vs Active             | 1.26 (0.95, 1.68)    | No association   | –                       |
|               | Any respiratory conditions   | Ex-Serving ADF vs Inactive           | 0.98 (0.69, 1.40)    | No association   | –                       |
|               | COPD                         | Ex-Serving ADF vs Active             | 2.89 (1.24, 6.73)    | Ex-Serving ADF are 2.9 times more likely to have COPD                                      | Moderate                |
|               | COPD                         | Ex-Serving ADF vs Inactive           | 0.93 (0.33, 2.62)    | No association   | –                       |
|               | Pneumonia                    | Ex-Serving ADF vs Active             | 1.60 (1.00, 2.55)    | No association   | –                       |
|               | Pneumonia                    | Ex-Serving ADF vs Inactive           | 1.07 (0.58, 1.96)    | No association   | –                       |
|               | Sinus                        | Ex-Serving ADF vs Active             | 1.14 (0.82, 1.57)    | No association   | –                       |
|               | Sinus                        | Ex-Serving ADF vs Inactive           | 0.90 (0.61, 1.33)    | No association   | –                       |
|               | Treated in past year         | Ex-Serving ADF vs Active             | 1.56 (0.97, 2.52)    | No association   | Moderate                |
|               | Treated in past year         | Ex-Serving ADF vs Inactive           | 1.53 (0.84, 2.79)    | No association   | –                       |

| Results table | Outcome  | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|--|--------------------------------------|----------------------|--|-------------------------|
| Table 5.24    | Medications in past month                      | Ex-Serving ADF vs Active             | 1.83 (1.07, 3.14)    | Ex-Serving ADF are 1.8 times more likely to have been treated in the past year             | Moderate                |
|               | Medications in past month                      | Ex-Serving ADF vs Inactive           | 1.46 (0.73, 2.90)    | No association   | –                       |
|               | Any respiratory conditions                     | Medical discharge vs other discharge | 1.62 (1.19, 2.21)    | Medically discharged are 62% more likely to have any respiratory conditions                | Moderate                |
|               | COPD   | Medical discharge vs other discharge | 0.95 (0.34, 2.63)    | No association   | –                       |
|               | Pneumonia                                      | Medical discharge vs other discharge | 1.28 (0.80, 2.06)    | No association   | –                       |
|               | Sinus  | Medical discharge vs other discharge | 1.65 (1.16, 2.34)    | Medically discharged are 65% more likely to have sinus                                     | Moderate                |
| Table 5.27    | Treated in past year                           | Medical discharge vs other discharge | 2.08 (1.30, 3.32)    | Medically discharged are 2.0 times more likely to have been treated in the past year       | Moderate                |
|               | Medications in past month                      | Medical discharge vs other discharge | 2.29 (1.36, 3.85)    | Medically discharged are 2.3 times more likely to have taken medications in the past month | Moderate                |
|               | Any neoplasms, skin cancers including melanoma | Ex-Serving ADF vs Active             | 1.26 (0.95, 1.68)    | No association   | –                       |
|               | Any neoplasms, skin cancers including melanoma | Ex-Serving ADF vs Inactive           | 0.91 (0.65, 1.29)    | No association   | –                       |
|               | Melanoma                                       | Ex-Serving ADF vs Active             | 1.55 (0.88, 2.71)    | No association   | –                       |
|               | Melanoma                                       | Ex-Serving ADF vs Inactive           | 0.92 (0.44, 1.91)    | No association   | –                       |
|               | Other skin cancer                              | Ex-Serving ADF vs Active             | 1.22 (0.90, 1.64)    | No association   | –                       |
|               | Other skin cancer                              | Ex-Serving ADF vs Inactive           | 0.90 (0.63, 1.29)    | No association   | –                       |
|               | Treated in past year                           | Ex-Serving ADF vs Active             | 1.14 (0.77, 1.69)    | No association   | –                       |
|               | Treated in past year                           | Ex-Serving ADF vs Inactive           | 1.03 (0.64, 1.64)    | No association   | –                       |
| Table 5.28    | Medications in past month                      | Ex-Serving ADF vs Active             | 1.62 (0.82, 3.17)    | No association   | –                       |
|               | Medications in past month                      | Ex-Serving ADF vs Inactive           | 2.16 (0.95, 4.90)    | No association   | –                       |
|               | Any neoplasms, skin cancers including melanoma | Medical discharge vs other discharge | 1.15 (0.85, 1.57)    | No association   | –                       |
|               | Melanoma                                       | Medical discharge vs other discharge | 1.32 (0.71, 2.47)    | No association   | –                       |
|               | Other skin cancer                              | Medical discharge vs other discharge | 1.04 (0.76, 1.43)    | No association   | –                       |
|               | Treated in past year                           | Medical discharge vs other discharge | 1.25 (0.83, 1.87)    | No association   | –                       |

| Results table | Outcome                   | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|---------------------------|--------------------------------------|----------------------|---|-------------------------|
| Table 5.31    | Medications in past month | Medical discharge vs other discharge | 0.97 (0.36, 2.59)    | No association  | –                       |
|               | Any skin conditions       | Ex-Serving ADF vs Active             | 0.74 (0.51, 1.07)    | No association  | –                       |
|               | Any skin conditions       | Ex-Serving ADF vs Inactive           | 1.07 (0.73, 1.57)    | No association  | –                       |
|               | Dermatitis                | Ex-Serving ADF vs Active             | 1.04 (0.61, 1.78)    | No association  | –                       |
|               | Dermatitis                | Ex-Serving ADF vs Inactive           | 1.14 (0.69, 1.90)    | No association  | –                       |
|               | Eczema                    | Ex-Serving ADF vs Active             | 0.93 (0.60, 1.44)    | No association  | –                       |
|               | Eczema                    | Ex-Serving ADF vs Inactive           | 1.59 (0.84, 3.04)    | No association  | Moderate                |
|               | Psoriasis                 | Ex-Serving ADF vs Active             | 0.45 (0.24, 0.84)    | Ex-Serving ADF are 56% less likely to have psoriasis                                      | Moderate                |
|               | Psoriasis                 | Ex-Serving ADF vs Inactive           | 0.58 (0.31, 1.07)    | No association  | –                       |
|               | Treated in past year      | Ex-Serving ADF vs Active             | 0.75 (0.42, 1.32)    | No association  | –                       |
| Table 5.32    | Treated in past year      | Ex-Serving ADF vs Inactive           | 1.40 (0.72, 2.71)    | No association  | –                       |
|               | Medications in past month | Ex-Serving ADF vs Active             | 1.04 (0.61, 1.78)    | No association  | –                       |
|               | Medications in past month | Ex-Serving ADF vs Inactive           | 1.44 (0.75, 2.74)    | No association  | –                       |
|               | Any skin conditions       | Medical discharge vs other discharge | 1.43 (1.03, 1.98)    | Medically discharged are 43% more likely to have any skin conditions                      | Weak                    |
|               | Dermatitis                | Medical discharge vs other discharge | 1.76 (1.14, 2.73)    | Medically discharged are 76% more likely to have dermatitis                               | Moderate                |
|               | Eczema                    | Medical discharge vs other discharge | 1.34 (0.84, 2.13)    | No association  | –                       |
|               | Psoriasis                 | Medical discharge vs other discharge | 1.01 (0.59, 1.73)    | No association  | –                       |
|               | Treated in past year      | Medical discharge vs other discharge | 1.89 (1.17, 3.06)    | Medically discharged are 1.9 times more likely to have been treated in the past year      | Moderate                |
|               | Medications in past month | Medical discharge vs other discharge | 2.02 (1.23, 3.34)    | Medically discharged are 2.0 times more likely to have taken medication in the past month | Moderate                |
|               | Chronic fatigue syndrome  | Ex-Serving ADF vs Active             | 3.26 (1.72, 6.20)    | Ex-Serving ADF are 3.3 times more likely to have chronic fatigue syndrome                 | Strong                  |
| Table 5.35    | Chronic fatigue syndrome  | Ex-Serving ADF vs Inactive           | 1.90 (0.79, 4.54)    | No association  | –                       |
|               | Diabetes                  | Ex-Serving ADF vs Active             | 2.02 (1.27, 3.21)    | Ex-Serving ADF are 2 times more likely to have diabetes                                   | Moderate                |
|               | Diabetes                  | Ex-Serving ADF vs Inactive           | 1.46 (0.81, 2.63)    | No association  | –                       |
|               | Hearing loss              | Ex-Serving ADF vs Active             | 1.41 (1.11, 1.79)    | Ex-Serving ADF are 41% more likely to have hearing loss                                   | Weak                    |
|               | Hearing loss              | Ex-Serving ADF vs Inactive           | 1.42 (1.06, 1.91)    | Ex-Serving ADF are 42% more likely to have hearing loss                                   | Weak                    |

| Results table      | Outcome   | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|--------------------|---|--------------------------------------|----------------------|--|-------------------------|
|                    | Impotence   | Ex-Serving ADF vs Active             | 2.82 (1.79, 4.45)    | Ex-Serving ADF are 2.8 times more likely to have impotence   | Moderate                |
|                    | Impotence   | Ex-Serving ADF vs Inactive           | 1.95 (1.13, 3.36)    | Ex-Serving ADF are 95% more likely to have impotence   | Moderate                |
|                    | Kidney disease  | Ex-Serving ADF vs Active             | 1.59 (0.98, 2.59)    | No association   | –                       |
|                    | Kidney disease  | Ex-Serving ADF vs Inactive           | 1.57 (0.87, 2.82)    | No association   | –                       |
|                    | Other cancer, tumour or malignancy                          | Ex-Serving ADF vs Active             | 1.12 (0.73, 1.71)    | No association   | –                       |
|                    | Other cancer, tumour or malignancy                          | Ex-Serving ADF vs Inactive           | 1.36 (0.77, 2.39)    | No association   | –                       |
|                    | Traumatic Brain Injury                                      | Ex-Serving ADF vs Active             | 1.83 (0.88, 3.80)    | No association   | –                       |
|                    | Traumatic Brain Injury                                      | Ex-Serving ADF vs Inactive           | 1.13 (0.44, 2.89)    | No association   | –                       |
| Table 5.36         | Chronic fatigue syndrome                                    | Medical discharge vs other discharge | 2.79 (1.45, 5.38)    | Medically discharged are 2.8 times more likely to have chronic fatigue syndrome                              | Moderate                |
|                    | Diabetes  | Medical discharge vs other discharge | 2.38 (1.48, 3.84)    | Medically discharged are 2.4 times more likely to have diabetes  | Moderate                |
|                    | Hearing loss  | Medical discharge vs other discharge | 2.06 (1.60, 2.67)    | Medically discharged are 2 times more likely to have hearing loss  | Moderate                |
|                    | Impotence   | Medical discharge vs other discharge | 3.45 (2.27, 5.23)    | Medically discharged are 3.5 times more likely to have impotence   | Strong                  |
|                    | Kidney disease  | Medical discharge vs other discharge | 1.89 (1.11, 3.21)    | Medically discharged are 89% more likely to have kidney disease  | Moderate                |
|                    | Other cancer, tumour or malignancy                          | Medical discharge vs other discharge | 1.52 (0.99, 2.35)    | No association   | –                       |
|                    | Traumatic Brain Injury                                      | Medical discharge vs other discharge | 1.95 (0.88, 4.30)    | No association   | –                       |
| Respiratory health |   |                                      |                      |  |                         |
| Table 6.3          | Wheeze  | Ex-Serving ADF vs Active             | 1.13 (0.87, 1.46)    | No association   | –                       |
|                    | Wheeze  | Ex-Serving ADF vs Inactive           | 1.27 (0.96, 1.68)    | No association   | –                       |
|                    | Woken with tightness in chest                               | Ex-Serving ADF vs Active             | 1.90 (1.42, 2.55)    | Ex-Serving ADF are 90% more likely to have woken with tightness in chest                                     | Moderate                |
|                    | Woken with tightness in chest                               | Ex-Serving ADF vs Inactive           | 1.82 (1.34, 2.47)    | Ex-Serving ADF are 82% more likely to have woken with tightness in chest                                     | Moderate                |
|                    | Attack of shortness of breath during the day whilst at rest | Ex-Serving ADF vs Active             | 2.48 (1.80, 3.43)    | Ex-Serving ADF are 2.5 times more likely to have attack of shortness of breath whilst at rest during the day | Moderate                |
|                    | Attack of shortness of breath during the day whilst at rest | Ex-Serving ADF vs Inactive           | 1.93 (1.37, 2.73)    | Ex-Serving ADF are 93 % more likely to have attack of shortness of breath whilst at rest during the day      | Moderate                |
|                    | Attack of shortness of breath following strenuous activity  | Ex-Serving ADF vs Active             | 1.61 (1.21, 2.15)    | Ex-Serving ADF are 61% more likely to have attack of shortness of breath following strenuous activity        | Moderate                |

| Results table | Outcome  | Cohort (comparison)        | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|--|----------------------------|----------------------|--|-------------------------|
|               | Attack of shortness of breath following strenuous activity       | Ex-Serving ADF vs Inactive | 1.24 (0.91, 1.67)    | No association   | –                       |
|               | Woken by attack of shortness of breath                           | Ex-Serving ADF vs Active   | 2.25 (1.54, 3.29)    | Ex-Serving ADF are 2.2 times more likely to have woken by attack of shortness of breath                                | Moderate                |
|               | Woken by attack of shortness of breath                           | Ex-Serving ADF vs Inactive | 1.97 (1.32, 2.93)    | Ex-Serving ADF are 97% more likely to have woken by attack of shortness of breath                                      | Moderate                |
|               | Woken by attack of coughing                                      | Ex-Serving ADF vs Active   | 1.46 (1.12, 1.90)    | Ex-Serving ADF are 46% more likely to have woken by attack of coughing   | Weak                    |
|               | Woken by attack of coughing                                      | Ex-Serving ADF vs Inactive | 1.89 (1.44, 2.48)    | Ex-Serving ADF are 89% more likely to have woken by attack of coughing   | Moderate                |
|               | Cough first thing in the morning                                 | Ex-Serving ADF vs Active   | 1.29 (0.89, 1.85)    | No association   | –                       |
|               | Cough first thing in the morning                                 | Ex-Serving ADF vs Inactive | 1.63 (1.13, 2.34)    | Ex-Serving ADF are 63% more likely to have cough first thing in the morning  | Moderate                |
|               | Cough during the day or at night                                 | Ex-Serving ADF vs Active   | 1.37 (0.98, 1.90)    | No association   | –                       |
|               | Cough during the day or at night                                 | Ex-Serving ADF vs Inactive | 1.56 (1.14, 2.14)    | Ex-Serving ADF are 56% more likely to have cough during the day or at night  | Moderate                |
|               | Phlegm from chest in morning during winter                       | Ex-Serving ADF vs Active   | 1.18 (0.88, 1.57)    | No association   | –                       |
|               | Phlegm from chest in morning during winter                       | Ex-Serving ADF vs Inactive | 1.69 (1.25, 2.29)    | Ex-Serving ADF are 69% more likely to have phlegm from chest in morning during winter                                  | Moderate                |
|               | Phlegm from chest during day or at night during winter           | Ex-Serving ADF vs Active   | 1.32 (0.97, 1.79)    | No association   | –                       |
|               | Phlegm from chest during day or at night during winter           | Ex-Serving ADF vs Inactive | 1.47 (1.09, 1.99)    | Ex-Serving ADF are 47% more likely to have phlegm from chest during day or at night during winter                      | Weak                    |
|               | Trouble breathing  | Ex-Serving ADF vs Active   | 1.51 (1.14, 1.99)    | Ex-Serving ADF are 51% more likely to have trouble breathing   | Moderate                |
|               | Trouble breathing  | Ex-Serving ADF vs Inactive | 1.65 (1.23, 2.22)    | Ex-Serving ADF are 65% more likely to have trouble breathing   | Moderate                |
|               | Disabled from walking by condition other than heart/lung disease | Ex-Serving ADF vs Active   | 4.15 (3.03, 5.69)    | Ex-Serving ADF are 4 times more likely to have been disabled from walking by condition other than heart/lung disease   | Strong                  |
|               | Disabled from walking by condition other than heart/lung disease | Ex-Serving ADF vs Inactive | 5.66 (3.83, 8.37)    | Ex-Serving ADF are 5.6 times more likely to have been disabled from walking by condition other than heart/lung disease | Strong                  |
|               | Shortness of breath  | Ex-Serving ADF vs Active   | 1.83 (1.32, 2.52)    | Ex-Serving ADF are 83% more likely to have shortness of breath   | Moderate                |

| Results table | Outcome   | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|---|--------------------------------------|----------------------|--|-------------------------|
|               | Shortness of breath   | Ex-Serving ADF vs Inactive           | 1.67 (1.15, 2.42)    | Ex-Serving ADF are 67% more likely to have shortness of breath   | Moderate                |
|               | Nasal allergies   | Ex-Serving ADF vs Active             | 0.92 (0.73, 1.16)    | No association   | –                       |
|               | Nasal allergies   | Ex-Serving ADF vs Inactive           | 0.94 (0.74, 1.19)    | No association   | –                       |
|               | Asthma ever   | Ex-Serving ADF vs Active             | 1.02 (0.76, 1.36)    | No association   | –                       |
|               | Asthma ever   | Ex-Serving ADF Inactive              | 1.11 (0.82, 1.50)    | No association   | –                       |
|               | Asthma confirmed by doctor                                  | Ex-Serving ADF vs Active             | 0.92 (0.68, 1.25)    | No association   | –                       |
|               | Asthma confirmed by doctor                                  | Ex-Serving ADF Inactive              | 1.01 (0.74, 1.38)    | No association   | –                       |
|               | Asthma in last 12 months                                    | Ex-Serving ADF vs Active             | 1.57 (0.82, 3.00)    | No association   | –                       |
|               | Asthma in last 12 months                                    | Ex-Serving ADF Inactive              | 1.33 (0.58, 3.02)    | No association   | –                       |
|               | Asthma medication currently                                 | Ex-Serving ADF vs Active             | 1.28 (0.78, 2.09)    | No association   | –                       |
|               | Asthma medication currently                                 | Ex-Serving ADF Inactive              | 1.39 (0.75, 2.56)    | No association   | –                       |
| Table 6.4     | Wheeze  | Medical discharge vs other discharge | 1.40 (1.09, 1.79)    | Medically discharged are 40% more likely to have wheeze  | Weak                    |
|               | Woken with tightness in chest                               | Medical discharge vs other discharge | 2.02 (1.56, 2.62)    | Medically discharged are 2 times more likely to have woken with tightness in chest                                 | Moderate                |
|               | Attack of shortness of breath during the day whilst at rest | Medical discharge vs other discharge | 2.72 (2.05, 3.60)    | Medically discharged are 2.7 times more likely to have attack of shortness of breath during the day whilst at rest | Moderate                |
|               | Attack of shortness of breath following strenuous activity  | Medical discharge vs other discharge | 1.97 (1.51, 2.57)    | Medically discharged are 97% more likely to have attack of shortness of breath following strenuous activity        | Moderate                |
|               | Woken by attack of shortness of breath                      | Medical discharge vs other discharge | 2.82 (2.05, 3.86)    | Medically discharged are 2.8 times more likely to have woken by attack of shortness of breath                      | Moderate                |
|               | Woken by attack of coughing                                 | Medical discharge vs other discharge | 2.00 (1.57, 2.55)    | Medically discharged are 2 times more likely to have woken by attack of coughing                                   | Moderate                |
|               | Cough first thing in the morning                            | Medical discharge vs other discharge | 1.68 (1.22, 2.32)    | Medically discharged are 68% more likely to have cough first thing in the morning                                  | Moderate                |
|               | Cough during the day or at night                            | Medical discharge vs other discharge | 1.62 (1.23, 2.14)    | Medically discharged are 62% more likely to have cough during the day or at night                                  | Moderate                |
|               | Phlegm from chest in morning during winter                  | Medical discharge vs other discharge | 2.09 (1.62, 2.72)    | Medically discharged are 2 times more likely to have phlegm from chest in morning during winter                    | Moderate                |
|               | Phlegm from chest during day or at night during winter      | Medical discharge vs other discharge | 2.01 (1.55, 2.63)    | Medically discharged are 2 times more likely to have phlegm from chest during day or at night during winter        | Moderate                |

| Results table | Outcome  | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|---------------|--|--------------------------------------|----------------------|--|-------------------------|
|               | Trouble breathing  | Medical discharge vs other discharge | 2.28 (1.78, 2.93)    | Medically discharged are 2.3 times more likely to have trouble breathing   | Moderate                |
|               | Disabled from walking by condition other than heart/lung disease | Medical discharge vs other discharge | 8.01 (5.68, 11.31)   | Medically discharged are 8 times more likely to have been disabled from walking by condition other than heart/lung disease | Strong                  |
|               | Shortness of breath  | Medical discharge vs other discharge | 3.21 (2.39, 4.30)    | Medically discharged are 3 times more likely to have shortness of breath   | Strong                  |
|               | Nasal allergies  | Medical discharge vs other discharge | 1.13 (0.90, 1.41)    | No association   | –                       |
|               | Asthma ever  | Medical discharge vs other discharge | 1.19 (0.90, 1.57)    | No association   | –                       |
|               | Asthma confirmed by doctor                                       | Medical discharge vs other discharge | 1.18 (0.88, 1.58)    | No association   | –                       |
|               | Asthma in last 12 months   | Medical discharge vs other discharge | 1.87 (1.01, 3.47)    | Medically discharged are 1.9 times more likely to have had asthma in the last 12 months                                    | Moderate                |
|               | Asthma medication currently                                      | Medical discharge vs other discharge | 1.88 (1.15, 3.08)    | Medically discharged are 1.9 times more likely to be taking asthma medication currently                                    | Moderate                |
| Injuries      |  |                                      |                      |  |                         |
| Table 7.7     | Injury type (any)  | Ex-Serving ADF vs Active             | 1.51 (1.15, 2.00)    | Ex-Serving ADF are 51% more likely to have any type of injury  | Moderate                |
|               | Injury type (any)  | Ex-Serving ADF vs Inactive           | 1.32 (1.01, 1.73)    | Ex-Serving ADF are 32% more likely to have any type of injury  | Weak                    |
|               | Injury type (fracture)   | Ex-Serving ADF vs Active             | 1.15 (0.91, 1.45)    | No association   | –                       |
|               | Injury type (fracture)   | Ex-Serving ADF vs Inactive           | 1.17 (0.92, 1.48)    | No association   | –                       |
|               | Injury type (musculoskeletal)                                    | Ex-Serving ADF vs Active             | 1.34 (1.05, 1.71)    | Ex-Serving ADF are 34% more likely to have musculoskeletal injury  | Weak                    |
|               | Injury type (musculoskeletal)                                    | Ex-Serving ADF vs Inactive           | 1.42 (1.12, 1.80)    | Ex-Serving ADF are 42% more likely to have musculoskeletal injury  | Weak                    |
|               | Injury type (heat stress)  | Ex-Serving ADF vs Active             | 1.89 (1.39, 2.57)    | Ex-Serving ADF are 89% more likely to have heat stress injury  | Moderate                |
|               | Injury type (heat stress)  | Ex-Serving ADF vs Inactive           | 1.74 (1.26, 2.40)    | Ex-Serving ADF are 74% more likely to have heat stress injury  | Moderate                |
|               | Injury type (cold/exposure)                                      | Ex-Serving ADF vs Active             | 1.40 (0.81, 2.43)    | No association   | –                       |
|               | Injury type (cold/exposure)                                      | Ex-Serving ADF vs Inactive           | 1.75 (1.05, 2.93)    | Ex-Serving ADF are 75% more likely to have Cold/Exposure injury  | Moderate                |
|               | Injury type (burn, excl sunburn)                                 | Ex-Serving ADF vs Active             | 0.95 (0.56, 1.59)    | No association   | –                       |
|               | Injury type (burn, excl sunburn)                                 | Ex-Serving ADF vs Inactive           | 1.78 (0.93, 3.41)    | No association   | –                       |
| Table 7.8     | Injury type (any)  | Medical discharge vs other discharge | 3.44 (2.49, 4.75)    | Medically discharged are 3.4 times more likely to have any type of injury  | Strong                  |
|               | Injury type (fracture)   | Medical discharge vs other discharge | 1.55 (1.24, 1.94)    | Medically discharged are 55% more likely to have fracture  | Moderate                |

| Results table          | Outcome                                     | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|------------------------|---|--------------------------------------|----------------------|--|-------------------------|
|                        | Injury type (musculoskeletal)               | Medical discharge vs other discharge | 2.77 (2.13, 3.60)    | Medically discharged are 2.7 times more likely to have musculoskeletal injury  | Moderate                |
|                        | Injury type (heat stress)                   | Medical discharge vs other discharge | 2.31 (1.75, 3.05)    | Medically discharged are 2.3 times more likely to have heat stress injury      | Moderate                |
|                        | Injury type (cold/exposure)                 | Medical discharge vs other discharge | 2.14 (1.34, 3.44)    | Medically discharged are 2 times more likely to have cold/exposure type injury | Moderate                |
|                        | Injury type (burn, excl sunburn)            | Medical discharge vs other discharge | 1.47 (0.92, 2.35)    | No association   | –                       |
| Pain                   |   |                                      |                      |  |                         |
| Table 8.3              | Pain (low vs none)                          | Ex-Serving ADF vs Active             | 0.71 (0.49, 1.02)    | No association   | –                       |
|                        | Pain (low vs none)                          | Ex-Serving ADF vs Inactive           | 1.17 (0.82, 1.68)    | No association   | –                       |
|                        | Pain (high vs none)                         | Ex-Serving ADF vs Active             | 2.89 (1.95, 4.28)    | Ex-Serving ADF are 2.9 times more likely to have higher pain                   | Moderate                |
|                        | Pain (high vs none)                         | Ex-Serving ADF vs Inactive           | 4.20 (2.76, 6.39)    | Ex-Serving ADF are 4.2 times more likely to have higher pain                   | Strong                  |
| Table 8.4              | Pain (low vs none)                          | Medical discharge vs other discharge | 1.17 (0.76, 1.81)    | No association   | –                       |
|                        | Pain (high vs none)                         | Medical discharge vs other discharge | 8.21 (5.25, 12.83)   | Medically discharged are 8.2 times more likely to have higher pain             | Strong                  |
| Sleep problems         |   |                                      |                      |  |                         |
| Table 9.3              | Sleep (insomnia vs no insomnia)             | Ex-Serving ADF vs Active             | 2.99 (2.31, 3.88)    | Ex-Serving ADF are 3 times more likely to have insomnia                        | Strong                  |
|                        | Sleep (insomnia vs no insomnia)             | Ex-Serving ADF vs Inactive           | 2.77 (2.18, 3.53)    | Ex-Serving ADF are 2.8 times more likely to have insomnia                      | Moderate                |
| Table 9.4              | Sleep (insomnia vs no insomnia)             | Medical discharge vs other discharge | 5.29 (4.30, 6.51)    | Medically discharged are 5.3 times more likely to have insomnia                | Strong                  |
| Lifestyle risk factors |   |                                      |                      |  |                         |
| Table 10.3             | Body Mass Index (overweight vs normal)      | Ex-Serving ADF vs Active             | 1.03 (0.76, 1.40)    | No association   | –                       |
|                        | Body Mass Index (overweight vs normal)      | Ex-Serving ADF vs Inactive           | 0.91 (0.67, 1.22)    | No association   | –                       |
|                        | Body Mass Index (obese vs normal)           | Ex-Serving ADF vs Active             | 2.07 (1.52, 2.84)    | Ex-Serving ADF are 2 times more likely to be obese                             | Moderate                |
|                        | Body Mass Index (obese vs normal)           | Ex-Serving ADF vs Inactive           | 1.44 (1.05, 1.99)    | Ex-Serving ADF are 44% more likely to be obese                                 | Weak                    |
| Table 10.4             | Body Mass Index (obese vs normal)           | Medical discharge vs other discharge | 1.61 (1.20, 2.15)    | Medically discharged are 61% more likely to be obese                           | Moderate                |
| Table 10.7             | Physical exercise (inactive vs HEPA active) | Ex-Serving ADF vs Active             | 1.41 (1.06, 1.87)    | Ex-Serving ADF are 41% more likely to be inactive (compared to HEPA active)    | Weak                    |
|                        | Physical exercise (inactive vs HEPA active) | Ex-Serving ADF vs Inactive           | 1.15 (0.86, 1.55)    | No association   | –                       |

| Results table                             | Outcome   | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---|---|--------------------------------------|----------------------|---|-------------------------|
|   | Physical exercise (minimally active vs HEPA active)                 | Ex-Serving ADF vs Active             | 1.19 (0.92, 1.55)    | No association  | –                       |
|   | Physical exercise (minimally active vs HEPA active)                 | Ex-Serving ADF vs Inactive           | 1.08 (0.80, 1.45)    | No association  | –                       |
| Table 10.8                                | Physical exercise (inactive vs HEPA active)                         | Medical discharge vs other discharge | 2.03 (1.53, 2.69)    | Medically discharged are 2 times more likely to be inactive (compared to HEPA active)               | Moderate                |
|   | Physical exercise (minimally active vs HEPA active)                 | Medical discharge vs other discharge | 1.59 (1.20, 2.12)    | Medically discharged are 59% more likely to be minimally active (compared to HEPA active)           | Moderate                |
| Table 10.11                               | Smoking (former vs never smoked)                                    | Ex-Serving ADF vs Active             | 0.94 (0.75, 1.18)    | No association  | –                       |
|   | Smoking (former vs never smoked)                                    | Ex-Serving ADF vs Inactive           | 0.79 (0.63, 1.00)    | No association  | –                       |
|   | Smoking (smoker vs never smoked)                                    | Ex-Serving ADF vs Active             | 1.74 (1.24, 2.43)    | Ex-Serving ADF are 74% more likely to be a smoker   | Moderate                |
|   | Smoking (smoker vs never smoked)                                    | Ex-Serving ADF vs Inactive           | 1.18 (0.85, 1.63)    | No association  | –                       |
| Table 10.12                               | Smoking (smoker vs never smoked)                                    | Medical discharge vs other discharge | 1.61 (1.20, 2.15)    | Medically discharged are 61% more likely to be a smoker   | Moderate                |
| Self-perceived health and quality of life |   |                                      |                      |   |                         |
| Table 11.3                                | Self-perceived health (fair vs excellent)                           | Ex-Serving ADF vs Active             | 5.18 (4.23, 6.34)    | Ex-Serving ADF are 5 times more likely to have lower self-perceived health                          | Strong                  |
|   | Self-perceived health (fair vs excellent)                           | Ex-Serving ADF vs Inactive           | 3.56 (2.88, 4.41)    | Ex-Serving ADF are 3.6 times more likely to have lower self-perceived health                        | Strong                  |
| Table 11.4                                | Self-perceived health (fair vs excellent)                           | Medical discharge vs other discharge | 9.30 (7.49, 11.54)   | Medically discharged are 9.3 times more likely to have lower self-perceived health                  | Strong                  |
| Table 11.7                                | Self-perceived satisfaction with health (dissatisfied vs satisfied) | Ex-Serving ADF vs Active             | 3.06 (2.46, 3.81)    | Ex-Serving ADF are 3 times more likely to have lower self-perceived satisfaction with health        | Strong                  |
|   | Self-perceived satisfaction with health (dissatisfied vs satisfied) | Ex-Serving ADF vs Inactive           | 2.53 (2.02, 3.17)    | Ex-Serving ADF are 2.5 times more likely to have lower self-perceived satisfaction with health      | Moderate                |
| Table 11.8                                | Self-perceived satisfaction with health (dissatisfied vs satisfied) | Medical discharge vs other discharge | 10.04 (7.61, 13.23)  | Medically discharged are 10 times more likely to have lower self-perceived satisfaction with health | Strong                  |
| Table 11.11                               | Self-perceived quality of life (poor vs good)                       | Ex-Serving ADF vs Active             | 6.71 (4.78, 9.40)    | Ex-Serving ADF are 6.7 times more likely to have lower self-perceived quality of life               | Strong                  |
|   | Self-perceived quality of life (poor vs good)                       | Ex-Serving ADF vs Inactive           | 4.88 (3.62, 6.57)    | Ex-Serving ADF are 4.9 times more likely to have lower self-perceived quality of life               | Strong                  |

| Results table                 | Outcome   | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|-------------------------------|---|--------------------------------------|----------------------|--|-------------------------|
| Table 11.12                   | Self-perceived quality of life (poor vs good)                     | Medical discharge vs other discharge | 13.21 (10.20, 17.12) | Medically discharged are 13 times more likely to have lower self-perceived quality of life         | Strong                  |
| Table 11.15                   | Self-perceived satisfaction with life (dissatisfied vs satisfied) | Ex-Serving ADF vs Active             | 2.75 (2.18, 3.46)    | Ex-Serving ADF are 2.7 times more likely to have lower self-perceived satisfaction with life       | Moderate                |
|                               | Self-perceived satisfaction with life (dissatisfied vs satisfied) | Ex-Serving ADF vs Inactive           | 2.60 (2.07, 3.26)    | Ex-Serving ADF are 2.6 times more likely to have lower self-perceived satisfaction with life       | Moderate                |
| Table 11.6                    | Self-perceived satisfaction with life (dissatisfied vs satisfied) | Medical discharge vs other discharge | 4.80 (3.82, 6.04)    | Medically discharged are 4.8 times more likely to have lower self-perceived satisfaction with life | Strong                  |
| Table 11.19                   | Physical health (past year) (fair vs excellent)                   | Ex-Serving ADF vs Active             | 2.90 (2.31, 3.64)    | Ex-Serving ADF are 2.9 times more likely to have lower self-perceived physical health              | Strong                  |
|                               | Self-perceived satisfaction with life (dissatisfied vs satisfied) | Ex-Serving ADF vs Inactive           | 2.31 (1.83, 2.90)    | Ex-Serving ADF are 2.3 times more likely to have lower self-perceived physical health              | Moderate                |
| Table 11.20                   | Physical health (past year) (fair vs excellent)                   | Medical discharge vs other discharge | 4.80 (3.82, 6.04)    | Medically discharged are 4.8 times more likely to have lower self-perceived physical health        | Strong                  |
| Health services               |   |                                      |                      |  |                         |
| 12-month health professionals |   |                                      |                      |  |                         |
| Table 12.3                    | Any health service  | Ex-Serving ADF vs Active             | 1.46 (1.02, 2.10)    | Ex-Serving ADF are 46% more likely to have seen any Health Service                                 | Weak                    |
|                               | Any health service  | Ex-Serving ADF vs Inactive           | 1.55 (1.10, 2.19)    | Ex-Serving ADF are 55% more likely to have seen any health service                                 | Moderate                |
|                               | Alcohol or drug worker  | Ex-Serving ADF vs Active             | 2.67 (1.37, 5.20)    | Ex-Serving ADF are 2.7 times more likely to have seen alcohol or drug worker                       | Moderate                |
|                               | Alcohol or drug worker  | Ex-Serving ADF vs Inactive           | 3.42 (1.30, 9.00)    | Ex-Serving ADF are 3.4 times more likely to have seen alcohol or drug worker                       | Strong                  |
|                               | Audiologist   | Ex-Serving ADF vs Active             | 1.27 (0.94, 1.70)    | No association   | –                       |
|                               | Audiologist   | Ex-Serving ADF vs Inactive           | 1.62 (1.16, 2.25)    | Ex-Serving ADF are 62% more likely to have seen audiologist  | Moderate                |
|                               | Casualty or emergency ward  | Ex-Serving ADF vs Active             | 1.58 (1.17, 2.14)    | Ex-Serving ADF are 58% more likely to have been to casualty or emergency ward                      | Moderate                |
|                               | Casualty or emergency ward  | Ex-Serving ADF vs Inactive           | 2.00 (1.49, 2.67)    | Ex-Serving ADF are 2 times more likely to have been to casualty or emergency ward                  | Moderate                |
|                               | Chiropractor  | Ex-Serving ADF vs Active             | 0.91 (0.66, 1.26)    | No association   | –                       |
|                               | Chiropractor  | Ex-Serving ADF vs Inactive           | 0.99 (0.72, 1.34)    | No association   | –                       |

| Results table | Outcome  | Cohort (comparison)        | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|--|----------------------------|----------------------|---|-------------------------|
|               | Accredited counsellor  | Ex-Serving ADF vs Active   | 2.37 (1.63, 3.43)    | Ex-Serving ADF are 2.4 times more likely to have seen accredited counsellor                                       | Moderate                |
|               | Accredited counsellor  | Ex-Serving ADF vs Inactive | 1.52 (1.06, 2.19)    | Ex-Serving ADF are 52% more likely to have seen accredited counsellor   | Moderate                |
|               | Day clinic for minor surgery or diagnostic tests (excl. x-ray) | Ex-Serving ADF vs Active   | 1.52 (1.23, 1.87)    | Ex-Serving ADF are 52% more likely to have been to day clinic for minor surgery or diagnostic tests (excl. x-ray) | Moderate                |
|               | Day clinic for minor surgery or diagnostic tests (excl. x-ray) | Ex-Serving ADF vs Inactive | 1.61 (1.26, 2.05)    | Ex-Serving ADF are 61% more likely to have been to day clinic for minor surgery or diagnostic tests (excl. x-ray) | Moderate                |
|               | Dentist or dental professional                                 | Ex-Serving ADF vs Active   | 0.83 (0.67, 1.02)    | No association  | –                       |
|               | Dentist or dental professional                                 | Ex-Serving ADF vs Inactive | 1.27 (1.03, 1.57)    | Ex-Serving ADF are 27% more likely to have been to dentist or dental professional                                 | Weak                    |
|               | Diabetes educator  | Ex-Serving ADF vs Active   | 1.97 (1.09, 3.57)    | Ex-Serving ADF are 97% more likely to have been to diabetes educator  | Moderate                |
|               | Diabetes educator  | Ex-Serving ADF vs Inactive | 1.46 (0.84, 2.52)    | No association  | –                       |
|               | Dietician/nutritionist   | Ex-Serving ADF vs Active   | 1.83 (1.23, 2.73)    | Ex-Serving ADF are 83% more likely to have been to dietician/Nutritionist   | Moderate                |
|               | Dietician/nutritionist   | Ex-Serving ADF vs Inactive | 2.20 (1.29, 3.77)    | Ex-Serving ADF are 2.2 times more likely to have been to dietician/Nutritionist                                   | Moderate                |
|               | General practitioner   | Ex-Serving ADF vs Active   | 1.66 (1.24, 2.22)    | Ex-Serving ADF are 66% more likely to have been to General Practitioner   | Moderate                |
|               | General practitioner   | Ex-Serving ADF vs Inactive | 1.86 (1.41, 2.46)    | Ex-Serving ADF are 86% more likely to have been to General Practitioner   | Moderate                |
|               | Naturopath   | Ex-Serving ADF vs Active   | 1.10 (0.59, 2.07)    | No association  | –                       |
|               | Naturopath   | Ex-Serving ADF vs Inactive | 1.23 (0.73, 2.09)    | No association  | –                       |
|               | Osteopath  | Ex-Serving ADF vs Active   | 1.89 (1.22, 2.92)    | Ex-Serving ADF are 89% more likely to have been to osteopath  | Moderate                |
|               | Osteopath  | Ex-Serving ADF vs Inactive | 1.47 (0.83, 2.59)    | No association  | –                       |
|               | Outpatients section of a hospital                              | Ex-Serving ADF vs Active   | 1.70 (1.26, 2.30)    | Ex-Serving ADF are 70% more likely to have been to outpatients section of a hospital                              | Moderate                |
|               | Outpatients section of a hospital                              | Ex-Serving ADF vs Inactive | 1.65 (1.21, 2.26)    | Ex-Serving ADF are 65% more likely to have been to outpatients section of a hospital                              | Moderate                |
|               | Physiotherapist/hydrotherapist                                 | Ex-Serving ADF vs Active   | 1.82 (1.45, 2.29)    | Ex-Serving ADF are 82% more likely to have been to Physiotherapist/hydrotherapist                                 | Moderate                |

| Results table | Outcome  | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation  | Strength of association |
|---------------|--|--------------------------------------|----------------------|---|-------------------------|
|               | Physiotherapist/hydrotherapist                                 | Ex-Serving ADF vs Inactive           | 1.81 (1.41, 2.31)    | Ex-Serving ADF are 81% more likely to have been to Physiotherapist/hydrotherapist   | Moderate                |
|               | Psychologist   | Ex-Serving ADF vs Active             | 3.00 (2.26, 3.98)    | Ex-Serving ADF are 3 times more likely to have been to Psychologist   | Strong                  |
|               | Psychologist   | Ex-Serving ADF vs Inactive           | 2.27 (1.74, 2.97)    | Ex-Serving ADF are 2.3 times more likely to have been to Psychologist   | Moderate                |
|               | Social worker/welfare officer                                  | Ex-Serving ADF vs Active             | 2.09 (1.24, 3.53)    | Ex-Serving ADF are 2 times more likely to have been to social worker/welfare officer  | Moderate                |
|               | Social worker/welfare officer                                  | Ex-Serving ADF vs Inactive           | 1.70 (1.01, 2.88)    | Ex-Serving ADF are 70% more likely to have been to social worker/welfare officer  | Moderate                |
|               | Specialist doctor  | Ex-Serving ADF vs Active             | 1.75 (1.42, 2.15)    | Ex-Serving ADF are 75% more likely to have been to specialist doctor  | Moderate                |
|               | Specialist doctor  | Ex-Serving ADF vs Inactive           | 1.99 (1.61, 2.48)    | Ex-Serving ADF are 2 times more likely to have been to specialist doctor  | Moderate                |
|               | Other health professional                                      | Ex-Serving ADF vs Active             | 1.47 (1.00, 2.15)    | No association  | –                       |
|               | Other health professional                                      | Ex-Serving ADF vs Inactive           | 2.13 (1.38, 3.27)    | Ex-Serving ADF are 2 times more likely to have been to other health professional  | Moderate                |
| Table 12.4    | Any health service   | Medical discharge vs other discharge | 2.67 (1.74, 4.10)    | Medically discharged are 2.7 times more likely to have been to any Health Service   | Moderate                |
|               | Alcohol or drug worker   | Medical discharge vs other discharge | 3.78 (1.81, 7.87)    | Medically discharged are 3.8 times more likely to have been to alcohol or drug worker   | Strong                  |
|               | Audiologist  | Medical discharge vs other discharge | 2.33 (1.74, 3.11)    | Medically discharged are 2.3 times more likely to have been to an audiologist   | Moderate                |
|               | Casualty or emergency ward                                     | Medical discharge vs other discharge | 2.35 (1.83, 3.03)    | Medically discharged are 2.3 times more likely to have been to casualty or emergency ward                                     | Moderate                |
|               | Chiropractor   | Medical discharge vs other discharge | 1.03 (0.78, 1.38)    | No association  | –                       |
|               | Accredited counsellor  | Medical discharge vs other discharge | 2.57 (1.90, 3.48)    | Medically discharged are 2.6 times more likely to have been to accredited counsellor  | Moderate                |
|               | Day clinic for minor surgery or diagnostic tests (excl. x-ray) | Medical discharge vs other discharge | 2.20 (1.77, 2.75)    | Medically discharged are 2.2 times more likely to have been to day clinic for minor surgery or diagnostic tests (excl. x-ray) | Moderate                |
|               | Dentist or dental professional                                 | Medical discharge vs other discharge | 1.07 (0.87, 1.32)    | No association  | –                       |
|               | Diabetes educator  | Medical discharge vs other discharge | 5.11 (3.15, 8.30)    | Medically discharged are 5 times more likely to have been to diabetes educator  | Strong                  |

| Results table                      | Outcome                           | Cohort (comparison)                  | Adjusted OR (95% CI) | Interpretation   | Strength of association |
|------------------------------------|-----------------------------------|--------------------------------------|----------------------|--|-------------------------|
|                                    | Dietician/nutritionist            | Medical discharge vs other discharge | 4.26 (2.92, 6.21)    | Medically discharged are 4.3 times more likely to have been to dietician/Nutritionist                  | Strong                  |
|                                    | General practitioner              | Medical discharge vs other discharge | 3.30 (2.33, 4.68)    | Medically discharged are 3.3 times more likely to have been to General Practitioner                    | Strong                  |
|                                    | Naturopath                        | Medical discharge vs other discharge | 1.78 (1.09, 2.91)    | Medically discharged are 78% more likely to have been to Naturopath                                    | Moderate                |
|                                    | Osteopath                         | Medical discharge vs other discharge | 2.14 (1.28, 3.57)    | Medically discharged are 2 times more likely to have been to Osteopath                                 | Moderate                |
|                                    | Outpatients section of a hospital | Medical discharge vs other discharge | 2.40 (1.83, 3.13)    | Medically discharged are 2.4 times more likely to have been to Outpatients section of a hospital       | Moderate                |
|                                    | Physiotherapist/hydrotherapist    | Medical discharge vs other discharge | 3.47 (2.80, 4.31)    | Medically discharged are 3.5 times more likely to have been to Physiotherapist/hydrotherapist          | Strong                  |
|                                    | Psychologist                      | Medical discharge vs other discharge | 3.90 (3.10, 4.91)    | Medically discharged are 3.9 times more likely to have been to Psychologist                            | Strong                  |
|                                    | Social worker/welfare officer     | Medical discharge vs other discharge | 3.23 (2.12, 4.93)    | Medically discharged are 3.2 times more likely to have been to Social worker/welfare officer           | Strong                  |
|                                    | Specialist doctor                 | Medical discharge vs other discharge | 4.28 (3.43, 5.34)    | Medically discharged are 4.3 times more likely to have been to specialist doctor                       | Strong                  |
|                                    | Other health professional         | Medical discharge vs other discharge | 1.94 (1.34, 2.81)    | Medically discharged are 94% more likely to have been to other health professional                     | Moderate                |
| <i>2-week health professionals</i> |                                   |                                      |                      |  |                         |
| Table 12.3                         | General practitioner              | Ex-Serving ADF vs Active             | 1.67 (1.33, 2.11)    | Ex-Serving ADF are 67% more likely than active reservists to have been to a GP in the last 2 weeks     | Moderate                |
|                                    | General practitioner              | Ex-Serving ADF vs Inactive           | 1.42 (1.12, 1.81)    | Ex-Serving ADF are 42% more likely than inactive reservists to have been to a GP in the last 2 weeks   | Weak                    |
|                                    | Specialist doctor                 | Ex-Serving ADF vs Active             | 2.09 (1.62, 2.69)    | Ex-Serving ADF are 2.1 times more likely to have been to a specialist doctor in the last 2 weeks       | Moderate                |
|                                    | Specialist doctor                 | Ex-Serving ADF vs Inactive           | 2.30 (1.70, 3.11)    | Ex-Serving ADF are 2.3 times more likely to have been to a specialist doctor in the last 2 weeks       | Moderate                |
| Table 12.4                         | General practitioner              | Medical discharge vs other discharge | 2.90 (2.34, 3.58)    | Medically discharged are 2.9 times more likely to have been to a GP in the last 2 weeks                | Moderate                |
|                                    | Specialist doctor                 | Medical discharge vs other discharge | 3.81 (3.01, 4.84)    | Medically discharged are 3.8 times more likely to have been to a Specialist doctor in the last 2 weeks | Strong                  |

## Annex C Methodological interpretive tables

**Table C.1 Strata description, MilHOP Regular ADF**

| Strata<br>Sex   Rank   Medical fitness   Service | 2015 Regular ADF |            |      | No. of persons in<br>population each<br>respondent<br>represents |
|--|------------------|------------|------|--|
|  | Population       | Respondent | %    |  |
| MilHOP   |                  |            |      |  |
| Female   OFFR   fit   Navy                       | 170              | 88         | 51.8 | 1.9  |
| Female   OFFR   fit   Army                       | 237              | 120        | 50.6 | 2.0  |
| Female   OFFR   fit   Air Force                  | 249              | 121        | 48.6 | 2.1  |
| Female   OFFR   unfit   Navy                     | 48               | 27         | 56.3 | 1.8  |
| Female   OFFR   unfit   Army                     | 75               | 39         | 52.0 | 1.9  |
| Female   OFFR   unfit   Air Force                | 76               | 34         | 44.7 | 2.2  |
| Female   NCO   fit   Navy                        | 197              | 71         | 36.0 | 2.8  |
| Female   NCO   fit   Army                        | 245              | 99         | 40.4 | 2.5  |
| Female   NCO   fit   Air Force                   | 255              | 110        | 43.1 | 2.3  |
| Female   NCO   unfit   Navy                      | 65               | 23         | 35.4 | 2.8  |
| Female   NCO   unfit   Army                      | 117              | 49         | 41.9 | 2.4  |
| Female   NCO   unfit   Air Force                 | 100              | 37         | 37.0 | 2.7  |
| Female   Other Rank   fit   Navy                 | 41               | 12         | 29.3 | 3.4  |
| Female   Other Rank   fit   Army                 | 33               | 4          | 12.1 | 8.3  |
| Female   Other Rank   fit   Air Force            | 51               | 18         | 35.3 | 2.8  |
| Female   Other Rank   unfit   Navy               | 31               | 5          | 16.1 | 6.2  |
| Female   Other Rank   unfit   Army               | 19               | 9          | 47.4 | 2.1  |
| Female   Other Rank   unfit   Air Force          | 31               | 5          | 16.1 | 6.2  |
| Male   OFFR   fit   Navy                         | 902              | 418        | 46.3 | 2.2  |
| Male   OFFR   fit   Army                         | 1585             | 723        | 45.6 | 2.2  |
| Male   OFFR   fit   Air Force                    | 1428             | 596        | 41.7 | 2.4  |
| Male   OFFR   unfit   Navy                       | 81               | 54         | 66.7 | 1.5  |
| Male   OFFR   unfit   Army                       | 153              | 75         | 49.0 | 2.0  |
| Male   OFFR   unfit   Air Force                  | 117              | 58         | 49.6 | 2.0  |
| Male   NCO   fit   Navy                          | 1386             | 522        | 37.7 | 2.7  |
| Male   NCO   fit   Army                          | 2629             | 1037       | 39.4 | 2.6  |
| Male   NCO   fit   Air Force                     | 2153             | 789        | 36.6 | 2.7  |
| Male   NCO   unfit   Navy                        | 214              | 96         | 44.9 | 2.2  |
| Male   NCO   unfit   Army                        | 503              | 244        | 48.5 | 2.1  |
| Male   NCO   unfit   Air Force                   | 309              | 130        | 42.1 | 2.4  |
| Male   Other Rank   fit   Navy                   | 176              | 46         | 26.1 | 3.8  |
| Male   Other Rank   fit   Army                   | 433              | 57         | 13.2 | 7.6  |
| Male   Other Rank   fit   Air Force              | 320              | 75         | 23.4 | 4.3  |
| Male   Other Rank   unfit   Navy                 | 39               | 11         | 28.2 | 3.5  |
| Male   Other Rank   unfit   Army                 | 105              | 25         | 23.8 | 4.2  |
| Male   Other   unfit   Air Force                 | 43               | 13         | 30.2 | 3.3  |

**Table C.2      Strata description, non-MilHOP Regular ADF**

| Strata<br>Sex   Rank   Medical fitness   Service | 2015 Regular ADF |            |      |   |
|--|------------------|------------|------|---|
|  | Population       | Respondent | %    | No. of persons in population each respondent represents |
| Non-MilHOP                                       |                  |            |      |   |
| Female   OFFR   fit   Navy                       | 305              | 114        | 37.4 | 2.7   |
| Female   OFFR   fit   Army                       | 374              | 112        | 29.9 | 3.3   |
| Female   OFFR   fit   Air Force                  | 406              | 139        | 34.2 | 2.9   |
| Female   OFFR   unfit   Navy                     | 66               | 23         | 34.8 | 2.9   |
| Female   OFFR   unfit   Army                     | 87               | 31         | 35.6 | 2.8   |
| Female   OFFR   unfit   Air Force                | 70               | 28         | 40.0 | 2.5   |
| Female   NCO   fit   Navy                        | 120              | 50         | 41.7 | 2.4   |
| Female   NCO   fit   Army                        | 138              | 70         | 50.7 | 2.0   |
| Female   NCO   fit   Air Force                   | 157              | 79         | 50.3 | 2.0   |
| Female   NCO   unfit   Navy                      | 48               | 24         | 50.0 | 2.0   |
| Female   NCO   unfit   Army                      | 50               | 32         | 64.0 | 1.6   |
| Female   NCO   unfit   Air Force                 | 69               | 36         | 52.2 | 1.9   |
| Female   Other Rank   fit   Navy                 | 256              | 39         | 15.2 | 6.6   |
| Female   Other Rank   fit   Army                 | 271              | 33         | 12.2 | 8.2   |
| Female   Other Rank   fit   Air Force            | 226              | 58         | 25.7 | 3.9   |
| Female   Other Rank   unfit   Navy               | 59               | 14         | 23.7 | 4.2   |
| Female   Other Rank   unfit   Army               | 58               | 14         | 24.1 | 4.1   |
| Female   Other Rank   unfit   Air Force          | 55               | 20         | 36.4 | 2.8   |
| Male   OFFR   fit   Navy                         | 1450             | 188        | 13.0 | 7.7   |
| Male   OFFR   fit   Army                         | 2977             | 269        | 9.0  | 11.1  |
| Male   OFFR   fit   Air Force                    | 2098             | 213        | 10.2 | 9.8   |
| Male   OFFR   unfit   Navy                       | 95               | 11         | 11.6 | 8.6   |
| Male   OFFR   unfit   Army                       | 238              | 31         | 13.0 | 7.7   |
| Male   OFFR   unfit   Air Force                  | 157              | 26         | 16.6 | 6.0   |
| Male   NCO   fit   Navy                          | 2257             | 149        | 6.6  | 15.1  |
| Male   NCO   fit   Army                          | 3447             | 311        | 9.0  | 11.1  |
| Male   NCO   fit   Air Force                     | 1866             | 268        | 14.4 | 7.0   |
| Male   NCO   unfit   Navy                        | 334              | 23         | 6.9  | 14.5  |
| Male   NCO   unfit   Army                        | 575              | 59         | 10.3 | 9.7   |
| Male   NCO   unfit   Air Force                   | 257              | 28         | 10.9 | 9.2   |
| Male   Other Rank   fit   Navy                   | 4451             | 28         | 0.6  | 159.0   |
| Male   Other Rank   fit   Army                   | 10,074           | 43         | 0.4  | 234.3   |
| Male   Other Rank   fit   Air Force              | 2659             | 47         | 1.8  | 56.6  |
| Male   Other Rank   unfit   Navy                 | 491              | 4          | 0.8  | 122.8   |
| Male   Other Rank   unfit   Army                 | 1375             | 14         | 1.0  | 98.2  |
| Male   Other   unfit   Air Force                 | 268              | 12         | 4.5  | 22.3  |

**Table C.3      Strata description, Transitioned ADF**

| Strata<br>Sex   Rank   Medical fitness   Service | Transitioned ADF |            |      |   |
|--|------------------|------------|------|---|
|  | Population       | Respondent | %    | No. of persons in population each respondent represents |
| Female   OFFR   fit   Navy                       | 122              | 32         | 26.2 | 3.8   |
| Female   OFFR   fit   Army                       | 224              | 68         | 30.4 | 3.3   |
| Female   OFFR   fit   Air Force                  | 133              | 41         | 30.8 | 3.2   |
| Female   OFFR   unfit   Navy                     | 63               | 21         | 33.3 | 3.0   |
| Female   OFFR   unfit   Army                     | 90               | 31         | 34.4 | 2.9   |
| Female   OFFR   unfit   Air Force                | 59               | 25         | 42.4 | 2.4   |
| Female   NCO   fit   Navy                        | 198              | 49         | 24.7 | 4.0   |
| Female   NCO   fit   Army                        | 263              | 80         | 30.4 | 3.3   |
| Female   NCO   fit   Air Force                   | 188              | 56         | 29.8 | 3.4   |
| Female   NCO   unfit   Navy                      | 101              | 26         | 25.7 | 3.9   |
| Female   NCO   unfit   Army                      | 139              | 48         | 34.5 | 2.9   |
| Female   NCO   unfit   Air Force                 | 92               | 30         | 32.6 | 3.1   |
| Female   Other Rank   fit   Navy                 | 411              | 25         | 6.1  | 16.4  |
| Female   Other Rank   fit   Army                 | 421              | 34         | 8.1  | 12.4  |
| Female   Other Rank   fit   Air Force            | 156              | 21         | 13.5 | 7.4   |
| Female   Other Rank   unfit   Navy               | 226              | 34         | 15.0 | 6.6   |
| Female   Other Rank   unfit   Army               | 270              | 40         | 14.8 | 6.8   |
| Female   Other Rank   unfit   Air Force          | 105              | 19         | 18.1 | 5.5   |
| Male   OFFR   fit   Navy                         | 583              | 173        | 29.7 | 3.4   |
| Male   OFFR   fit   Army                         | 1409             | 401        | 28.5 | 3.5   |
| Male   OFFR   fit   Air Force                    | 772              | 253        | 32.8 | 3.1   |
| Male   OFFR   unfit   Navy                       | 124              | 47         | 37.9 | 2.6   |
| Male   OFFR   unfit   Army                       | 350              | 114        | 32.6 | 3.1   |
| Male   OFFR   unfit   Air Force                  | 134              | 53         | 39.6 | 2.5   |
| Male   NCO   fit   Navy                          | 1285             | 225        | 17.5 | 5.7   |
| Male   NCO   fit   Army                          | 2735             | 752        | 27.5 | 3.6   |
| Male   NCO   fit   Air Force                     | 1148             | 291        | 25.3 | 3.9   |
| Male   NCO   unfit   Navy                        | 343              | 92         | 26.8 | 3.7   |
| Male   NCO   unfit   Army                        | 1055             | 337        | 31.9 | 3.1   |
| Male   NCO   unfit   Air Force                   | 319              | 111        | 34.8 | 2.9   |
| Male   Other Rank   fit   Navy                   | 1697             | 88         | 5.2  | 19.3  |
| Male   Other Rank   fit   Army                   | 5639             | 327        | 5.8  | 17.2  |
| Male   Other Rank   fit   Air Force              | 889              | 65         | 7.3  | 13.7  |
| Male   Other Rank   unfit   Navy                 | 518              | 51         | 9.8  | 10.2  |
| Male   Other Rank   unfit   Army                 | 2443             | 231        | 9.5  | 10.6  |



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## Glossary

**12-month prevalence.** Meeting diagnostic criteria for a lifetime ICD-10 mental disorder and then having reported symptoms in the 12 months preceding the interview.

**Affective disorders.** A class of mental health disorders. The Mental Health and Wellbeing Transition Study examined three types of affective disorder – depressive episodes, dysthymia and bipolar affective disorder. A key feature of these mental disorders is mood disturbance.

**Agoraphobia.** Marked fear or avoidance of situations such as crowds, public places, travelling alone or travelling away from home, which is accompanied by palpitations, sweating, shaking or dry mouth, as well as other anxiety symptoms such as chest pain, choking sensations, dizziness, and sometimes feelings of unreality, or a fear of dying, losing control or going mad.

**Alcohol dependence.** Characterised by an increased prioritisation of alcohol in a person's life. The defining feature of alcohol dependence is a strong, overwhelming desire to use alcohol despite experiencing a number of associated problems. A diagnosis was given if the person reported three or more of the following symptoms in the preceding 12 months:

- a strong and irresistible urge to consume alcohol
- a tolerance to the effects of alcohol
- an inability to stop or reduce alcohol consumption
- withdrawal symptoms upon cessation or reduction of alcohol intake
- continuing to drink despite it causing emotional or physical problems
- a reduction in important activities because of or in order to drink.

**Alcohol harmful use.** Diagnosis not only requires high levels of alcohol consumption but that the alcohol use is damaging to the person's physical or mental health. Each participant was initially asked if they consumed 12 or more standard alcoholic drinks in a 12-month period. If so, they were then asked a series of questions about their level of consumption. A diagnosis of 'alcohol harmful use' was applied if the alcohol interfered with either work or other responsibilities, caused arguments with family or friends, was consumed in a situation where the person could be hurt, resulted in being stopped or arrested by police, or if the participant continued to consume alcohol

despite experiencing social or interpersonal problems as a consequence of their drinking during the preceding 12 months. A person could not meet criteria for alcohol harmful use if they met the criteria for alcohol dependence.

**Alcohol Use Disorders Identification Test, or AUDIT.** Alcohol consumption and problem drinking were examined using AUDIT (Saunders et al., 1993), a brief self-report screening instrument developed by the World Health Organization. The instrument consists of 10 questions designed to reveal the quantity and frequency of alcohol consumption, possible symptoms of dependence, and reactions or problems related to alcohol. AUDIT is widely used in epidemiological and clinical practice for defining at-risk patterns of drinking.

**Anxiety disorders.** A class of mental health disorders. It involves the experience of intense and debilitating anxiety. The disorders covered in the survey were panic attacks, panic disorder, social phobia, specific phobia, agoraphobia, generalised anxiety disorder, posttraumatic stress disorder and obsessive–compulsive disorder.

**Australian Bureau of Statistics.** Australia’s national statistical agency, providing official statistics on a wide range of economic, social, population and environmental matters of importance to Australia. To enable comparison of estimates for Transitioned ADF members with an Australian community population, direct standardisation was applied to estimates in the 2014–15 ABS National Health Survey data. The NHS is the most recent in a series of Australia-wide ABS health surveys, assessing various aspects of the health of Australians, including long-term health conditions, health risk factors and health service use.

**Australian Defence Force.** The ADF, or Defence, is constituted under the *Defence Act 1903* (Cth). Its mission is to defend Australia and its national interests. In fulfilling this mission, Defence serves the government of the day and is accountable to the Commonwealth Parliament, which represents the Australian people, to efficiently and effectively carry out the government’s defence policy. The current Programme of research aims to examine the mental, physical and social health of serving and ex-serving ADF members and their families. It builds on previous research to support effective and evidence-based health service provision for contemporary service members and veterans.

**Australian Institute of Family Studies.** The Australian Government’s key research body in the area of family wellbeing. AIFS conducts original research to increase understanding of Australian families and the factors that affect them. The current research was conducted by a consortium of Australia’s leading research institutions led by the Centre for Traumatic Stress Studies at the University of Adelaide and AIFS.

**Australian Institute of Health and Welfare.** Australia's national agency for health and welfare statistics and information. It was used in this Programme to develop a Study Roll by integrating contact information from various sources and databases.

**Bipolar affective disorder.** A class of mental disorder associated with fluctuations of mood that are significantly disturbed. The fluctuations are markedly elevated on some occasions (hypomania or mania) and can be markedly lowered on other occasions (depressive episodes). A diagnosis of bipolar affective disorder was applied in this study if the individual had met criteria for mania or hypomania in the preceding 12 months

**Centre for Traumatic Stress Studies.** This centre, at the University of Adelaide, seeks to improve evidence-based practice by informing and applying scientific knowledge in the field of trauma, mental disorder and wellbeing in at-risk populations. The Programme was conducted by a consortium of Australia's leading research institutions, led by the CTSS and the Australian Institute of Family Studies.

**Chain of command.** A line of authority and responsibility along which orders are passed within a military unit and between different units.

**Class of mental disorder.** Mental disorders are grouped into classes of disorder that have features in common. Three classes of mental disorder were included in the survey – affective disorders, anxiety disorders and alcohol disorders.

**Comorbidity.** The occurrence of more than one disorder at the same time. Comorbidity was defined by grouping any alcohol disorders, any affective disorders, any anxiety disorders (excluding PTSD) and PTSD according to their co-occurrence. In addition to a breakdown of the individual patterns of co-occurrence, five categories were defined, representing those with no mental health disorder and those with one, two, three or four disorder categories.

**Composite International Diagnostic Interview, or CIDI.** The World Mental Health Survey Initiative version of the World Health Organization's Composite International Diagnostic Interview version 3 (WMH-CIDI 3.0) (Kessler & Ustun, 2004) provides an assessment of mental disorders based on the definitions and criteria of two classification systems – the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) and the World Health Organization International Classification of Diseases, 10th revision (ICD-10) (World Health Organization, 1994). This instrument was used in phase 2 of the current research Programme.

**Confidence interval.** This measurement gives an estimated range of values that is likely to include an unknown population parameter, the estimated range being calculated from a given set of sample data.

**Department of Veterans' Affairs.** The department delivers government programs for war veterans and members of the ADF and the Australian Federal Police and their dependants. In 2014 DVA, in collaboration with the Department of Defence, commissioned the Transition and Wellbeing Research Programme, one of the largest and most comprehensive military research projects undertaken in Australia.

**Deployment status.** The Mental Health and Wellbeing Transition Study defined deployment status, based on survey responses, as:

- *Never deployed.* Individuals who did not endorse any deployments listed in the self-report survey (Your Military Career: Deployments) and did not endorse any deployment exposures (Your Military Career: Deployment Exposure).
- *Deployed.* Individuals who endorsed one or more of the listed deployments (Your Military Career: Deployments) or endorsed one or more of the deployment exposures (Your Military Career: Deployment Exposure).

**Depressive episodes.** Characteristic of a major depressive disorder, a depressive episode requires that an individual has suffered from depressed mood lasting a minimum of two weeks, with associated symptoms or feelings of worthlessness, lack of appetite, difficulty with memory, reduction in energy, low self-esteem, concentration problems and suicidal thoughts. Depressive episodes can be mild, moderate or severe. All three are included under the same heading. Hierarchy rules were applied to depressive episodes, such that a person could not have met criteria for either a hypomanic or a manic episode.

**Diagnostic criteria.** The survey was designed to estimate the prevalence of common mental health disorders defined according to clinical diagnostic criteria, as directed by the International Classification of Diseases, 10th Revision (ICD-10). Diagnostic criteria for a disorder usually involve specification of:

- the nature, number and combination of symptoms
- the time during which the symptoms have been continuously reported
- the level of distress or impairment reported
- the circumstances for exclusion of a diagnosis, such as it being due to a general medical condition or the symptoms being associated with another mental disorder.

**Dimensions of Anger Reactions Scale.** A concise measure of anger consisting of five items that focus on anger frequency, intensity and duration, aggression and interference with social functioning. Items are scored on a five-point Likert scale, generating a severity score ranging from 5 to 25, with higher scores indicating worse

symptomatology. This scale has been used previously to assess Australian Vietnam veterans, as well as US Afghanistan and Iraq veterans, and shows strong unidimensionality and high levels of internal consistency and criterion validity.

**DVA client.** The term used when referring to DVA clients for the purpose of analysis. In the construction of the DVA dataset for the Study Roll, DVA created an indicator of confidence against each veteran with respect to the level of interaction DVA had with each of them for assessing how confident DVA was about the accuracy of their address. Members of each of the following groups were considered DVA clients:

- *High.* Where a veteran is in receipt of a fortnightly payment (such as income support or a compensation pension) from DVA it was a sign of regular ongoing contact with the client and therefore DVA would have a high level of confidence that their address would be up to date and correct.
- *Medium.* Where a veteran only holds a treatment card (that is, does not also receive an ongoing payment) there is a lower level of ongoing contact with the department and therefore the level of confidence that DVA can assign to the accuracy of the client's address is lower.
- *Low.* Not all veterans who have their illness/injury liability claim accepted as service related by DVA automatically receive a treatment card or pension payment, yet they would still be considered DVA clients. For the purposes of this report, any individual in the study population who met these criteria was flagged as a 'DVA client'. Those with this flag were compared against those without this flag.

**Dysthymia.** Characterised as a chronic or pervasive disturbance of mood lasting several years that is not sufficiently severe or in which the depressive episodes are not sufficiently prolonged to warrant a diagnosis of a recurrent depressive disorder. Hierarchy rules were applied to dysthymia such that, to have this disorder, a person could not have met criteria for either a hypomanic or a manic episode and could not have reported episodes of severe or moderate depression within the first two years of dysthymia.

**Ex-service organisations.** Organisations that provide assistance to current and former ADF members. Services can include welfare support, help with DVA claims, and employment programs and social support.

**Generalised anxiety disorder, or GAD.** A generalised and persistent worry, anxiety or apprehension about everyday events and activities lasting a minimum of six months that is accompanied by anxiety symptoms as described for 'agoraphobia'. Other symptoms can be symptoms of tension (such as an inability to relax and muscle

tension) and other non-specific symptoms (such as irritability and difficulty concentrating).

**Generalised Anxiety Disorder 7-item Scale, or GAD-7.** A brief seven-item screening measure based on the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* criteria for generalised anxiety disorder. Originally validated for use in primary care, the GAD-7 performs well in detecting probable cases of the disorder, with a sensitivity of 89% and a specificity of 82%.

**Gold Card.** A DVA health card for all conditions. Gold Card holders are entitled to DVA funding for services for all clinically necessary healthcare needs and all health conditions, whether or not they are related to war service. The card holder can be a veteran or the widow/widower or dependant of a veteran. Only the person named on the card is covered.

**Help-seeking latency.** The delay in time between first becoming concerned about a health problem and first seeking help for that problem. To assess help-seeking latency in the study, participants were asked to indicate when they first sought help for their own mental health. Options included ‘within three months of becoming concerned’ and ‘within one year of becoming concerned’. Alternatively, participants were able to specify the number of years since becoming concerned. This item was developed by researchers for use in the study.

**Hypomanic episodes.** Episodes that last at least four consecutive days and are considered abnormal to the individual. These episodes are characterised by increased activity, talkativeness, elevated mood, disrupted concentration, decreased need for sleep and disrupted judgment, manifesting as risk taking (for example, mild spending sprees). In a subgroup of people these disorders are particularly characterised by irritability. To meet the criteria for the ‘with hierarchy’ version, the person cannot have met criteria for an episode of mania.

**Kessler Psychological Distress Scale, or K10.** A short 10-item screening questionnaire that yields a global measure of psychological distress based on symptoms of anxiety and depression reported in the most recent four-week period. Items are scored from 1 to 5 and are summed to give a total score between 10 and 50. Various methods have been used to stratify the scores of the K10. The categories of low (10–15), moderate (16–21), high (22–29) and very high (30–50) that are used in this report derive from the cut-offs of the K10 that were used in the 2007 Australian Bureau of Statistics National Survey of Mental Health and Wellbeing (Slade et al., 2009).

**Lifetime prevalence.** A prevalence that meets diagnostic criteria for a mental disorder at any point in the respondent’s lifetime.

**Lifetime trauma.** Exposure questions used in this study were drawn from the posttraumatic stress disorder module of the CIDI (Haro et al., 2006). Participants were asked to indicate whether or not they had reported the following traumatic events: combat (military or organised non-military group); being a peacekeeper in a war zone or a place of ongoing terror; being an unarmed civilian in a place of war, revolution, military coup or invasion; living as a civilian in a place of ongoing terror for political, ethnic, religious or other reasons; being a refugee; being kidnapped or held captive; being exposed to a toxic chemical that could cause serious harm; being in a life-threatening automobile accident; being in any other life-threatening accident; being in a major natural disaster; being in a man-made disaster; having a life-threatening illness; being beaten by a spouse or romantic partner; being badly beaten by anyone else; being mugged, held up or threatened with a weapon; being raped; being sexually assaulted; being stalked; having someone close to you die; having a child with a life-threatening illness or injury; witnessing serious physical fights at home as a child; having someone close experience a traumatic event; witnessing someone badly injured or killed or unexpectedly seeing a dead body; accidentally injuring or killing someone; purposefully injuring, torturing or killing someone; seeing atrocities or carnage such as mutilated bodies or mass killings; experiencing any other traumatic event.

**Mania.** Similar to hypomania but more severe in nature. Lasting slightly longer (a minimum of a week), these episodes often lead to severe interference with personal functioning. In addition to the symptoms outlined for ‘hypomania’, mania is often associated with feelings of grandiosity, marked sexual indiscretion and racing thoughts.

**Medical Employment Classification, or MEC.** An administrative process designed to monitor physical fitness and medical standards in the ADF. MEC was divided into four levels (either current or on discharge from Regular ADF service):

- *MEC 1.* Members who are medically fit for employment in a deployed or seagoing environment without restriction.
- *MEC 2.* Members with medical conditions that require access to various levels of medical support or employment restrictions but who remain medically fit for duty in their occupation in a deployed or seagoing environment. In allocating the subclassifications of MEC 2, access to the level of medical support will always take precedence over specified employment restrictions.
- *MEC 3.* Members who are medically unfit for duty in their occupation in a deployed or seagoing environment. The member so classified should be medically managed towards recovery and should be receiving active medical management with the intention of regaining MEC 1 or 2 within 12 months of allocation of MEC 3. After a maximum of 12 months their MEC is to be reviewed. If still medically unfit for military duties in any operational environment, they are to be

downgraded to MEC 4 or, if appropriate, referred to a MEC Review Board for consideration of an extension to remain MEC 3.

- **MEC 4.** Members who are medically unfit for deployment or seagoing service in the long term. Members who are classified as MEC 4 for their military occupation will be subject to review and confirmation of their classification by a MEC Review Board.

**Medical fitness.** A status defined as follows:

- *Fit.* Those who are categorised as fully employable and deployable or deployable with restrictions. Participants are classified as fit if they fall into MEC 1 or 2, as just described, or are assigned a perturbed MEC value of fit.
- *Unfit.* Those not fit for deployment, their original occupation and/or further service. This can include those undergoing rehabilitation or transitioning to alternative return-to-work arrangements or in the process of medically separating from the ADF. Participants were classified as unfit if they fell into MEC 3 or 4, as just described, or were assigned a perturbed MEC value of unfit.

**Medical discharge.** The involuntary termination of a client's employment by the ADF on the grounds of permanent or at least long-term unfitness to serve or unfitness for deployment to operational (warlike) service.

**Mental health disorders.** Defined according to the detailed diagnostic criteria in the World Health Organization International Classification of Diseases. This publication reports data for ICD-10 criteria.

**Mental Health Prevalence and Wellbeing Study.** The 2010 MHPWS is part of the Military Health Outcomes Program, the first comprehensive investigation of the mental health of serving ADF members.

**Middle East Area of Operations.** Australia's military involvement in Afghanistan and Iraq is often referred to as the Middle East Area of Operations, or MEAO. Thousands of members have deployed to the MEAO since 2001, with many completing multiple tours of duty. The Transition and Wellbeing Research Programme will build on the Military Health Outcomes Program, which detailed the prevalence of mental disorder in service women and men.

**Military Health Outcomes Program.** MilHOP detailed the prevalence of mental disorders among serving ADF members in 2010, as well as deployment-related health issues for those deployed to the Middle East Area of Operations. The Transition and Wellbeing Research Programme aims to redress a number of gaps identified following MilHOP, including the mental health of Reservists, Ex-Serving members and ADF

members in high-risk roles, along with the trajectory of disorder and pathways to care for individuals identified with a mental disorder in 2010.

**National Death Index.** A Commonwealth database that contains records of deaths registered in Australia since 1980. Data come from the Registry of Births, Deaths and Marriages in each jurisdiction, the National Coronial Information System and the Australian Bureau of Statistics. Before contacting participants, the Study Roll was cross-checked against the NDI to ensure that no approaches to deceased members were made.

**National Health and Medical Research Council.** Australia's peak funding body for medical research. The NHMRC has funded previous investigations carried out by the Centre for Traumatic Stress Studies.

**National Health Survey.** The 2014–15 National Health Survey is the most recent in a series of Australia-wide ABS health surveys, assessing various aspects of the health of Australians, including long-term health conditions, health risk factors and health service use.

**Obsessive–compulsive disorder.** A disorder characterised by obsessional thoughts (ideas, images, impulses) or compulsive acts (ritualised behaviour). These thoughts and acts are often distressing and typically cannot be avoided, despite the sufferer being aware of their ineffectiveness.

**Optimal epidemiological cut-off.** The value that brings the number of false positives (mistaken identifications of a disorder) and false negatives (missed identifications of a disorder) closest together, thereby counterbalancing these sources of error most accurately. This cut-off gives the closest estimate to the true prevalence of a 30-day ICD-10 disorder, as measured by the CIDI, and should be used to monitor disorder trends.

**Optimal screening cut-off.** The value that maximises the sum of sensitivity and specificity (the proportion of those with and without a disease who are correctly classified). This cut-off can be used to identify individuals who might need further care.

**Panic attack.** Sudden onset of extreme fear or anxiety, often accompanied by palpitations, chest pain, choking sensations, dizziness, and sometimes feelings of unreality or fear of dying, losing control or going mad.

**Panic disorder.** Recurrent panic attacks that are unpredictable in nature.

**Patient Health Questionnaire-9.** Self-reported depression was examined using the Patient Health Questionnaire – 9, or PHQ9. The nine items of the PHQ9 are scored from zero to three and summed to give a total score between zero and 27. The PHQ9

gives various levels of diagnostic severity, with higher scores indicating higher levels of depression symptoms.

**Pharmaceutical Benefits Scheme.** The PBS began as a limited scheme in 1948, offering free medicines for pensioners and a list of 139 'life-saving and disease-preventing' medicines free to other members of the community. Today the PBS provides timely, reliable and affordable access to necessary medicines for many Australians. The PBS is part of the Australian Government's broader National Medicines Policy. Health care utilisation, cost and Pharmaceutical Benefit Scheme/Repatriation Pharmaceutical Benefits Scheme data were obtained for consenting Serving and Ex-Serving ADF members as part of the current program of research.

**Posttraumatic stress disorder.** A stress reaction to an exceptionally threatening or traumatic event that would cause pervasive distress in almost anyone. Symptoms of PTSD are categorised into three groups – re-experiencing memories or flashbacks, avoidance symptoms, and either hyperarousal symptoms (increased arousal and sensitivity to cues) or inability to recall important parts of the experience.

**The Posttraumatic Stress Disorder Checklist – civilian version.** A 17-item self-report measure designed to assess the symptomatic criteria of PTSD according to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV). The 17 questions of the PCL-C are scored from 1 to 5 and are summed to give a total symptom severity score of between 17 and 85. An additional four items from the newly released PCL-5 were also included, giving researchers flexibility to also measure PTSD symptoms according to the most recent definitional criteria.

**Personnel Management Key System.** An integrated human resource management system that provides for the ADF a single source of personnel management information. PMKeyS manages information about the entire Defence workforce – Navy, Army and Air Force.

**Prevalence of mental disorders.** The proportion of people in a given population who meet diagnostic criteria for any mental disorder in a given time frame. (*See also* '12-month prevalence' and 'lifetime prevalence'.)

**Probable mental disorder.** Where probable rates of mental health disorder are presented these are based on self-report epidemiological cut-offs.

**Psychopathology.** The scientific study of mental disorders.

**Rank status.** Three levels of rank were used in the Mental Health and Wellbeing Transition Study:

- *Commissioned Officer (OFFR)*. Senior Commissioned Officers (Commander, Lieutenant Colonel, Wing Commander and above) and Commissioned Officers (Lieutenant Commander, Major, Squadron Leader and more junior ranks).
- *Non-Commissioned Officer (NCO)*. Senior Non-Commissioned Officers (Petty Officer, Sergeant and more senior ranks), and Junior Non-Commissioned Officers (Leading Seaman, Corporal and more junior ranks).
- *Other Ranks*. Able Seaman, Seaman, Private, Leading Aircraftman, Aircraftman or equivalent.

**Reason for discharge.** The reason for transitioning out of the ADF. In the Programme, the reason for discharge was derived from responses to the self-report survey and classified accordingly:

- *Medical discharge*. Involuntary termination of the client's employment by the ADF on the grounds of permanent or at least long-term unfitness to serve or unfitness for deployment to operational (war-like) service.
- *Other*. All other types of discharge, including compulsory age retirement, resignation at own request, assessed as unsuitable for further training, end of fixed-period engagement, end of initial enlistment period or return of service obligation, end of limited-tenure appointment, not offered re-engagement, accepted voluntary redundancy, compassionate grounds, and non-voluntary administrative discharge.

**Repatriation Pharmaceutical Benefits Scheme.** The benefits listed in the RPBS can be prescribed only for Department of Veterans' Affairs beneficiaries who hold a Gold, White or Orange Card. Healthcare use, cost and Pharmaceutical Benefit Scheme data/Repatriation Pharmaceutical Benefits Scheme data were obtained for consenting Serving and Ex-Serving ADF members as part of the current program of research.

**Service status.** The ADF consists of three forces:

- *Royal Australian Navy*. A maritime force that contributes to regional security, supports global interests, shapes the strategic environment and protects national interests.
- *Australian Army*. The military land force, a potent, versatile and modern army that contributes to the security of Australia, protecting its interests and people.
- *Royal Australian Air Force*. An air force that provides immediate and responsive military options across the spectrum of operations as part of a whole-of-government joint or coalition response, either from Australia or in deployment

overseas. It does this through its key air power roles – control of the air; precision strikes; intelligence, surveillance and responses; and air mobility – enabled by combat and operational support.

**Social phobia.** Marked fear or avoidance of being the centre of attention in situations where it is possible to behave in a humiliating or embarrassing way, accompanied by anxiety symptoms, as well as either blushing, fear of vomiting, or fear of defecation or micturition.

**Specific phobia.** Marked fear or avoidance of a specific object or situation – such as animals, birds, insects, heights, thunder, flying, small enclosed spaces, sight of blood or injury, injections, dentists or hospitals – accompanied by anxiety symptoms as described in ‘agoraphobia’.

**Stratification.** Grouping outcomes by variables of interest. In Report 1, 12-month diagnosable mental disorder and self-reported suicidality were stratified by age, sex, rank, Service, years of service in the Regular ADF, deployment status, transition status, years since transition, reason for transition and DVA client status.

**Study Roll.** Participants’ contact details and other demographic information were obtained via the creation of a Study Roll by the Australian Institute of Health and Welfare. This process involved integrating contact information from the following sources:

- the Defence Personnel Management Key Solution database
- DVA client databases
- the National Death Index
- the ComSuper member database
- the Military Health Outcomes Program dataset.

**Suicidal ideation.** Serious thoughts about taking one’s own life.

**Suicidality.** Suicidal ideation, suicide plans and attempts.

**Subsyndromal disorder.** Characterised by or exhibiting symptoms that are not severe enough for diagnosis as a clinically recognised syndrome.

**Transitioned ADF members.** ADF members who have left military service. For the purpose of the current study, this included all ADF members who transitioned from the Regular ADF between 2010 and 2014, including those who transitioned into the Active Reserve and Inactive Reserve.

**Transitioned status.** Transitioned ADF members were categorised into one of three groups, which broadly represented their level of continued association and contact with Defence and their potential access to support services provided by Defence:

- *Ex-Serving.* A person who was a Regular ADF member before 2010, has since transitioned out of the ADF and is no longer engaged with Defence in a Reservist role. The individual is classified as discharged from Defence.
- *Inactive Reservist.* A person who was a Regular ADF member before 2010 but has since transitioned into an Inactive Reservist role.
- *Active Reservist.* A person who was a Regular ADF member before 2010 but has since transitioned to an Active Reservist role.

**Two-phase design.** A well-accepted epidemiological approach to investigating the prevalence of mental disorders. In the first phase, participants completed a screening questionnaire, which was generally economical in terms of time and resources. Based on the results of this screening and the demographic information provided, certain participants were selected for a more accurate but costly formal diagnostic interview.

**Veterans' Health Cards.** On behalf of the Australian Government, DVA uses health cards as a convenient method for veterans, war widows and their eligible dependants to gain access to health and other care services. Arrangements are based on providing access to clinically appropriate treatment that is evidence-based. There are Gold, White and Orange Health Cards.

**Weighting.** Allowing for the inference of results for the entire population. Weighting involved allocating a representative value, or 'weight', to the data for each respondent, based on key variables. The weight indicated how many individuals in the entire population were represented by each respondent. Weighting was applied in two circumstances:

- to correct for differential non-response
- to adjust for any systematic biases in the respondents – for example, oversampling of high scorers for the CIDI.

**White Card.** A DVA Health Card for specific conditions. A White Card entitles the holder to care and treatment for the following:

- injuries or conditions that are accepted as being caused by war or as service related

- malignant cancer, pulmonary tuberculosis, posttraumatic stress disorder, anxiety and/or depression, whether or not it was caused by war
- symptoms of unidentifiable conditions that arise within 15 years of service (other than peacetime service). Services covered by a White Card are the same as those covered by a Gold Card but must be for treatment of conditions that are accepted as being caused by war or as service related.

**World Mental Health Survey Initiative Version of the World Health Organization Composite International Diagnostic Interview – version 3 (CIDI).** The CIDI (Kessler & Ustun, 2004) provides an assessment of mental disorders based on the definitions and criteria of two classification systems – the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) and the International Statistical Classification of Diseases and Related Health Problems – 10th Revision (ICD-10) (World Health Organization, 1994). This instrument was used in phase 2 of the Programme.

**Years since transition.** To ascertain the number of years since transition from Regular Service, participants were asked to indicate what year they transitioned to Active Reserves or Inactive Reserves or were discharged out of the Service (Ex-Serving). Options included zero, one, two, three, four or five years.

**Years of Regular Service.** The following categories were used in the Mental Health and Wellbeing Transition Study to define the number of years of Regular Service – 3 months – 3.9 years, 4–7.9 years, 8–11.9 years, 12–15.9 years, 16–19.9 years and 20+ years.

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