

**TRANSITION AND WELLBEING RESEARCH PROGRAMME**

**MENTAL HEALTH AND WELLBEING TRANSITION STUDY**

# Mental Health Prevalence



**2018**

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## Key findings

This *Mental Health Prevalence Report* is the first 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 Transitioned and 2015 Regular Australian Defence Force (ADF) members and their families (the study populations).

This report investigates the prevalence of 12-month and lifetime mental disorders, trauma exposure, suicidal ideation and self-reported mental health symptoms among Transitioned ADF members. Comparisons are also made between the self-reported mental health symptoms in Transitioned ADF with 2015 Regular ADF members and where possible, with the Australian Community.

The second report in the Programme, *Pathways to Care*, tells the next phase in the ADF mental health story by investigating how Transitioned ADF and 2015 Regular ADF members access, use and value mental health care services.

The study populations for both reports are:

- 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
- 2015 Regular ADF and Transitioned ADF members who participated in the 2010 Military Health Outcomes Program or MilHOP.

Furthermore, a comparison of the self-reported psychological distress and alcohol consumption of the Transitioned ADF in 2015 with the contemporaneous data collected by the Australian Bureau of Statistics in 2014 -2015 as part of the National Health Survey was performed. In relation to these two mental health outcomes, psychological distress and alcohol consumption, this comparison situates the Transitioned ADF in the context of the civilian population using the most contemporary (and temporally equivalent) Australian data available.

Results from the *Mental Health Prevalence Report* show ADF members transitioning from full-time military service represent a group at particular risk for mental disorder who would benefit from proactive strategies that aim to lessen the burden of mental

illness and assist the transition process. An estimated 46% of ADF members who had transitioned from full-time service within the past five years met 12-month diagnostic criteria for a mental disorder using a structured diagnostic interview. This level of 12-month disorder combined with the significantly greater severity of current self-reported symptoms of psychological distress, depression anxiety, anger, suicidality and alcohol use, particularly at subthreshold levels in the Transitioned ADF compared to the 2015 Regular ADF, places this population at significant risk of impairment and disability, highlighting the challenges of transitioning out of full-time military service. Despite these levels of disorder, the levels of engagement in employment and socially connected roles among the Transitioned ADF is encouraging. For example, when the spectrum of roles, including studying were taken into account, approximately 84% of the Transitioned ADF were either working or engaged in some purposeful activity, suggesting a degree of social engagement.

We suggest reading these reports chronologically to obtain a full understanding of the status of Transitioned and Regular ADF mental health. While reading the findings below, it is important to remember that references to the ‘... last 12 months ...’ is referring to the 12 months prior to the date of participation in the study with all data collection undertaken between 1 June and 31 December 2015.

### **Definitions of key terms used in this report**

**Transitioned ADF members** – Population of ADF members who transitioned from full-time ADF service between 2010 and 2014, including those who transitioned into the Active and Inactive Reserves and those who had discharged completely (Ex-Serving).

**2015 Regular ADF** – ADF members who were serving full-time in the ADF in 2015

**Lifetime prevalence** – A prevalence that meets diagnostic criteria for a mental disorder at any point in the respondent’s lifetime.

**12-month prevalence** – Meeting the diagnostic criteria for a lifetime ICD-10 mental disorder and having reported symptoms in the 12 months before the interview.

Refer to the Glossary of terms for definitions of other key terms in this section.

### **Demographics**

- More than half of Transitioned ADF members remained in the ADF as Reservists (55.8%). Of these, 25.7% were Active Reservists.
- Approximately, 84% of the Transitioned ADF were either working or engaged in some purposeful activity with 62.8% 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 DVA Gold Card (4.2%).
- Just over one-fifth of the 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 the Transitioned ADF and the 2015 Regular ADF, with more than 93% estimated to have been in stable housing in the previous two months.
- Just over 40% of the Transitioned ADF and 36% of the 2015 Regular ADF reported having a diploma or university qualification.
- Twice as many members of the Transitioned ADF were classified as medically unfit compared to the 2015 Regular ADF.

### **Estimated prevalence of lifetime mental disorder in Transitioned ADF**

- Almost three in four Transitioned ADF members are estimated to have met criteria for a mental disorder at some stage in their lifetime that is either, prior to, during or after their military career.
- Anxiety and (46.1%) Alcohol disorders (47.5%) were the most common classes of lifetime disorder.
- One quarter of Transitioned ADF members were estimated to have met criteria for posttraumatic stress disorder (PTSD) in their lifetime (24.9%).

### **Estimated prevalence of 12-month mental disorder in Transitioned ADF**

- Just over half of the Transitioned ADF had not experienced a mental disorder in the previous 12 months.

- 46.4% of Transitioned ADF members are estimated to have experienced a mental disorder in the previous 12 months.

#### **Anxiety disorders**

- Anxiety disorders were the most common type of 12-month mental disorder among the Transitioned ADF with over one in three (37.0%) experiencing an anxiety disorder in the last 12 months.
- PTSD (17.7%), panic attacks (17.0%), agoraphobia (11.9%) and social phobia (11.0%) were the most common types of anxiety disorders in the Transitioned ADF.

#### **Affective disorders**

- One in five (23.1%) Transitioned ADF are estimated to have experienced an affective disorder in the last 12 months.
- The most common affective disorder type in Transitioned ADF was depressive episodes (11.2%).

#### **Alcohol disorders**

- 12.9% of the Transitioned ADF met criteria for an alcohol disorder in the last 12 months.

#### **Occurrence of more than one disorder at the same time (comorbidity) in Transitioned ADF**

- Of the Transitioned ADF with a 12-month mental disorder more than half (55.2%) had at least one comorbid or co-existing mental disorder.

#### **Estimated prevalence of suicidality (ideation, planning, attempting) in Transitioned ADF**

- Just over 20 per cent of Transitioned ADF experienced suicidal ideation, plans or attempts in the last 12 months.
- 28.9% of Transitioned ADF had felt that their life was not worth living.
- 21.2% had felt so low that they thought about taking their own life.
- 7.9% of Transitioned ADF had made a suicide plan.
- 2.0% of Transitioned ADF reported having attempted suicide.

## **Transition factors associated with 12-month mental disorder and suicidality in Transitioned ADF**

### **Transition status**

- Transitioned ADF, who were Ex-Serving, had significantly greater rates of anxiety disorders, affective disorders, alcohol disorders and suicidality compared to both Inactive and Active Reservists indicating poorer mental health outcomes for those who are most disengaged with Defence.

### **Years since transition**

- The estimated rates of 12-month mental disorder were lowest in Transitioned ADF who had transitioned less than one year ago, increasing at one year or more post-transition. This may inform the timing of possible mental health surveillance activities.

### **Reason for discharge**

- Transitioned ADF who had been medically discharged had significantly higher rates of affective, anxiety and alcohol disorders and suicidality than those who discharged for other reasons.

### **DVA Status**

- Affective, anxiety and alcohol disorders and suicidality were more commonly observed in those Transitioned ADF who were in contact with or receiving services from DVA. This is expected given DVA is the primary conduit to care and assistance for ex-serving members.

## **Self-reported mental health in Transitioned ADF compared to the 2015 Regular ADF**

- Compared to 2015 Regular ADF, the Transitioned ADF reported significantly higher current mental health symptoms across all domains measured.

### **Psychological distress**

- Compared to 2015 Regular ADF, nearly twice as many Transitioned ADF had high to very high psychological distress (33.1% vs 18.7%).

### **Posttraumatic stress symptoms**

- Compared to 2015 Regular ADF, nearly three times as many Transitioned ADF had high to very high posttraumatic stress symptoms (24.3% vs 8.7%).

### **Alcohol use**

- Compared to 2015 Regular ADF, nearly four times as many Transitioned ADF reported alcohol use at levels which suggest the need for further assessment.
- Compared to the 2015 Regular ADF, the Transitioned ADF were significantly more likely to report higher alcohol consumption and problems with drinking.

### **Depressive symptoms**

- Compared to 2015 Regular ADF, nearly three times as many Transitioned ADF had moderately severe to severe depressive symptoms (19.5% vs 7.4%).

### **Anxiety symptoms**

- Compared to 2015 Regular ADF, more than twice as many Transitioned ADF had moderate to severe general anxiety disorder symptoms (22.3% vs 9.6%).

### **Suicidality**

- The Transitioned ADF had significantly higher rates of suicidal ideation, plans and attempts compared to 2015 Regular ADF.

### **Anger**

- Transitioned ADF members experienced significantly greater levels of anger than the 2015 Regular ADF.

### **Self-reported trauma exposure**

- An estimated 85% or more of the entire Transitioned ADF and 2015 Regular ADF have experienced a potentially adverse deployment exposure.
- Exposure to toxins were the most common deployment exposure type with over 50% of Transitioned ADF and 2015 Regular ADF reporting potentially toxic/environmental exposures (smoke, fumes, chemicals, and local food and water).



## **Self-reported mental health in the Transitioned ADF compared to the Australian Community**

### **Psychological distress**

- Levels of psychological distress in the Transitioned ADF were significantly higher than the Australian Community, with almost three times more Transitioned ADF reporting high to very high psychological distress (33.1%) compared to the Australian Community (12.8%).
- Patterns of psychological distress were similar in the Australian community and the Transitioned ADF for males and females and consistent across all age bands.

### **Alcohol use**

- Overall, the Australian Community drank more standard drinks on a single occasion in the last 12 months than the Transitioned ADF.
- Frequency of alcohol consumption in the last 12 months was similar for the Transitioned ADF compared to the Australian Community, but results varied by age and sex.
- A significantly higher proportion of Transitioned ADF females reported drinking daily, weekly and monthly compared to Australian Community females.
- There were no differences between the Transitioned ADF and the Australian Community in the frequency of alcohol consumed in the last 12 months in the 18-27-year age group.



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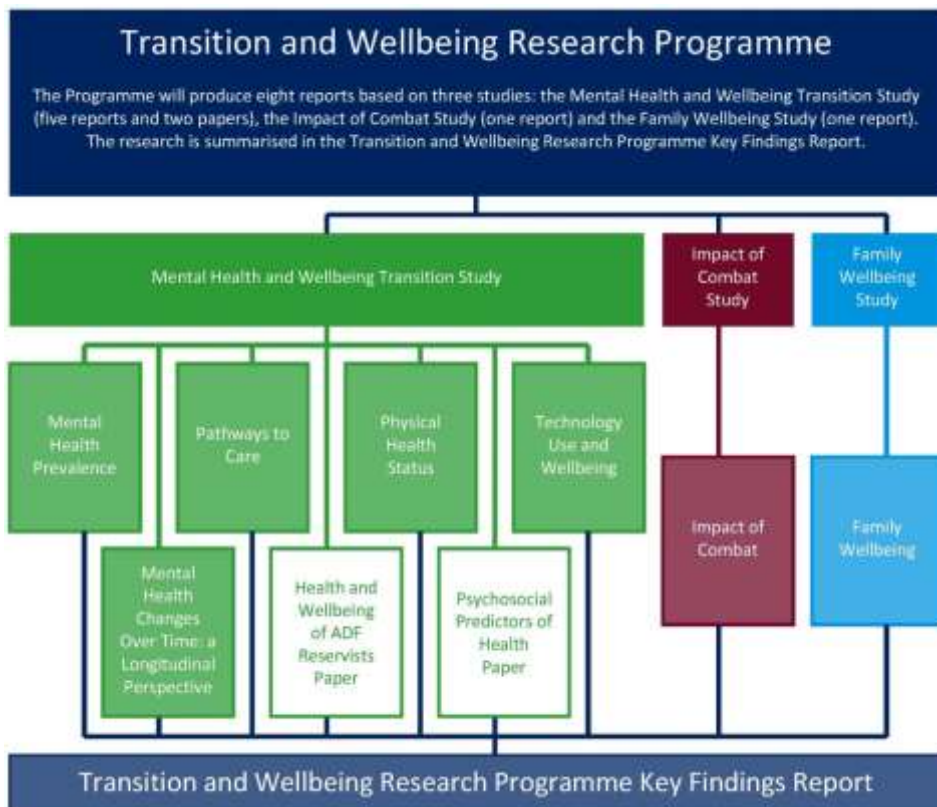
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### **Other key organisations**

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## Transition and Wellbeing Research Programme— an overview



The Transition and Wellbeing Research Programme (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 (ADF) 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 (MilHOP).

This current research, conducted in 2015, arises from the collaborative partnership between the Department of Veterans’ Affairs (DVA) and Department of Defence (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 report, the *Mental Health Prevalence Report*, addresses the first two objectives, which are to:

1. Determine the prevalence of mental disorders amongst ADF members who have transitioned from Regular ADF service between 2010 and 2014.
2. Examine the self-reported mental health status of Transitioned ADF and the 2015 Regular ADF.

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. 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 Report</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, are leading 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 being continued through Innowell.

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.

DVA and Defence thank the 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.



---

# 1 Introduction

- Approximately 5000 or 9% of serving men and women transition out of the Regular Australian Defence Force (ADF) each year. This represents a significant number of Transitioned ADF members who are in the critical early stages of adjusting to civilian life and reintegrating into their community.
- While international literature estimates that 60–75% of transitioned military members report an easy adjustment to civilian life, others, especially those who developed mental health symptoms or disorders before being discharged, may struggle.
- The transition period from military to civilian life is quickly becoming recognised as one of the most significant and stressful periods in the life of military members worldwide. This is due to potential changes in identity, community, residence, social networks, status, family role, occupation, finances, routines, responsibilities, supports and culture.
- Changes brought about by transition can result in the development of psychosocial adjustment issues, ranging from employment difficulties and family and/or relationship conflict to mental health problems, substance abuse problems and criminal offending.
- Currently, there is very little systematic research about the mental health and wellbeing of representative cohorts of transitioned military members, with most studies focusing on cohorts from specific deployments or those seeking treatment or compensation from the Department of Veterans' Affairs (DVA) or the international equivalent.
- In Australia, only one in 10 ADF members who recently transitioned out of the ADF chose to (or was able to) access veteran healthcare services; therefore, administrative data alone cannot provide an accurate snapshot of the health of the population.
- Consequently, a population- or cohort-based approach is paramount to establishing accurate prevalence estimates of mental disorders in Transitioned ADF members in Australia.
- The Transition and Wellbeing Research Programme – especially the Mental Health and Wellbeing Transition Study – is the first attempt in Australia to establish the prevalence of mental disorders in a representative cohort of ADF members who recently (between 2010 and 2014) transitioned out of the Regular ADF.
- In addition to examining the differences between the mental health of Transitioned ADF and the 2015 Regular ADF, this report will also identify the key demographic, Service and transition factors that are important influences on mental health in the Transitioned ADF.

**Glossary:** refer to the 'Glossary of terms' for definitions of key terms in this section.

## **1.1 Mental Health and Wellbeing Transition Study**

This report presents the findings from Study 1 of the Programme: The Mental Health and Wellbeing Transition Study. The main objective of this study is to determine the prevalence of mental disorders among Transitioned ADF members in the first five years after they transitioned from regular service. The study focuses on those who transitioned between 2010 and 2014, exploring the factors that contribute to the mental health and wellbeing of this cohort.

The report uses self-reported mental health measures to compare levels of mental health symptomatology in ADF members who have transitioned from the Regular ADF (Transitioned ADF) to representative cohorts of the Regular ADF in 2015 (2015 Regular ADF) and in 2010 (2010 Regular ADF). It also compares these cohorts to the Australian Community, using data from the Australian Bureau of Statistics (ABS) (ABS, 2010).

## **1.2 Background to this report**

There is a substantial body of Australian and international research into the impact of service on military members across the military career cycle, particularly in relation to specific deployments (Crum-Cianflone et al., 2016; Fear et al., 2010; Thomas et al., 2010). Much of this research has included discharged or ex-serving members and has consistently highlighted the higher rates of disorder in this subpopulation compared to those who remain in service (Hatch et al., 2013; Jones et al., 2013; Pinder et al., 2012b; Villatte et al., 2015). This has resulted in an emerging and growing interest in the mental, physical and social health and wellbeing of former serving military members – not just those who have previously deployed – and the associated risks and protective factors for disorders and other poor outcomes in this population (Shields et al., 2016).

The following literature review outlines ADF and international research on the mental health of former serving military members as well as gaps, inconsistencies and definitional issues that challenge the scientific knowledge in this field.

### **1.2.1 Mental health in the Australian Defence Force**

In Australia, military service is held in high esteem. It is recognised that it is very demanding on those who serve, and can involve exposure to extreme physical, psychological and mental stressors (Dobson et al., 2012; Forces in Mind Trust, 2013). Currently, approximately 5000 serving men and women (9%) transition out of the Regular ADF each year (Australian Government Department of Defence, 2016). For example, between 2010 and 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 transitioning to civilian life and reintegrating into the community. Importantly, these individuals are in a range of age groups, with those transitioning into retirement representing only a



small proportion. Instead, with an average length of military service of 10 years, most service leavers transition with the aim of entering civilian occupations. Surprisingly, there is very little systematic research into the mental health and wellbeing of transitioning ADF members after they leave the ADF. This is despite widespread concern in the ex-serving and broader community, and acknowledgment that the transition and reintegration into civilian life is also a significant stressor (Forces in Mind Trust, 2013; Pease et al., 2016).

Defence provides resilience, education, and early intervention and treatment programs to support the mental health of ADF members. This support is provided through a stepped model of care. This model focuses on building awareness of maintaining good mental health, upskilling members to identify and manage their own or peers' mental health concerns, and providing evidence-based treatment and rehabilitation (Commonwealth of Australia, 2017).

As set out in the *Veteran Mental Health Strategy: A Ten Year Framework – 2013-2023*, DVA provides programs to maintain and enhance the health and wellbeing of ex-serving members and their dependants. To achieve this, DVA has a system of healthcare and social support services that promote prevention, early intervention and treatment. This includes access to the Veterans and Veterans Families Counselling Service (VVCS), a community-based mental health service available to both serving and ex-serving members and their families. Importantly, many of these mental health supports can be accessed without a DVA determination on a compensation claim (Department of Veterans Affairs, 2016).

Eligible veterans with an accepted disability are given either a DVA White Card – for treatment of disabilities that are accepted as service-related – or a DVA Gold Card – entitling the holder to access services for all clinically necessary healthcare needs, and all health conditions, whether or not they are related to war service (Department of Veterans Affairs, 2017). Transitioned members who do not apply or are not eligible receive health care through either private health insurance or Medicare. The *Pathways to Care Report* provides more detail about services provided by each department.

### **1.2.2 Mental health in the current Australian Defence Force**

A comprehensive examination of the mental health and wellbeing of a current serving ADF population was conducted through the Military Health Outcomes Programme (MiiHOP). This program, conducted in 2010–2012, provided prevalence estimates of 12-month and lifetime diagnosable mental disorders in the Regular ADF in 2010 (2010 ADF Mental Health Prevalence and Wellbeing Study (2010 MHPWS)) and an understanding of deployment-related health issues following deployment to the Middle East Area of Operations (MEAO) (MEAO Census and MEAO Prospective Health Study).

The 2010 MHPWS found that 22% of the 2010 Regular ADF met criteria for a mental disorder under the International Statistical Classification of Diseases and Related Health Problems – 10th Revision (ICD-10) in the previous 12 months (McFarlane et al., 2011). This rate was consistent with rates found in a matched Australian Community sample, but comprised a different profile of mental disorder, consistent with risks associated with military service. Rates of affective disorders were higher in the ADF (9.5%) than in the Australian Community (5.9%), and rates of alcohol disorder were lower (5.2% in the ADF and 8.3% in the Australian Community).

In relation to age, rates of depression and anxiety in the ADF, particularly in members aged 18–37, were significantly greater than in the Australian Community (McFarlane & Bryant, 2013; McFarlane et al., 2011), with 10.8% of ADF males in 2010 aged 18–27 having an affective disorder compared to 5.8% of the Australian Community. The rate further increased in the 28–37 age group, where 28.3% of ADF males had an affective disorder compared to 6.4% of the Australian Community. These differences in rates fell in the 38–47 age group, where 7.1% of ADF males had an affective disorder in contrast to 5.1% in the Australian Community (McFarlane et al., 2011). A similar pattern emerged for anxiety disorders. In the 18–27 age group, there was virtually no difference between the 2010 Regular ADF and the Australian Community. However, in the 28–37 age group, 19.8% of ADF members had an anxiety disorder compared to 11.3% of the Australian Community. In the 38–47 age group, rates of anxiety slightly increased to 12.5% in the Australian Community compared to 12.9% in the ADF – significantly lower than in the 28–37 age group (McFarlane et al., 2011).

The 2010 MHPWS also found higher rates of lifetime trauma in the ADF compared to the Australian Community, with 2010 Regular ADF members more likely to have experienced life-threatening motor vehicle or other accidents, and to have been exposed to natural and man-made disasters (Van Hooff et al., 2012). They were also more likely to have seen someone being badly injured or killed, and to have been mugged or subjected to violence. This illuminated the significant risks to future morbidity in the ADF arising not only from deployment-related traumatic stress, but also from traumatic stresses experienced when not on deployment and in their personal lives (Dedert et al., 2009; Searle et al., 2013).

Taken together, these results suggest the need to further examine the mental and physical health of Transitioned ADF members more closely. First, the presence of only a slight difference in rates of mental disorders between the ADF and the Australian Community in the 38–47 age group suggests that those who remain in the ADF are likely to be more resilient and to have completed earlier military service without developing significant symptoms. Moreover, these declining rates of mental disorder in the ADF suggest that those who developed mental disorders early in their career are likely to have left the ADF, meaning the morbidity related to their military service was

no longer visible in a cross-sectional population study. This result cannot simply be explained by the general propensity of rates of depression to drop with age, as the decline over time is significantly greater in the ADF than in the Australian Community (Slade et al., 2009). While DVA has visibility over current and former ADF members who are DVA clients, little is known about those who do not engage with DVA.

In addition, the increased rates of trauma exposure in the ADF indicate a general burden of trauma exposure in this population, which conveys long-term risk of mental disorder (Del Gaizo et al., 2011; Karam et al., 2014). When the 2010 MHPWS was conducted, it is probable that this risk had not fully manifested; however, with the passage of time, and through the effects of sensitisation (progressive amplification of responses brought about by repeated exposure to a stimulus), an increase in the emergence of symptoms and disorders is likely in this population.

### **1.2.3 Mental health in the Transitioned ADF**

Currently, the prevalence of diagnosed mental disorder in a representative cohort of Transitioned ADF members is unknown. However, research provides insight into the long-term impacts of military service in Australian deployed cohorts, with strong evidence of increasing rates of mental disorder over time.

For example, the MEAO Census and MEAO Prospective Health Study examined the health status of more than 14,000 Regular ADF and ex-serving ADF members deployed to the MEAO between 2001 and 2009. However, data collection was limited to deployed ADF members. Results of this study identified poorer mental and general health among ADF members who had been discharged or transitioned into the Reserves compared to those who remained in service. Ex-serving ADF members (OR 6.9, 95% CI, 5.6, 8.6), Active Reservists (OR 2.5, 95% CI, 2.1, 2.9) and Inactive Reservists (OR 2.4, 95% CI, 2.0, 2.9) were significantly more likely to report more symptoms of posttraumatic stress disorder (PTSD) than Regular ADF members. This pattern of significantly increased symptomatology in Ex-Serving, Active and Inactive Reservists compared to Regular ADF members was also observed for symptoms of major depressive disorder, alcohol misuse and suicidal ideation (Dobson et al., 2012). However, these ex-serving and transitioned ADF members comprised just one-fifth of the total MEAO Census sample; therefore, overall, they represent only a small proportion of the 5000 ADF members who transition from the Regular ADF every year.

A 10-year follow-up health study of Australian Gulf War veterans – conducted 10 years after a baseline study in 2000–2002 – produced similar findings. Ex-serving members accounted for a high proportion of the 715 veterans (five in six were no longer serving), who were compared to a matched group of 675 participants (Sim et al., 2015). In this study, using the World Mental Health Survey Initiative Version of the World Health Organization Composite International Diagnostic Interview – version 3.0 (CIDI), 7.3% of

Gulf War veterans and 2.8% of the matched comparison group met criteria for 12-month PTSD 10 years after their initial assessment. Since the baseline study, new (incident) cases of PTSD were more likely to occur in Gulf War veterans than in the comparison group. In addition, the pattern of PTSD was more likely to persist and less likely to remit, with a four-fold increase in 12-month PTSD in Gulf War veterans over the 10-year follow-up period.

Additionally, in both groups, the prevalence of 12-month probable alcohol disorder approximately doubled in the 10-year period (from 3.1% to 6.3% for Gulf War veterans and 1.6% to 2.9% for the comparison group), and suicidal ideation and plans increased by 40% to 144% respectively (Sim et al., 2015).

Finally, a recent Australian Institute of Health and Welfare (AIHW) report into suicide among in serving and ex-serving members examined the number of suicides of current, reserve and ex-serving ADF members between 2002 and 2014. Although suicide rates were 53% lower among ADF males serving full time and 46% lower among ADF male Reservists, the suicide rate for ex-serving ADF males was 13% higher than for males in the Australian population. There were significantly elevated rates of suicide in ex-serving men aged 18–24 (1.9 times higher) and 25–29 (1.5 times higher) than among men in the Australian Community. In 2002–2014, suicides were recorded for 84 current full-time serving ADF members, 66 ADF reserve members and 142 ex-serving ADF members (Australian Institute of Health and Welfare, 2016).

#### **1.2.4 Impact of transition from full-time military service: International literature**

Transition from military service is an emerging field of international research and a relatively new concept in our understanding of the mental health and wellbeing of military members (Shields et al., 2016). There remains a lack of consensus on the meaning, definition and terminology used to describe the transition process in different countries (Ray & Heaslip, 2011). The literature considers various transition periods, ranging from up to six months before release from service (typically referred to as the peri-release period) until approximately five years after release (Pedlar & Thompson, 2016; Shields et al., 2016), with no standard start or end to transition (Pedlar & Thompson, 2016). The five-year post-service time frame is one of the only relatively consistent features of early transition across studies. Similarly, there is worldwide variation in how service leavers, veterans and ex-serving members are defined (Burdett et al., 2013; Commonwealth of Australia, 2013). This makes it particularly difficult to directly compare research findings of different countries, which, in turn, impedes our understanding of the concept of transition (Shields et al., 2016).

Despite this lack of consensus around theoretical framework, definition and terminology, the period of transition from military to civilian life is quickly becoming recognised as one of the most significant and stressful transitions in the life course of

military members worldwide. Many service leavers make the transition from military service with relative ease, with an estimated 60% to 75% internationally reporting an easy adjustment to civilian life (Pew Research Center, 2011; Thompson et al., 2011a; Van Til et al., 2014a). However, others, particularly those who developed mental health symptoms or disorders before discharge, may struggle with the adjustment to civilian life (Coll et al., 2011; Department of Veterans Affairs, 2016; Institute of Medicine, 2013; Iversen et al., 2005a; Kukla et al., 2015; Pease et al., 2016; Sayer et al., 2014; Tanielian & Jaycox, 2008). The transition period brings significant changes in identity, community, residence, social networks, status, family roles, occupation, finances, routines, responsibilities, supports and culture (Demers, 2011; Sayer et al., 2014; Sayer et al., 2010; Hatch et al., 2013; Harvey et al., 2011). These changes have the potential to manifest in the development of psychosocial adjustment issues. These can range from employment difficulties to family and/or relationship conflict, mental health and substance abuse problems and criminal offending. Obstacles and stress in multiple domains also place individuals at significant risk of poor outcomes (Pedlar & Thompson, 2016; Shields et al., 2016; Bergman et al., 2014; Castro & Kintzle, 2014; Coll et al., 2011; Pease et al., 2016; Burdett et al., 2013; Wainwright et al., 2016).

Additionally, during the transition process individuals also actively re-establish or connect with civilian healthcare and other service providers that are largely unknown to them, making it challenging to access appropriate care. These factors make this initial transition period a critical time for optimising the physical, mental and social health and wellbeing of transitioned military members. While it is recognised that, as with all life transitions, some degree of struggle is normal, the normative course of adaptation during the transition period remains poorly understood (Shields et al., 2016).

Similar to the Australian experience, international research has mainly focused on the impact of service on military members in specific deployments (for example, Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF)). While a number of these studies include current and Ex-Serving contingents, comprehensive research studies on representative cohorts of transitioned military populations remain scarce, with existing studies plagued by conflicting results, largely due to differences in sampling and research methodologies.

For example, a number of studies reported that the rates of PTSD – with and without comorbid depression and self-harm/attempted suicide – among transitioned members were almost double those of current serving members (Hatch et al., 2013; Jones et al., 2013; Pinder et al., 2012a). However, other studies report the prevalence of mental disorders as similar across both groups (Fear et al., 2009) or greater in current serving compared to transitioned members, or they report very specific differences in outcomes between the two groups (Villatte et al., 2015). For instance, Villatte (2015)

compared the characteristics of non-fatal suicide attempts in transitioned (n = 746) and current serving members (n = 1013) receiving treatment, in a pooled data analysis of six randomised controlled trials examining suicide interventions among members of the military. In this study, although current serving members were more likely than those who had transitioned to report a suicide attempt in their lifetime, among those who attempted suicide, transitioned members made a greater number of attempts. Interestingly, among transitioned members, the majority of first attempts typically occurred after military separation, with only 22% taking place before military enrolment and 21% occurring during active service (Villatte et al., 2015). This provides strong evidence for the overwhelming challenges some members of the military experience while reintegrating into civilian life.

Other studies monitoring changes in symptoms over time (during service and post-service) have reported varying patterns of symptom presentation over the course of a military career. For example, Golub & Bennett (2014) examined substance use patterns (during service and post-service) in 269 transitioned OIF/OEF military members who had discharged from service to low-income minority neighbourhoods within the previous two years. Interestingly, this study found alcohol use increased during military service, decreased dramatically on deployment, and then returned to pre-military levels after separation from the military. The finding that alcohol use, especially heavy use, declined after separation was consistent with the idea that some individuals participated in a drinking culture while in the military and left it behind after separation. A recent review of the issues faced by transitioning ex-service members in the UK supported this result, suggesting there is a culture of hazardous drinking in the UK military that is of concern, particularly for those who maintain military social networks (St George's House, 2014). However, it is important to note that differences in military cultures and attitudes towards drinking in different countries may invariably impact the prevalence of alcohol disorder in different military populations (Sundin et al., 2014).

Alcohol misuse, together with depressive and other anxiety disorders, has been reported as one of the primary issues for current serving members of the military in the United Kingdom, and is more prevalent than PTSD (Fear et al., 2009). Members of the UK military report considerably higher rates of alcohol misuse than the general population. It is also reported to be higher than levels in the US and Australian militaries (King's Centre for Military Health Research Academic Department of Military Mental Health (KCMHR), 2014; Sundin et al., 2014). This is likely to be reflected in the prevalence of alcohol misuse and mental disorders in those who have transitioned from military service in each of these countries; however, the direction of this relationship (particularly in Australia) is yet to be determined. Currently, alcohol misuse appears to be the US military's primary substance use concern, among both current and ex-serving US members of the military (Golub & Bennett, 2014). Of

interest is the relationship between alcohol misuse and mental disorders in Transitioned ADF members, which will be addressed later in this report. Hourani (2012) conducted a longitudinal survey of 475 combat-exposed Marines and examined their mental health before they left the military and six months after returning to civilian life. Overall, they reported a significant decrease in anxiety, depression and PTSD symptoms from pre-transition to six months post-transition. However, it was important to note that a substantial proportion of respondents also met the criteria for a new mental health problem (10% for PTSD and 13% for an anxiety disorder) after separating from military service.

Finally, the prevalence of mental disorders in transitioned military members is largely influenced by the samples and instruments used (including the cut-off points to define caseness) to generate the estimates (Thomas et al., 2010). Of the limited number of studies available, the majority focus on individuals seeking treatment or compensation from DVA or the international equivalent (for example, Pickett et al., 2015; Ramchand et al., 2015). This is mainly because these individuals are easier to identify and trace once they leave the organised structure of the military (Burdett et al., 2014). Studies of this type report rates of any mental disorder at approximately 25%, with PTSD at 13% to 39%, anxiety disorder at 40%, depression at 17.4% to 41%, and substance use disorders at 6% to 38%. The rates depend on a number of factors including deployment history, country of service, time frame of assessment (current/lifetime), and time since separation from service (Dedert et al., 2009; Fulton et al., 2015; Sayer et al., 2010; Seal et al., 2007). However, these studies have limited generalisability beyond treatment seekers, and are likely to result in inflated prevalence estimates due to most of these individuals being entitled to treatment for a service-related physical or mental health condition (Thompson et al., 2011b).

### **1.2.5 Mental health in transitioned Canadian Forces**

To date, a Canadian study is the only large-scale population-based study to examine a cohort of transitioned military members. The 2010 Survey on Transition to Civilian Life (STCL) was a national telephone survey that examined the health and wellbeing of 3154 Canadian Regular Force members after they transitioned to civilian life. All members had transitioned out of regular service between 1998 and 2007, and were being assessed between two and 12 years after leaving military service. In this study, mental health conditions were assessed using a checklist of self-reported diagnosed mental health conditions (including mood disorder, anxiety disorder and PTSD) that had lasted six months or more, a single-item measure of self-rated mental health, and the Mental Component Summary score of the SF-12.

Results of this study showed that most veterans (67%) assessed their mental health as 'very good' or 'excellent' on a self-rated perceived mental health measure. Regarding

specific mental disorders, a single item asked about the presence of mental disorders (including depression) diagnosed by a health professional.

Overall, 20% of respondents to the STCL reported either depression or anxiety, and this rate was greater in those accessing Veterans Affairs Canada (VAC) (52%).

Other mood disorders (mania, dysthymia or bipolar disorder) were reported among only 3% of the survey population, and, again, this was higher for VAC clients (9%) (Thompson et al., 2011a). The rate for self-reported (non-PTSD) anxiety disorders was 10% for the survey population, which was higher than in the Canadian general population (5%). Similar to findings for other mental disorders, the rates for anxiety disorders were elevated in VAC clients (30%), indicating that most who had anxiety were already VAC clients (Thompson et al., 2011a). Finally, 11% of the total study population reported having PTSD, with a rate of 43% for VAC clients. Too few non-VAC clients reported PTSD to calculate a reliable rate (Thompson et al., 2013; Thompson et al., 2011a). The prevalence of self-reported heavy drinking was 25.6%, which is comparable to the general population (Thompson et al., 2011a).

The STCL also asked respondents about lifetime suicidal thoughts, suicide ideation and suicide attempts in the last 12 months. For the sample of transitioned members, 6% had suicidal ideation in the last 12 months, with the rates highest among VAC clients (16%), and comparably lower in non-clients (4%). Of the total survey population, 18% had seriously considered committing suicide at some time in their lives, and this rate was higher in VAC clients (40%) (Thompson et al., 2011a). Suicidal ideation was much more common than suicide attempt, which, in turn, was more common than suicide. Very few respondents had attempted suicide in the last 12 months (1%). The estimated rate for suicide attempts at some time in their life for the total STCL population was 6%, which again was highest in VAC clients (14%). As in most civilian, and military and veteran studies, women were more likely to report suicidal ideation than men (Thompson et al., 2011a).

The Life After Service Survey (LASS 2013) extended the STCL and examined 2611 Canadian Regular Force members who transitioned between 1998 and 2012, as well as Reservists who transitioned between 2003 and 2012 (Thompson et al., 2015; Thompson et al., 2014; Van Til et al., 2014a; Van Til et al., 2014b). The sample included the Kessler Psychological Distress Scale (K10) as an additional measure of distress in the previous month and the Primary Care PTSD (PC-PTSD) symptom screen (a measure of probable PTSD in the previous month), using DSM-V criteria cut-off scores (Thompson et al., 2015; Thompson et al., 2014).

Similar to the findings in the STCL study, just over one-third of the Regular Force members who had transitioned were VAC clients – and they had poorer mental health than Reservists. Of the Regular Force members who transitioned, 24% had one or more



of the self-reported diagnosed mental health conditions. Self-reported mood disorders were almost three times more prevalent among the Regular Force members who had transitioned than in the general Canadian population, with prevalence of 24% for Regular Force members and 17% for Reservists compared to 6.3% in the general population.

The majority of Regular Force members who had transitioned (79%) showed low levels of psychological distress. On the K10 measure of psychological distress in the previous month, 13% of Regular Force veterans had moderate or severe levels of psychological distress (7% and 5% respectively). The prevalence of self-reported diagnosed PTSD for Regular Force members who had transitioned was 13% and the rate of suicidal ideation in the previous year was 7% (6–8%) (Thompson et al., 2015; Van Til et al., 2014a). Of the transitioned groups, Transitioned Reservists, particularly those with part-time or temporary full-time service – as opposed to those with full-time service in support of deployed operations, domestically or internationally – had the least difficulty adjusting to civilian life.

It was interesting to note that in the LASS 2013, of the 13% of transitioned Regular Force members with self-reported diagnosed PTSD, 38% did not meet the screening criteria for probable PTSD as measured by the PC-PTSD (Thompson et al., 2015). This suggests that about one-third with a diagnosis of PTSD were not highly symptomatic in the month before the survey. Conversely, 42% of Transitioned Regular Force members who screened positive for PTSD in the previous month did not have a self-reported diagnosis of PTSD, and may have been captured after being undiagnosed and/or having subthreshold mental health problems. This suggests an unmet need for recognition and diagnosis of PTSD in ex-serving members who are not seeking treatment and are living in the community (Thompson et al., 2015).

### **1.2.6 Risk and protective factors**

Despite the lack of direct comparability of studies undertaken in different countries, there is an emerging profile of transitioned members of the military who have particularly poor mental health. This profile is comprised of a number of distinct risk and protective factors known to influence mental health during and after the transition period. These include pre-enlistment factors (childhood and non-military trauma and adversity), socio-demographic characteristics (age, sex and educational level), military and service-related factors (rank, Service, years of service, service-related mental and physical health problems) and transition factors (reason for transition, years since transition) (MacLean et al., 2014).

The Canadian military study by Thompson (2013) also examined the link between the health-related quality of life of members and a number of socio-demographic and transition factors. In this study, poorer mental and physical health was observed in

transitioned members who were middle-aged; lower in rank; widowed, separated or divorced; or unemployed, earning a low income or dissatisfied with their financial situation; had 10–19 years of service; were living in conditions that made it difficult to maintain physical and mental health; had a disability; had low social support; or who were medically discharged. A significant feature of the findings was that those with living conditions that made it difficult to adjust and maintain mental health tended to be concentrated among ‘treatment-seeking’ VAC clients (Thompson et al., 2015; Van Til et al., 2014a).

In the UK context, Hatch (2013) compared 1753 service leavers with 6511 regular serving members included in a representative cohort study of UK armed forces. In this study, service leavers were more likely than service members to report common mental disorders (assessed by the 12-item General Health Questionnaire), less social participation outside work and general disengagement with military social contacts. Interestingly, the failure to form and participate in social networks outside the Armed Forces appeared to have a differential impact on mental health, with the maintenance of *military-specific* social networks being associated with adverse psychological consequences, with the risk for common mental disorders also being partially explained by the social disengagement reported in this group. Pinder (2012b) reported that self-harm and suicide attempts were associated with being younger, experiencing greater childhood adversity and undertaking a shorter term of service, in a sample of UK current and ex-serving members of the military (Pinder et al., 2012b).

Hourani (2012) examined 475 US combat-exposed marines six months after they transitioned to civilian life, and revealed similar risk and protective factors for those meeting screening criteria for mental health problems (depression, anxiety and PTSD) and functional impairment. In this study, primary risk factors included experiencing higher levels of pre-separation combat exposure and post-separation stress across multiple life domains. The marines were also more likely to report a reason other than retirement or expiry of service for leaving the military. In this study, protective factors included having higher scores for pre-separation resilience and perceived social support at follow-up. Consistent with the Canadian research, reintegration difficulties were higher among US veterans who served in OIF, OEF or Operation New Dawn and who were VA health care users (62%), than for those who did not use VA (45%).

Overall, veterans identified as VA users had poorer mental health and greater reintegration difficulty and alcohol misuse than non-VA users (62% versus 45%) (Sayer et al., 2015).

The number of readjustment stressors was reported to closely correlate with psychiatric problems and a significant risk factor for suicide in a study of 233,803 members who had left the UK Armed Forces (1996–2005). In this study, the odds of

suicidal ideation among a psychiatrically impaired sub-sample with a high number of stressors was 4.3 times that of no-stressor group. After adjusting for individual mental health conditions, the odds of suicidal ideation among those experiencing the highest number of stressors were 5.4 times that of veterans experiencing no readjustment stressors (Kapur et al., 2009). Other post-service stressors known to be associated with poor outcomes included relationship and family conflict, separation and divorce, financial stress, unemployment and reliance on maladaptive coping strategies such as alcohol misuse (Golub & Bennett, 2014; Hoggatt et al., 2015).

Similar to what has been observed for current serving military members, other stressors experienced before and during service may also contribute to the risk of developing mental health problems for some ex-serving members in the transition period. This includes pre-enlistment or childhood adversity, such as childhood physical abuse, physical assault, social adversity and non-military related accidents or disasters (Dedert et al., 2009; Iversen et al., 2007; KCMHR, 2014; Clancy et al., 2006; van Staden et al., 2007), as well as combat exposure and physical assault occurring during military service (Clancy et al., 2006). Other non-service related lifetime traumas, including adult sexual trauma and physical assault after military service, are also associated with PTSD symptoms in particular (Clancy et al., 2006), as are a number of trauma types (Wisco et al., 2014).

Finally, while evidence is emerging internationally that experiences on deployment may be associated with adverse mental health outcomes (Interian et al., 2012; Institute of Medicine (IOM), 2013; Iversen et al., 2005a), how this plays out in the years after transition is less clear. It is hypothesised that the *healthy worker effect* means those members remaining in service longer are likely to be healthier. If this is the case, it is logical that those members with fewer years of service before transition may well have poorer mental health outcomes.

Evidence from the United Kingdom supports this notion, with several studies now pointing to early service leavers (ESL) (generally defined as those who leave before completing their minimum 3–4.5 years of service) and those who leave at short notice with little time to plan the transition to civilian life (that is, those whose military career was cut short due to redundancy, or medical or disciplinary discharge) may be at particular risk (Buckman et al., 2013; KCMHR, 2010; van Staden et al., 2007).

For example, a sample of 874 service leavers found that common mental disorders were more prevalent among ESLs than non-ESLs (45.6% versus 26.5%) (Buckman et al., 2013). Giebel's 2014 study of 952 treatment-seeking UK veterans receiving psychological therapy reported higher levels of anxiety disorder (9%) and depression (30.8%) in ESLs than in non-ESLs (5.3% and 24.2% respectively). Similarly, whether the

transition process is perceived as a positive or negative life event can also significantly impact mental health outcomes (van Staden et al., 2007).

### **1.3 Aims, definitions, structure and scope**

The Australian and international literature highlights the need for comprehensive research on the mental health and wellbeing of members who have transitioned from full-time service, including examining protective and risk factors. It is only through understanding that targeted policy and programs can be developed to meet the needs of individuals in each stage of their military career.

The MilHOP program provided valuable information for developing policy and programs within DVA and Defence. For example, the finding that non-operational service can involve significant risk to ADF members led to new Defence policy initiatives to increase access to mental health services for *all* ADF members. Within DVA, the eligibility criteria for members and families to access VVCS was expanded to include more types of non-operational service; for example, border protection, training accidents and disaster relief. Importantly, members with more than three years of peacetime service became eligible to access health care for PTSD, depression, anxiety and substance use disorders without the need to submit a claim. Importantly, the MilHOP studies provided a framework for future research, which has been a significant driver for this Programme.

The Mental Health and Wellbeing Transition Study aims to examine the prevalence of mental disorders and self-reported mental health and wellbeing in the first five years after transition, as this is a critical period to target for early intervention. Importantly, an understanding of the difference between mental health and wellbeing in those currently serving, those who have transitioned to the Reserves and those discharged and in the community is needed to start examining protective and risk factors in the Australian context.

#### **1.3.1 Aims of this report**

The primary aims of the *Mental Health Prevalence Report* were to:

- provide population-based prevalence estimates of mental disorders and self-reported suicidality among ADF members who transitioned out of full-time regular service in the five-year period between January 2010 and December 2014
- explore a range of potential demographic, service-related and transition-related predictors of mental health outcomes among Transitioned ADF members

- compare the self-reported mental health and wellbeing of Transitioned ADF with the 2015 Regular ADF, including a further comparison between the 2015 Regular ADF with those serving in 2010
- compare the self-reported mental health and wellbeing of Transitioned ADF against a matched Australian Community sample.

### **1.3.2 Structure of this report**

This report, therefore, will provide a comprehensive, high-level overview of the mental health and wellbeing of Transitioned ADF, as well as a comparison of the Transitioned ADF with other key groups of interest including the 2015 Regular ADF and the Australian Community. It will identify the key demographic, service and transition factors that are of importance in influencing mental health in the Transitioned ADF, thereby providing a framework for further detailed analyses. It will also highlight the key priority areas for further DVA and ADF policy and research attention.

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

This Programme targeted transition across a five-year time frame (January 2010 to December 2014), commencing *after* leaving full-time Regular ADF service and not including the peri-transition period. In Australia, when an ADF member leaves full-time regular service, they either are discharged completely (if they are involuntarily discharged; that is, on medical or administrative grounds) or transfer into the Active or Inactive Reserves. Therefore, the term ‘Transitioned ADF’ is used to denote all regular service leavers, including Ex-Serving ADF members and Active (minimum requirement of 20 days’ service per year and ongoing training) and Inactive/Standby Reserves (no minimum requirement and no training obligation). As such, Active Reservists are generally those most engaged with Defence, and ex-serving members are least engaged, so the impact of this level of continued engagement will also be examined.

### **1.3.4 Scope of this report**

This report will address the following 10 questions:

- What is the socio-demographic profile of Transitioned ADF members and is this different to the 2015 Regular ADF?
- What are the circumstances surrounding transition? (Why and how do ADF members leave the ADF and how engaged do they remain following transition?)
- What is the prevalence of lifetime and 12-month ICD-10 affective disorders, anxiety disorders and alcohol disorders in Transitioned ADF members?

- What demographic, service-related and transition-related factors are associated with 12-month ICD-10 affective disorders, anxiety disorders and alcohol disorders in Transitioned ADF members?
- What is the degree of comorbidity between ICD-10 anxiety (excl. PTSD) disorders, affective disorders, alcohol disorders and PTSD in Transitioned ADF members?
- How does the overall self-reported mental health (i.e. depression, PTSD, other anxiety disorders, suicidal ideation, alcohol consumption, anger) of Transitioned ADF members differ from 2015 Regular ADF members?
- How does the overall self-reported mental health of the 2015 Regular ADF differ from the self-reported mental health of the 2010 Regular ADF?
- Is there a difference in the self-reported mental health and ICD-10 mental disorder of Transitioned ADF who have discharged completely and those who remain in the Active or Inactive Reserves?
- Is there an association between self-reported mental health and ICD-10 mental disorders and years since transition from Regular ADF service in Transitioned ADF members?
- How does the overall self-reported mental health of Transitioned ADF and 2015 Regular ADF differ from the Australian Community?

### **1.3.5 Outline and interpretation of this report**

This report begins with a short summary of the methodology specific to this report. Chapter 3 describes the demographic characteristics of the populations included in the subsequent analyses: the Transitioned ADF and the 2015 Regular ADF, followed by a summary of key circumstances surrounding transition for the Transitioned ADF only. This provides the contextual background for the remainder of the report.

Chapter 4 focuses on the Transitioned ADF, presenting weighted estimates of lifetime and 12-month rates of ICD-10 mental disorders, as well as self-reported suicidality. A range of further detailed analyses then focuses on 12-month mental disorders and suicidality, summarising the distribution of mental disorders and suicidality according to key demographic, service and transition factors of interest. Acknowledging specific interest in rates of PTSD in this population, it includes an additional focused analysis of PTSD and lifetime trauma. This chapter concludes with an examination of mental disorder comorbidity.

Chapter 5 considers the Transitioned ADF in comparison to a 2015 Regular ADF population. It also compares the 2015 Regular ADF study results with the 2010 MHPWS, focusing on self-reported mental health and wellbeing outcomes.

Finally, chapter 6 compares the Transitioned ADF with a matched Australian Community sample. This chapter aims to benchmark the Transitioned ADF against the Australian Community, with the choice of outcome variables restricted to self-reported psychological distress and alcohol consumption, to ensure that only the most recent and relevant data available in the Australian context is used.

The prevalence of ICD-10 mental disorders and self-reported mental health symptoms for the Transitioned ADF and the 2015 Regular ADF are population-weighted estimates. As such, they represent population-level outcomes based on the responses of the proportion of the population that completed the measure in question. Weighting was based on the demographic characteristics of sex, rank, Service and medical fitness. Therefore, the accuracy of the weighted estimates is limited to the extent that these characteristics together are associated with the outcomes of interest. Further information on the weighting process is provided in chapter 2.

Where the mental health and wellbeing of the 2015 Regular ADF are compared against the 2010 Regular ADF, this represents a direct numerical comparison and does not include tests of statistical significance. As these two samples cannot be considered independently, between-group differences should be interpreted with caution, noting that some members of the 2015 Regular ADF sample are also represented in the 2010 Regular ADF sample. The issue of individual change in symptoms and disorder over time in this group will be addressed in the future longitudinal report.

This report will provide a comprehensive overview of the mental health of recently Transitioned ADF members, including potential risk and protective factors associated with mental disorder and symptoms. It will contextualise these against the health of 2015 Regular ADF members and the Australian Community. The report concludes with a discussion and summary of findings, including the strengths and limitations of the study, the key implications and directions for future research.

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

### Weighted prevalence estimates

- Where the report talks about prevalence estimates of mental disorder and symptoms, it is referring to the estimated rates of a particular outcome within the entire population. It is important to understand that these are estimates. These estimates represent the proportion of cases we would predict to observe in the entire population, based on the proportion of actual cases detected in the subpopulation who completed the outcome measure (the CIDI for mental disorder estimates, the survey for symptom estimates).
- When considering prevalence estimates, the estimated proportions are more informative than the estimated numbers.

- While results in this report were weighted to be representative of 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 may influence the outcomes of interest.
- The relatively low response rates observed in the study mean that the weighted estimates presented may have a lower level of accuracy, with estimates more highly dependent on the characteristics used for weighting.
- The estimates for subpopulations (strata) with higher response rates can be considered more accurately representative of those subpopulations than those with lower response rates.
- The subpopulations used for weighting in this report (strata) are presented in Table D14. This table shows how many individuals within the population each responder represents for each strata. The higher this number, the more caution should be applied in interpreting the associated estimates.
- In the case of **diagnosable mental disorder**:
  - In this report, all lifetime and 12-month mental disorder prevalence rates were calculated using ICD-10 scoring, and as such provide a more inclusive measure of mental disorder than DSM 5.
  - Where mental disorder cases were detected among a proportion of study participants who completed the CIDI, the characteristics of this subpopulation were used as a basis for estimating the likelihood of disorder caseness in the broader study population who share those characteristics (through statistical weighting).
  - The proportion of the subpopulation who have the disorder may be somewhat higher or lower than, or may be the same as, the proportion of the total population estimated to have that disorder.
  - It is important when reading these estimates to keep in mind that the actual number of cases, for CIDI disorder, will be significantly lower than the total number of cases estimated to occur in the entire population, as the raw numbers reflect only the number of individuals invited to complete an interview.
  - A two-phase weighting process was used to derive the prevalence estimates of diagnosable mental disorder. Stage 1 weighting accounted for the non-representativeness of the sample invited to complete a diagnostic interview, while Stage 2 weighting adjusted the weights to be representative of the characteristics of the total population (see Table D17 for the number of disorder cases detected and estimated at each stage).
  - Where a mental disorder is relatively rare (e.g., bipolar affective disorder), and is detected at a high rate among individuals who share characteristics with a large proportion of the population (e.g., Other Ranks), the estimated proportion of the



entire population predicted to have that disorder should be greater than the proportion of cases detected.

- Where a disorder is relatively common, and is detected at a high rate among those who share characteristics with a small proportion of the population, the estimated proportion of the total population predicted to have that disorder should be lower than the proportion of cases detected.
- Therefore, 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, the confidence intervals show the range of error of the estimate. In general, confidence intervals that are very close to the estimate value reflect the precision of the estimate, while those that are very wide reflect estimate imprecision. Where there are wide confidence intervals, associated estimates should be interpreted cautiously, with the upper and lower limits considered the top and bottom range of possible precise values.

**Standard errors:** like confidence intervals, standard errors indicate the range of error in an average score that is presented.

**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 measurement or estimate error.

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 (ORs):** when estimating the prevalence of a specific health outcome, there can be differences in the prevalence rates between two groups (for example, 2015 Regular ADF and Transitioned ADF) due to differences in 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 are potentially confounders, and one method of reducing confounding is to employ a logistic regression model that controls (for example, adjusts) for these factors. The statistical output from a logistic regression model is an odds ratio (OR). An OR denotes the odds of a particular group (for example, Transitioned ADF) having a specific health outcome compared to a reference group (for example, 2015 Regular ADF).

An OR of greater than one indicates increased odds of having a particular health outcome compared to the reference group, and an OR of less than one suggests less likelihood of having a particular health outcome. For example, an OR of 1.7 for the Transitioned ADF (compared to 2015 Regular ADF) suggests that members of the Transitioned ADF have 70% increased odds of having that particular health outcome. Conversely, an OR of 0.7 suggests that Transitioned ADF members are 30% less likely than 2015 Regular ADF members to have a particular health

outcome. When an OR is greater than two, we can then say that Transitioned ADF members are twice as likely as 2015 Regular ADF to have a particular health outcome. Similarly, if the OR is greater than three, they would be three times as likely to have a particular health outcome, and so forth.

**Significance:** where a between-group difference is discussed as significant in the text, this means that the difference between groups was statistically tested, adjusting for sex, age and Service, and the associated confidence intervals had no overlap between groups.

**Comparison between the 2015 Regular ADF and the 2010 Regular ADF:** weighted estimates for the 2015 Regular ADF are presented alongside weighted estimates for the 2010 Regular ADF, which are directly reproduced from those presented in the 2010 MHPWS report. As such, only simple mean or proportion comparisons are made, with no statistical comparisons between these groups. Any observed differences should be interpreted with caution.

**Comparison between the Transitioned ADF and the Australian Community:** weighted estimates of mental health outcomes for the Australian Community were standardised on the basis of sex, employment status and age. These estimates are presented in these categories, alongside those for the Transitioned ADF.

These standardised rates are not the true rates in the ABS population, but are hypothetical rates that would have been observed if the Australian Community population had the same age, sex and employment distribution as the Transitioned ADF population. This standardised rate takes into account any differences in the age, sex and employment structure of the two populations. Thus, when comparing the two populations using standardised rates, any remaining differences between them cannot be attributed to confounding by these three demographic factors.

Further caveats to be considered when reading and discussing the [findings from this study](#):

- The overall response rate for the study was low, particularly among the Transitioned ADF. While responder data were able to be statistically weighted up to the total population, the lower the number of responders, 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 responders, while Other Ranks were highly under-represented, despite accounting for the largest proportion of the total population. As such, any estimates, when stratified by rank, should be interpreted with a degree of caution.
- A large proportion of this study reports on self-report measures, which are subject to potential biases, including recall bias, and other response biases. The collection of diagnostic mental disorder data allows for corroboration of findings – however, these potential biases should be noted.

#### **Chapter 4**

- In this chapter, all lifetime and 12-month mental disorder prevalence rates were calculated using ICD-10 scoring, and, as such, provide a more inclusive measure of mental disorder.
- Mental disorder prevalence estimates were calculated using data from a subset of participants, and while efforts were made to ensure they were representative of the broader population, biases in responders was still present. See Annex A for detail regarding how potential responder and selection biases were statistically addressed.
- Where between-group or category comparisons were made, these were statistically adjusted for sex, age and Service. This means that any resulting difference between groups is the difference that would be present if both groups were of equivalent sex, age and Service.
- Suicidality prevalence estimates were based on self-report survey data.

#### **Chapter 5**

- In this chapter, weighted estimates of self-reported mental health outcomes are reported for the Transitioned ADF and the 2015 Regular ADF. These rates are statistically compared.
- The 2010 Regular ADF refers to the population included in the 2010 MHPWS, and results included in this chapter are reproduced directly from the MHPWS report. Weighted estimates of self-reported mental health outcomes for the 2015 Regular ADF are compared to these results, using simple mean or proportion comparisons.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.



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## 2 Methodology

### Study design

- The study used a two-phase design. In Phase 1, participants were screened for mental health problems using a 60-minute self-report questionnaire. In Phase 2, Transitioned ADF members were selected to participate in a one-hour diagnostic telephone interview using the World Mental Health Survey Initiative Version of the World Health Organization Composite International Diagnostic Interview – version 3.0 (CIDI). Selection for this interview was based on strata derived from rank, sex, Service and scores on the Posttraumatic Stress Disorder Checklist (PCL) and the Alcohol Use Disorders Identification Test (AUDIT).

### Study populations

- The Transitioned ADF population comprised 24,932 ADF members who transitioned from the Regular ADF between 2010 and 2014 (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).
- Two population comparison groups were used:
  - 2010 Regular ADF – includes results drawn from the 2010 ADF Mental Health Prevalence and Wellbeing Study (MHPWS) report and represents the entire Regular ADF in 2010
  - the Australian Community (2014–2015) – socio-demographically matched data were drawn from the 2014–2015 Australian Bureau of Statistics (ABS) National Health Survey (NHS) data.

### 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.

### CIDI completion rate

- In the Transitioned ADF, 1807 participants were selected for an interview and 1049 Transitioned ADF members completed a CIDI interview.

### Weighting

- All survey data for the Transitioned ADF was weighted using distinct strata for sex, Service, rank and medical fitness.

- All survey data for the 2015 Regular ADF was weighted using distinct strata for sex, Service, rank, medical fitness, and whether the individual completed a study as part of MilHOP.
- CIDI weights were derived for the Transitioned ADF, based on strata including band (cut-offs were based on PCL and AUDIT), sex and Service. Post-stratification by the variables of sex, Service and rank was used to adjust the weights so that the known population totals were reproduced by the estimates, and to correct for differential non-response by rank.

### **Analysis**

- 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 co-variates for age, sex, Service and rank.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

Chapter 2 outlines the methodology for this report. For the full methodology, including a comprehensive description of all measures used in the survey, refer to Annex A.

## **2.1 Study design**

Prevalence estimates for mental disorders in the Transitioned ADF, as categorised by the International Statistical Classification of Diseases and Related Health Problems – 10th Revision (ICD-10), were obtained using a two-phase study design. This is a well-accepted approach to epidemiological research (Salim & Welsh, 2009) and was used in the 2010 MHPWS (McFarlane et al., 2011). In Phase 1 of the Mental Health and Wellbeing Transition Study, Transitioned ADF 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, which was completed online or in hard copy. Each participant received a slightly different questionnaire, which was relevant to their current ADF status – Transitioned ADF, 2015 Regular ADF or Ab initio Reservist – and regarding demographics, service and deployment history. However, the core-validated measures of psychological and physical health remained the same, and, where possible, replicated the measures previously administered as part of the 2010 MHPWS. This component of the design is critical to making longitudinal comparisons across time, and highlights the importance of using a consistent approach to research design for military and veteran populations over time.

In Phase 2, a sub-sample of Transitioned ADF members surveyed in Phase 1 were selected to participate in a one-hour diagnostic telephone interview using the CIDI (Kessler & Ustun, 2004). This interview was the same as that conducted in 2010, and assessed 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 ICD-10 (World Health Organization, 1994). For this report, ICD-10 diagnostic criteria were reported to be consistent with the 2010 MHPWS and the 2007 National Survey of Mental Health and Wellbeing (NSMHW) conducted by the Australian Bureau of Statistics (ABS) (Australian Bureau of Statistics, 2008).

This instrument was chosen because it is widely used in epidemiological surveys worldwide and is fully structured. The Hunter Research Foundation conducted the interviews. All interviewers were trained in the computer-assisted personal interview version of CIDI and had experience working with veterans. Further details of the self-report survey measures and the 12-month and lifetime ICD-10 mental disorders examined using the CIDI are provided in section 2.7.

## 2.2 Samples

This report uses two of the Programme's six overlapping samples (a detailed description of all six samples used in the broader Programme can be seen in section A.3 of Annex A: Methodology).

**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 and Inactive Reserves as well as those who had discharged completely from the Regular ADF (Ex-Serving). All individuals were given the opportunity to opt out of being invited to participate in the research.

**Sample 2: 2015 Regular ADF.** This sample comprised three separate groups of 2015 Regular ADF members in 2015 who were invited to participate in the study: (1) those who participated in the 2010 MHPWS and were in the 2015 Regular ADF; (2) those who participated in the Middle East Area of Operations (MEAO) Prospective Health Study between 2010 and 2012 and were in the 2015 Regular ADF; and (3) a stratified random sample of 2015 Regular ADF members who were not part of the 2010 MHPWS or the MEAO Prospective Health Study. The combined results from these three groups were weighted to be representative of the 2015 Regular ADF.

Of the Transitioned ADF population of 24,932, 96.2% (23,974) were invited to participate. Those not invited represented individuals who may have opted out of the study or did not have any usable contact information. Of the 2015 Regular ADF, 38% (20,031) of the entire population (52,500) were invited to participate.

The samples were taken from the Military and Veteran Research Study Roll (Study Roll) generated for the Programme and held at the Australian Institute of Health and Welfare (AIHW). The Study Roll was generated from members' data from Defence, contact data from DVA and contact details from ComSuper, and cross-referenced

against the National Death Index. For all individuals in the Transitioned ADF and the 2015 Regular ADF, basic demographic characteristics to be used in weighting were held by the AIHW until the end of the data collection. These data were then provided to researchers in either identified or de-identified form, depending on participation and consent status.

### 2.2.1 Population comparison samples

**2010 Regular ADF.** 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 due to the overlapping nature of these two populations.

**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 those aged 18–71 (consistent with the Transitioned ADF). The NHS 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.

## 2.3 Response rates

### 2.3.1 Survey responders

Table 2.1 and Figure 2.1 show the total populations for the Transitioned ADF and the 2015 Regular ADF; the number from each population invited to participate in the study; and the proportion of those invited who responded.

Of the Transitioned ADF population of 24,932, 96% (23,974) were invited to participate. Those not invited represented those individuals who may 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 (MilHOP) between 2010 and 2012 and who were still serving in 2015. Of those invited, 18% (n = 4326) of the Transitioned ADF population and 42.3% (n = 8480) of the 2015 ADF population completed the survey.



**Table 2.1 Survey response rates, by Service for the Transitioned ADF and the 2015 Regular ADF**

	Transitioned ADF N = 24,932				2015 Regular ADF N = 52,500			
	Population	Invited	Responders	Response rate (%)	Population	Invited	Responders	Response rate (%)
<b>Service</b>								
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
<b>Sex</b>								
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
<b>Rank</b>								
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
<b>Medical fitness</b>								
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
<b>Total</b>	24,932	23,974	4326	18.0	52,500	20,031	8480	42.3

Notes:  
 Unweighted data  
 Response rates presented in the table above 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 for the Transitioned ADF and the 2015 Regular ADF

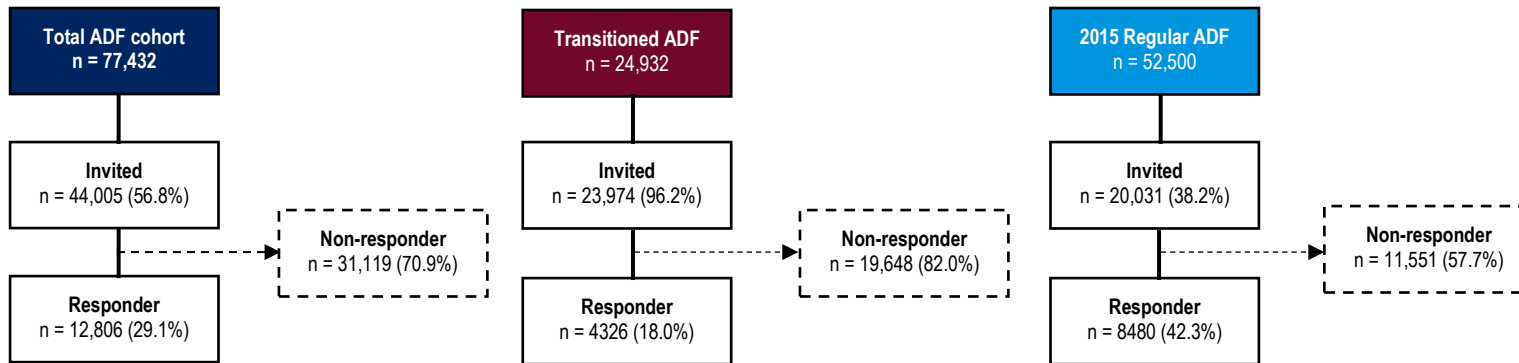


Figure 2.1 summarises the breakdown of Transitioned ADF and 2015 Regular ADF members who provided enough data to be included in the survey.

Table 2.2 presents the unweighted demographic characteristics of Transitioned ADF and 2015 Regular ADF survey respondents.

The characteristics of survey respondents were as follows:

**Age** – Transitioned ADF survey responders (mean age 41.9 (SE 0.1)) were of a similar age to the 2015 Regular ADF responders (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 to respond than males.

**Rank** – Survey responders 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 Other Ranks compared to the 2015 Regular ADF. In both groups, the lower ranks were the poorest responders.

**Service** – In the Transitioned ADF, 19.9% of survey responders were Navy, 56.9% were Army and 23.1% were Air Force. However, for the 2015 Regular ADF, 34.7% of survey responders 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 Regular ADF (31.1%) compared to the 2015 Regular ADF population (16.1%). Transitioned ADF who were unfit had a response rate of 20.9% compared to 46.5% in the 2015 Regular ADF.

**Table 2.2 Unweighted demographic characteristics of responders, by Transitioned ADF and Regular ADF**

	Transitioned ADF n = 4326			2015 Regular ADF n = 8480		
	n	%	95% CI	n	%	95% CI
<b>Age (M, SE)</b>	41.9	0.2		41.1	0.1	
<b>Age group</b>						
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)
<b>Sex</b>						
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)
<b>Rank</b>						
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)
<b>Service</b>						
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)
<b>Medical fitness</b>						
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)

Response Rate Denominator: those who were invited and responded to the survey. Notes: Unweighted data; 95% CI: 95% confidence interval

### 2.3.2 Composite International Diagnostic Interview responders

A total of 1807 Transitioned ADF members who completed a self-report survey and provided appropriate consent were selected to participate in the CIDI telephone interview. Phase 1 of selection was based on whether the participant consented to be contacted for a telephone interview about their mental health. Phase 2 of selection for the CIDI was determined according to screening scores, which are described in more detail in section 2.5.

**Table 2.3 CIDI response rates for Transitioned ADF, by Service, sex, rank and MEC status**

	Transitioned ADF CIDI n = 1807 (selected); n = 1049 (responded)			
	Population	Selected	Responders	Response rate (%)
<b>Sex</b>				
Male	21,671	1511	901	59.6
Female	3261	284	142	50.0
Missing		12	6	50.0
<b>Rank</b>				
OFFR	4063	566	364	64.3
NCO	7866	914	546	59.7
Other Ranks	13,003	326	139	42.6
Missing		1	0	0
<b>Service</b>				
Navy	5671	357	198	55.5
Army	15,038	1029	586	56.9
Air Force	4223	421	265	62.9
<b>Medical fitness</b>				
Fit	18,273	1185	711	60.0
Unfit	6659	610	332	54.4
Missing		12	6	50.0
<b>Total</b>	24,932	1807	1049	58.1

Response Rate Denominator: Transitioned ADF Invited to participate in the CIDI interview

Notes:

Unweighted data

The characteristics of Transitioned CIDI respondents were as follows:

**Sex** – Consistent with the Transitioned ADF population, the CIDI sample was predominantly male; however, transitioned females (50% of those invited) were less likely to complete a CIDI interview than transitioned males (59.6%).

**Rank** – CIDI responders comprised 34.7% Officers, 52.0% Non-Commissioned Officers and 13.3% Other Ranks. ADF members in Other Ranks had a significantly lower response rate (42.6%) compared to around 60% for those invited Non-Commissioned Officers and Officers who responded.

**Service** – Of CIDI responders, 18.9% were from the Navy, 55.9% the Army and 25.3% the Air Force. There was no significant difference between CIDI responders and non-responders in relation to Service.

**Medical fitness** – Transitioned ADF who were unfit on transition from Regular ADF comprised 31.6% of CIDI responders.

## 2.4 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 the following demographic and deployment history predictors: 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 (OFFR, NCO, Other Ranks), years of service in the Regular ADF (< 3 months, 3 months – 3.9 years, and 4–7.9, 8–11.9, 12–15.9, 16–19.9, 20+ years) and deployment status (ever deployed, never deployed). For 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 the variables of 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 co-variables of 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 co-variables of 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 co-variables of 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; however, since the main assumption of this approach was

violated, the ordinal response was dichotomised by means of several cut-offs. All regressions included the co-variates of age, sex, Service and rank.

To compare the mental health and wellbeing of the 2015 Regular ADF with the 2010 Regular ADF, a direct numerical comparison was performed. This did not include standardisation or tests of statistical significance. As 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 are also represented in the 2010 Regular ADF sample. The issue of individual change in symptoms and disorder over time in this group will be addressed in the future *Changes over time: a longitudinal perspective*.

To compare estimates in the Transitioned ADF with the Australian Community, direct standardisation was applied to estimates within the 2014–15 ABS NHS. The NHS data were restricted to those aged 18–71 (consistent with the 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.

## 2.5 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 within Sample 5 (Combat Zone) and Sample 6 (MHPWS) who were all eligible to complete a CIDI (refer to the full methodology in Annex A for a description of these samples), CIDI invitations preferenced groups accounting for the smallest proportion of the actual population (e.g., females) and those with high scores on the PCL and AUDIT in order to increase the representativeness of the sample and optimise the ability to capture low-prevalence mental disorders.

As such, 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 the following 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 & Welsh (2009), the stratification procedure aimed to oversample those respondents in Band 3 (greatest likelihood of disorder). A smaller proportion from bands 2 and 1 were also sampled, to control for the possibility of over-inflated mental disorder estimates. Transitioned ADF within samples 5 and 6

were also allocated a band, as can be seen in Table 2.4, to ensure that these participants were also accounted for during sampling.

Based on the predicted proportions of Transitioned ADF survey responders 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 RAAF band 2.

Table 2.4 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 responders were missing band, sex or Service, and were excluded from the final weighted population.



**Table 2.4 Stratification characteristics of entire Transitioned ADF CIDI sample**

	Transitioned ADF CIDI							
	No band*		Band 1		Band 2		Band 3	
	Invited (n = 110)	Completed (n = 72)	Invited (n = 408)	Completed (n = 258)	Invited (n = 335)	Completed (n = 225)	Invited (n = 954)	Completed (n = 494)
<b>Navy</b>								
Male	20	8	73	43	57	41	140	71
Female	1	1	17	10	8	4	40	20
<b>Army</b>								
Male	52	37	152	94	155	109	515	272
Female	15	10	35	19	31	15	66	25
<b>Air Force</b>								
Male	17	13	104	77	74	50	152	86
Female	4	3	25	14	8	5	34	16
<b>Missing</b>	1	-	2	1	2	1	7	4

\*Includes Combat Zone and MHPWS participants who were invited to participate but were not stratified

## 2.6 Weighting

The statistical weighting process used in the Mental Health and Wellbeing Transition Study replicated that used in the 2010 MHPWS, and allowed for the inference of results for the Transitioned and 2015 Regular ADF populations. The following two types of weights were used in the study:

- Survey responder weights were used to correct for differential non-response on the survey for both Transitioned ADF and 2015 Regular ADF members.
- Two-phase CIDI responder weights, which compensated for both differential non-response on the survey, and for the over- or under-sampling of specific cases who 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 allocating a representative value or ‘weight’ to the data for each responder, based on key variables that are known for the entire population (for responders and non-responders). This weight indicates how many individuals in the entire population are represented by each actual responder. Weighting data allows for inference of results for an entire population – in this case, the Transitioned ADF – by assigning a representative value in the data to each ‘actual’ case (responder) in the data. If a case has a weight of 4, it means that case counts in the data as 4 identical cases.

By using known characteristics of each individual within the population (in this case, age, sex, rank and medical fitness), the weight assigned to responders indicates how many ‘like’ individuals in the entire population (based on those characteristics) each responder represents. Weighting is used to correct for differential non-response and to account for systematic biases that may be present in study responders (for example, oversampling of high scorers for CIDI). Both types of weights were used in this study.

These two types of weights were combined to give each responder 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 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, a dichotomous variable derived from Medical Employment Classification (MEC) status. Of the total Transitioned ADF population, 313 (1.3%) had missing information on the strata variables, and therefore the final weighted population for analyses was 24,932.

The 2015 Regular ADF weights were derived from the distinct strata of sex, Service, rank, medical fitness, and whether the individual participated in MilHOP. This additional stratification variable was included to account for the targeted sampling of the MilHOP cohort, which was then over-represented within the current serving responders. To reduce this bias, a MilHOP flag variable (yes/no = 1/0) was created and used in the weighting process. 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 B.14, B.15 and B.16 present the study population and responders within each stratum used for weighting, and show approximately how many persons each study responder represents within each subpopulation.

### **2.6.1 Estimates from survey**

To maximise the data available for analysis, *survey* weights were calculated for each 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 a specific section of the survey. There were 29 section responder weight variables. For analysis, the weights used were always for the primary outcome variable of interest.

### **2.6.2 Estimates from the Composite International Diagnostic Interview**

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 from the stratum. As 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 within each stratum.

Post-stratification by the variables of sex, Service and rank was used to adjust the weights so that the known population totals were reproduced by the estimates, and to correct for differential non-response by rank.

## 2.7 Measures used in this report

### 2.7.1 Self-report survey

The following measures were used in the self-report survey to examine mental health symptoms:

- Kessler Psychological Distress Scale (K10) (Kessler et al., 2002) to measure psychological distress
- Posttraumatic Stress Disorder Checklist – civilian version (PCL-C) (Weathers, 1993) to examine symptoms of posttraumatic stress
- Alcohol Use Disorders Identification Test (AUDIT) (Saunders et al., 1993) to examine at-risk patterns of drinking
- Patient Health Questionnaire (PHQ-9) to examine depressive symptoms (Kroenke et al., 2001)
- Dimensions of Anger Reactions Scale (DAR-5) (Forbes et al., 2004) to assess anger frequency, intensity and duration, and its perceived negative impact on social relationships
- Five items examining suicidal ideation and behaviour adapted from the NSMHW (Australian Bureau of Statistics, 2008)
- Items from the 2013 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2011) to examine 12-month and lifetime drug use in Transitioned ADF only
- Generalised Anxiety Disorder 7-item Scale (GAD-7) to examine symptoms of generalised anxiety disorder (GAD) (Spitzer, 2006)
- Deployment exposure items drawn from the MEAO Census (Dobson et al., 2012)
- Self-report lifetime trauma exposure questions drawn from the PTSD module of the CIDI (Haro et al., 2006). Participants were provided with a list of 27 traumatic events and were asked to identify which of these events they had experienced during their lifetime. Participants were then required to indicate which of the events they indicated 'yes' to was their worst event.

### 2.7.2 Composite International Diagnostic Interview

The following lifetime and 12-month ICD-10 mental disorders were examined for Transitioned ADF members using the CIDI:

- ICD-10 anxiety disorders:
  - panic attack
  - panic disorder
  - agoraphobia
  - social phobia
  - specific phobia
  - generalised anxiety disorder (GAD)
  - obsessive-compulsive disorder (OCD)
  - posttraumatic stress disorder (PTSD)
  
- ICD-10 affective disorders:
  - depressive episodes
  - dysthymia
  - bipolar affective disorder
  
- ICD-10 alcohol disorders:
  - alcohol harmful use
  - alcohol dependence.

In this report, individual ICD-10 disorder prevalence estimates are presented with hierarchy rules, which are applied to be consistent with Australian national rates. Lifetime exposure to trauma was also examined as part of the PTSD module of the CIDI (Kessler & Ustun, 2004). All 'criteria A' events listed in the CIDI were examined.

This range of mental disorders is the same as that presented by the 2007 NSMHW (Slade et al., 2007) and included in the 2010 MHPWS (McFarlane et al., 2011).

**For the full methodology, including a comprehensive description of all measures used in the survey, refer to Annex A.**



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### 3 Demographic characteristics in Transitioned ADF and 2015 Regular ADF

#### Transitioned ADF

- More than half of Transitioned ADF members remained in the ADF as Reservists (55.8%). Of these, 25.7% were Active Reservists.
- The majority of Transitioned ADF members had left full-time service between one and three years prior, with the smallest proportion leaving less than 12 months prior.
- The most commonly reported reason for leaving was 'own request', which was the case for more than 60% of the Transitioned ADF.
- Just over one-fifth of the 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%).
- Almost two-thirds of the Transitioned ADF reported being engaged in civilian employment (62.8%). For those individuals, 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 were unemployed (43.7%) since transitioning from the Regular ADF.
- More than 43% of Transitioned ADF members reported accessing DVA-funded treatment through either a DVA White Card (39.4%) or DVA Gold Card (4.2%).
- Among the Transitioned ADF, approximately one in five reported joining an ex-service organisation.
- Among the Transitioned ADF, 2.9% reporting having been arrested, convicted (2.1%) or imprisoned (0.07%) since transition.

#### Transitioned ADF compared to 2015 Regular ADF

- Transitioned ADF and 2015 Regular ADF were equally likely to be aged 18–27. However, compared to the 2015 Regular ADF, there were more Transitioned ADF aged over 58.
- There were more females among the Transitioned ADF compared to the 2015 Regular ADF.

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

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

Chapter 3 provides a detailed summary of the demographic characteristics of the Transitioned ADF, including an examination of the differences between Transitioned ADF and 2015 Regular ADF members. Outcomes are weighted up to the entire population, using the technique described in chapter 2. As such, they represent weighted estimates of these characteristics within the Transitioned ADF and 2015 Regular ADF.

### **3.1 Demographic characteristics of the Transitioned ADF and 2015 Regular ADF**

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

The age distribution across the two groups was significantly different with the Transitioned ADF having more elderly (58+ age group) and fewer middle-aged (38–47 age group) members based on 95% confidence intervals, while the younger age groups were similar for the Transitioned ADF and 2015 Regular ADF. There were more females among the Transitioned ADF (13.1% vs. 9.2% 2015 Regular ADF). 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’, however Transitioned ADF members were significantly less likely to be ‘In a relationship not living together’. There were differences in the highest education categories, with Transitioned ADF



being significantly more likely to have a diploma (20.9% vs 14.8%) and significantly less likely to have a university qualification than the 2015 Regular ADF (20.4% vs 22.9%). There were no differences in whether the respondents reported having stable housing over the past two months.

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

### **3.2 Demographic characteristics of the Transitioned ADF**

As seen in Table 3.3, 25.7% of Transitioned ADF members have remained in the ADF as Active Reservists. Regardless of Reservist status, the majority reported transitioning between one and three years previously. The most common type of discharge/resignation reported was 'own request', which was the case for more than half of the Transitioned ADF (53.7%; with this percentage increasing to over 60% when including 'end of fixed period' (2.1%) and 'end of initial enlistment period' (5.2%)). The second most common type of discharge was 'medical discharge' with approximately one-fifth (20.4%) of Transitioned ADF reporting 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 3.1 Weighted demographic characteristics in the Transitioned and 2015 Regular ADF**

	Transitioned ADF N = 24,932			2015 Regular ADF N = 52,500		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
<b>Age group<sup>a</sup></b>						
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)
<b>Sex<sup>b</sup></b>						
Male	3646	21,671	86.9	6693	47,645	90.8
Female	680	3261	13.1	1787	4855	9.2
<b>Relationship status</b>						
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 but 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)
<b>Education</b>						
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)
<b>Employment status</b>						
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)	–	–	–

	Transitioned ADF N = 24,932			2015 Regular ADF N = 52,500		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Student	206	1728	6.9 (5.9, 8.1)	-	-	-
Retired	377	1373	5.5 (5.0, 6.0)	-	-	-
<b>Main source of income</b>						
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)	-	-	-
<b>Stable housing</b>						
No	129	852	3.4 (2.8, 4.2)	233	2287	4.4 (2.9, 6.4)
Yes	4089	23378	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%)

Note: 95% CI: 95% confidence interval

\*No CIs are provided for Sex, Rank, Service and Medical fitness as these variables were used to create strata for weighting.

**Table 3.2 Weighted Service characteristics in the Transitioned ADF and 2015 Regular ADF**

	Transitioned ADF N = 24,932			2015 Regular ADF N = 52,500		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
<b>Rank<sup>a,*</sup></b>						
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
<b>Service<sup>a*</sup></b>						
Navy	863	5671	22.8 (22.8, 22.8)	2040	13,282	25.3
Army	2463	15,038	60.3 (60.3, 60.3)	3500	25,798	49.1
Air Force	1000	4223	16.9 (16.9, 16.9)	2940	13,420	25.6
<b>Medical fitness<sup>a*</sup></b>						
Fit	2981	18,273	73.3	7116	46,022	87.7
Unfit	1345	6659	26.7	1364	6478	12.3
<b>Time in Regular ADF</b>						
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)

<sup>a</sup> Either 2015 Regular ADF or on discharge from Regular ADF service

Note: 95% CI: 95% confidence interval

Missing: 2015 Regular ADF: Time in Regular ADF: 145 (1.7%)

Transitioned: Time in Regular ADF: 108 (3.4%)

<sup>\*</sup>No CIs are provided for Sex, Rank, Service and Medical fitness as these variables were used to create strata for weighting.

**Table 3.3 Weighted transition characteristics in the Transitioned ADF**

Characteristic	Transitioned ADF N = 24,932		
	n	Weighted n	% (95% CI)
<b>Serving status</b>			
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)
<b>Years since transition</b>			
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)
<b>Type of discharge/resignation</b>			
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)
<b>Main reason for transition</b>			
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	4	14	0.1 (0.0, 0.1)
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)

Characteristic	Transitioned ADF N = 24,932		
	n	Weighted n	% (95% CI)
Personal experience of violence in the ADF	5	40	0.2 (0.1, 0.4)
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)

Note: 95% CI: 95% confidence interval

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

Table 3.4 summarises employment and DVA support characteristics for Transitioned ADF members. Almost two-thirds of Transitioned ADF members reported being engaged in civilian employment (62.8%). For those individuals, 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%). Industry of employment was not reported for 1.3%. A considerable proportion of the Transitioned ADF reported a period of three months or longer in which they were unemployed (43.7%) since transitioning from the Regular ADF. More than 43% of Transitioned ADF members reported accessing DVA-funded treatment through either a DVA White Card (39.4%) or DVA Gold Card (4.2%).

As shown in Table 3.5, approximately 20% of the Transitioned ADF reported joining an ex-service organisation or voluntary group. A small proportion of the Transitioned ADF reported had been arrested (2.9%), convicted (2.1%) or imprisoned (0.1%) since transitioning from Regular ADF service.

**Table 3.4 Weighted civilian employment and DVA support in the Transitioned ADF**

Characteristic	Transitioned ADF N = 24,932		
	n	Weighted n	% (95% CI)
<b>Civilian employment</b>			
Employed	2516	15,664	62.8 (61.2, 64.4)
Not employed	1735	8771	35.2 (33.6, 36.8)
<b>Hours worked in past week<sup>a</sup></b>			
0–20	250	1652	10.6 (9.1, 12.2)
21–40	1199	7311	46.7 (44.3, 49.1)
41–60	790	4949	31.6 (29.4, 33.9)
61–80	94	576	3.7 (2.9, 4.7)
80 plus	112	790	5.0 (4.0, 6.3)
<b>Civilian employment industry<sup>a</sup></b>			
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)
<b>Unemployment: at least 3-month period since transition</b>			
Yes	1762	10,906	43.7 (42.0, 45.5)
No	2455	13,359	53.6 (51.8, 55.3)
<b>DVA support since transition</b>			
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: 95% CI: 95% confidence interval

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

**Table 3.5 Weighted ESO engagement and incarcerations in Transitioned ADF**

Characteristic	Transitioned ADF N = 24,932		
	n	Weighted n	% (95% CI)
<b>No. of ex-service organisations joined</b>			
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)
<b>No. of other voluntary groups joined</b>			
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)
<b>Criminal behaviour since transition</b>			
Arrested	72	746	2.9 (2.3, 3.9)
Convicted	47	516	2.1 (1.5, 2.9)

Note: 95% CI: 95% confidence interval

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



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## 4 Estimated prevalence of mental disorders

- Almost three in four Transitioned ADF members are estimated to have met criteria for an International Statistical Classification of Diseases and Related Health Problems – 10th Revision (ICD-10) mental disorder in their lifetime.
- Almost one in two Transitioned ADF members are estimated to have met criteria for an ICD-10 mental disorder in the last 12 months.
- Alcohol (47.5%) and anxiety disorders (46.1%) were the most common lifetime disorder classes.
- Just under one-quarter of Transitioned ADF members were estimated to have met ICD-10 criteria for posttraumatic stress disorder (PTSD) in their lifetime (24.9%), and just under one in five met the criteria in the last 12 months (17.7%).
- Lifetime and 12-month rates of anxiety disorders were similar.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

The following chapter describes the estimated prevalence of lifetime and 12-month ICD-10 mental disorders among ADF members who transitioned from the Regular ADF service between 2010 and 2014 (Transitioned ADF). Transitioned ADF members are grouped into three groups that broadly represents their level of continued association and contact with Defence:

- **Ex-Serving:** individuals who were a Regular (full-time) ADF member prior to 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. Discharge may have occurred for medical or administrative reasons, or they may have reached compulsory retirement age.
- **Active Reservists:** individuals who were a Regular ADF member before 2010 but who have now transitioned into an Active Reservist position. As an Active Reservist they are required to complete a minimum number of service days per year.
- **Inactive Reservists:** Regular ADF members before 2010 but who have now transitioned into the Inactive Reserves. They represent a latent capability that Service Chiefs can call upon as required to provide voluntary service. Defence may call upon them to perform a specific task.

This chapter provides prevalence estimates for three classes of ICD-10 mental disorder – anxiety disorder, affective disorder and alcohol disorder – as well as providing a detailed analysis of PTSD as a distinct disorder. PTSD is presented separately due to the strong relationship between the risks of military service and PTSD, and ongoing community concern, and to provide greater clarity about how it differs from other anxiety disorders. Within the ICD-10 classification system, PTSD is still classed with anxiety disorders, unlike recent changes in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5), where PTSD is now a separate category (McFarlane, 2014).

Accordingly, the class ‘any anxiety disorder’ is defined in this report in two ways:

- Anxiety disorder: the most inclusive definition of this class of disorder and includes all of the individual ICD-10 anxiety disorders assessed and presented throughout the report (that is, panic attack, panic disorder, agoraphobia, social phobia, specific phobia, GAD, OCD and PTSD)
- Anxiety disorder (excluding PTSD): this variable is scored in the same way as above but excludes PTSD. This definition is included to provide greater clarity in relation to how the prevalence of the remaining anxiety disorders differs in relation to that of PTSD, which we already know has a strong relationship with military service.

As a key goal of this study is to inform service delivery, the prevalence of mental disorder comorbidity in this population is provided, as well as an overview of the prevalence of suicidality.

In addition to reporting estimated prevalence in the entire population, this section also compares the estimated prevalence of mental disorder, comorbidity and suicidality, using a range of key variables with a known or suspected association with mental disorder. Grouping factors were chosen following extensive consultation with DVA and Defence on the types of factors hypothesised to moderate or predict rates of mental disorder in the Transitioned ADF:

- Demographic factors:
  - sex: male, female
  - age: 18–27, 28–37, 38–47, 48–57, 58+
- Service factors:
  - Service: Navy, Army, Air Force
  - rank: Commissioned Officer (OFFR), Non-Commissioned Officer (NCO), Other Ranks (OR)

- deployment status:
  - Never deployed – individuals who did not endorse any of the listed deployments in the self-report survey AND did not endorse any of the deployment exposures
  - Deployed – Individuals who endorsed one or more of the listed deployments in the self-report survey OR endorsed one or more of the deployment exposures
- years of service in the Regular ADF subgrouped as follows: 3 months – 3.9 years, 4–7.9 years, 8–11.9 years, 12–15.9 years, 16–19.9 years and > 20 years.
- Transition factors:
  - years since transition: 0 (less than 1 year), 1, 2, 3, 4, 5 years
  - type of discharge: 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 non-medical discharge
  - DVA client status: DVA client/non-DVA client (this was taken from an indicator on the Military and Veteran Research Study Roll). DVA clients included those receiving a fortnightly payment, treatment card holders, and those who have had their illness or injury liability claim accepted as service-related.

All tests of statistical significance (odds ratios) in this chapter are adjusted for age, sex, Service and rank.

Table 4.1 and Table 4.2 show the lifetime and 12-month estimated prevalence of ICD-10 anxiety disorders, affective disorders, alcohol disorder and PTSD. Almost three in four Transitioned ADF members are estimated to have met criteria for any ICD-10 mental disorder in their lifetime, with just under 50% estimated to have met criteria in the last 12 months. Alcohol disorders (47.5%) and anxiety disorders (46.1%) were the most prevalent lifetime disorder classes, with lower rates of affective disorders (39.6%). Just under one-quarter of Transitioned ADF members were estimated to have met ICD-10 criteria for PTSD in their lifetime (24.9%), and just under one in five in the last 12 months (17.7%). While the estimated prevalence of 12-month alcohol disorder was substantially lower than lifetime rates, which would generally be expected, the differences between 12-month and lifetime rates of anxiety disorders, affective disorders, and PTSD specifically, were noticeably less. Interestingly, the proportion of Transitioned ADF with 12-month PTSD (17.7%) is only slightly lower than the proportion with another type of anxiety disorder (19.3%).

**Table 4.1 Estimated prevalence of lifetime ICD-10 anxiety, affective, alcohol and any disorder in Transitioned ADF**

Lifetime ICD-10 disorder	Transitioned ADF (N = 24,932)		
	Weighted n	%	95% CI
Anxiety disorder	11,378	46.1	41.4, 50.9
Anxiety disorder (excluding PTSD)	7976	31.9	27.7, 36.6
Anxiety disorder (ABS)	10,421	41.8	37.1, 46.6
Affective disorder	9769	39.6	35.0, 44.4
Alcohol disorder	11,714	47.5	42.8, 52.2
PTSD	6134	24.9	20.9, 29.3
Any disorder	18,435	74.7	70.5, 78.5

Notes:

A description of each of the ICD-10 disorder classes is provided in the glossary

95% CI: 95% confidence interval

**Table 4.2 Estimated prevalence of 12-month ICD-10 anxiety, affective, alcohol and any disorder, and PTSD in Transitioned ADF**

12-month ICD-10 disorder	Transitioned ADF (N = 24,932)		
	Weighted n	%	95% CI
Anxiety disorder	9232	37.0	32.6, 41.7
Anxiety disorder (excluding PTSD)	4822	19.3	15.8, 23.5
Anxiety disorder (ABS)	7694	30.9	26.6, 35.5
Affective disorder	5755	23.1	19.2, 27.5
Alcohol disorder	3219	12.9	9.8, 16.9
Posttraumatic stress disorder	4408	17.7	14.5, 21.3
Any disorder	11,558	46.4	41.7, 51.1

Notes:

A description of each of the ICD-10 disorder classes is provided in the glossary

95% CI: 95% confidence interval

## 4.1 Estimated prevalence of anxiety disorders in Transitioned ADF

- Anxiety disorders were the most common class of 12-month mental disorder among the Transitioned ADF, with over one in three (37.0%) meeting criteria for an anxiety disorder in the last 12 months.
- PTSD (17.7%), panic attacks (17.0%), agoraphobia (11.9%) and social phobia (11.0%) were the most common types of anxiety disorders in the Transitioned ADF.
- Ex-serving members had significantly greater rates of anxiety disorders compared to Inactive and Active Reservists.
- Transitioned Army and Air Force members were more likely to have met criteria for PTSD compared to Transitioned Navy members.
- Anxiety disorders were greater for Transitioned Non-Commissioned Officers compared to Transitioned Officers.

- PTSD was the most prevalent condition among those who had been deployed during their service career, followed by panic attacks and agoraphobia.
- Anxiety disorders were most commonly observed in Transitioned ADF members who were medically discharged and who were DVA clients.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

The following section summarises the estimated prevalence of 12-month ICD-10 anxiety disorders among ADF members in the first five years post-transition (among those transitioned from the Regular ADF between 2010 and 2014). The section includes associated predictors such as demographics (sex, age); rank; years of service; deployment status) and transition (transition status, years since transition, type of discharge). The association between anxiety disorder and DVA status is also outlined. As PTSD is particularly relevant to the military population, the section also examines the relationship between trauma exposure and PTSD.

The Mental Health and Wellbeing Transition Study examined eight types of anxiety disorders:

- **Panic attack:** sudden onset of extreme fear or anxiety, often accompanied by palpitations, chest pain, choking sensations, dizziness and sometimes feelings of unreality, fear of dying, losing control or going mad
- **Panic disorder:** regular panic attacks that are unpredictable in nature
- **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, fear of dying, losing control or going mad
- **Social phobia:** marked fear or avoidance of being the centre of attention or being in situations where it is possible to behave in a humiliating or embarrassing way, accompanied by anxiety symptoms, as well as 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, the sight of blood or injury, injections, dentists or hospitals, and accompanied by anxiety symptoms as described in 'Agoraphobia'.
- **Generalised anxiety disorder (GAD):** 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 in ‘Agoraphobia’. Other symptoms may include symptoms of tension, such as the inability to relax and muscle tension, and other non-specific symptoms, such as irritability and difficulty in concentrating.

- **Obsessive-compulsive disorder (OCD):** 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 recognising their ineffectiveness
- **Posttraumatic stress disorder (PTSD):** stress reaction to an exceptionally threatening or traumatic event that would cause pervasive distress in almost anyone. Symptoms are categorised into three groups: re-experiencing memories or flashbacks, avoidance symptoms, and either hyperarousal (increased arousal and sensitivity to cues) or inability to recall important parts of the experience.

#### 4.1.1 Transitioned ADF population

Table 4.3 summarises the estimated 12-month prevalence of ICD-10 anxiety disorders in the Transitioned ADF. This was the most common class of mental disorder in the Transitioned ADF, with 37.0% (95% CI 32.6, 41.7) meeting criteria for an anxiety disorder in the 12 months before interview. PTSD (17.7%, 95% CI 14.5, 21.3), panic attacks (17.0%, 95% CI 13.8, 20.8), agoraphobia (11.9%, 95% CI 9.1, 15.5) and social phobia (11.0%, 95% CI 8.4, 14.3) were the most common anxiety disorders in this population.

**Table 4.3 Estimated prevalence of 12-month ICD-10 anxiety disorders**

ICD-10 anxiety disorder	Transitioned ADF (N = 24,932)		
	Weighted n	%	95% CI
Panic attack	4244	17.0	13.8, 20.8
Panic disorder	1344	5.4	3.6, 8.0
Agoraphobia	2975	11.9	9.1, 15.5
Social phobia	2738	11.0	8.4, 14.3
Specific phobia	1936	7.8	5.8, 10.3
Generalised anxiety disorder	917	3.7	2.2, 6.0
Obsessive-compulsive disorder	1029	4.1	2.6, 6.6
Posttraumatic stress disorder	4408	17.7	14.5, 21.3
Any anxiety disorder	9232	37.0	32.6, 41.7

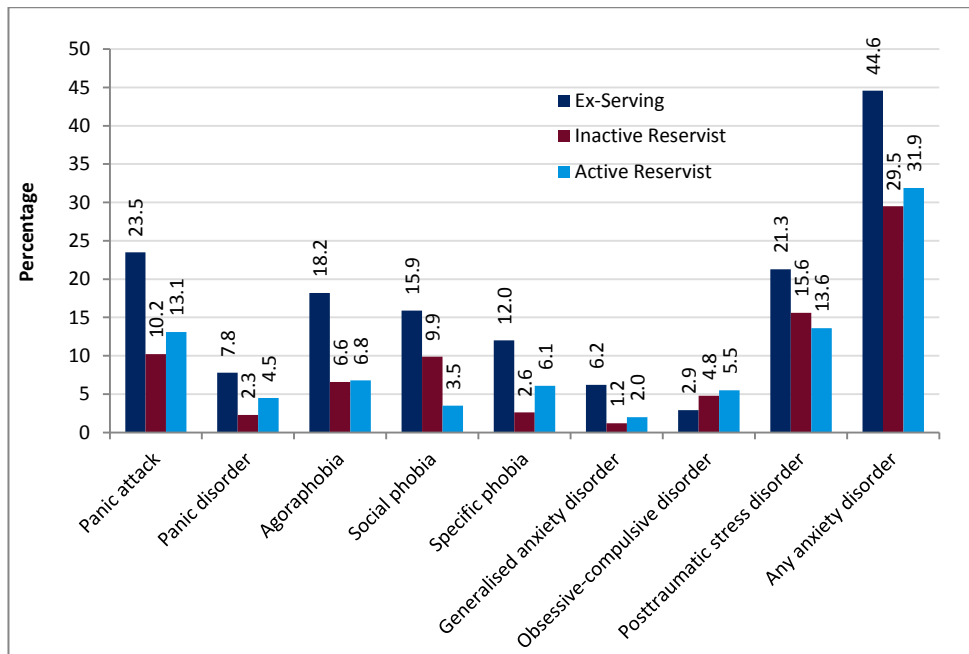
Note: 95% CI: 95% confidence interval

#### Transition status

Table 4.4 and Figure 4.1 summarise 12-month anxiety disorder by transition status. Ex-Serving Transitioned ADF members had significantly greater estimated rates of 12-month ICD-10 anxiety disorders compared to both Inactive Reservists (OR 2.3, 95%

CI 1.4, 3.8) and Active Reservists (OR 1.7, 95% CI 1.0, 2.9). Except for OCD, where there were no significant differences between the groups, all other anxiety disorders were higher among Ex-Serving Transitioned ADF members. Compared to both Inactive and Active Reservists, Ex-Serving Transitioned ADF members were more significantly more likely to have met criteria for panic attacks (vs Inactive: OR 4.4, 95% CI 2.2, 8.5; vs Active: OR 2.1, 95% CI 1.1, 4.2); agoraphobia (vs Inactive: OR 3.2, 95% CI 1.4, 7.2; vs Active: OR 3.1, 95% CI 1.2, 7.9); social phobia (vs Inactive: OR 2.8, 95% CI 1.1, 7.1; vs Active: OR 5.5, 95% CI 2.9, 10.5); and specific phobia (vs Inactive: OR 5.9, 95% CI 3.1, 11.5; vs Active: OR 3.1, 95% CI 1.5, 6.7) in the past 12 months. Compared to Inactive Reservists, Ex-Serving Transitioned ADF members were nearly four times more likely to have a 12-month panic disorder (OR 3.8, 95% CI 1.7, 8.5), five times more likely to meet criteria for GAD (OR 5.0, 95% CI 1.9, 13.7) and twice as likely to meet criteria for 12-month PTSD (OR 2.1, 95% CI 1.1, 3.9).

**Figure 4.1** Estimated prevalence of 12-month ICD-10 anxiety disorder, by transition status



Panic attack: Ex-Serving vs Inactive: OR 4.4, 95% CI 2.2, 8.5; Ex-Serving vs Active: OR 2.1, 95% CI 1.1, 4.2  
Panic disorder: Ex-Serving vs Inactive: OR 3.8, 95% CI 1.7, 8.5  
Agoraphobia: Ex-Serving vs Inactive: OR 3.2, 95% CI 1.4, 7.2; Ex-Serving vs Active: OR 3.1, 95% CI 1.2, 7.9  
Social phobia: Ex-Serving vs Inactive: OR 2.8, 95% CI 1.1, 7.1; Ex-Serving vs Active: OR 5.5, 95% CI 2.9, 10.5  
Specific phobia: Ex-Serving vs Inactive: OR 5.9, 95% CI 3.1, 11.5; Ex-Serving vs Active: OR 3.1, 95% CI 1.5, 6.7  
GAD: Ex-Serving vs Inactive: OR 5.0, 95% CI 1.9, 13.7  
PTSD: Ex-Serving vs Inactive: OR 2.1, 95% CI 1.1, 3.9  
Any anxiety disorder: Ex-Serving vs Inactive: OR 2.3, 95% CI 1.4, 3.8; Ex-Serving vs Active: OR 1.7, 95% CI 1.0, 2.9. Note: Ex-Serving, Inactive Reservists and Active Reservists

**Table 4.4** Estimated prevalence of 12-month ICD-10 anxiety disorders, by transition status

ICD-10 anxiety disorder	Transition status								
	Ex-Serving (n = 11,440)			Inactive Reservists (n = 6447)			Active Reservists (n = 6968)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Panic attack <sup>a</sup>	2688	23.5	17.7, 30.4	658	10.2	7.1, 14.5	913	13.1	8.4, 19.7
Panic disorder <sup>b</sup>	892	7.8	4.5, 13.2	148	2.3	1.3, 4.2	314	4.5	2.2, 9.1
Agoraphobia <sup>c</sup>	2082	18.2	13.1, 24.7	426	6.6	3.3, 12.6	474	6.8	3.4, 13.1
Social phobia <sup>d</sup>	1819	15.9	11.1, 22.2	638	9.9	6.1, 15.7	244	3.5	2.1, 5.8
Specific phobia <sup>e</sup>	1373	12.0	8.3, 17.0	168	2.6	1.5, 4.5	425	6.1	3.5, 10.6
Generalised anxiety disorder <sup>f</sup>	709	6.2	3.5, 10.8	77	1.2	0.5, 2.8	139	2.0	0.4, 8.6
Obsessive-compulsive disorder	332	2.9	1.4, 6.0	309	4.8	2.1, 10.5	383	5.5	2.3, 12.7
Posttraumatic stress disorder <sup>g</sup>	2437	21.3	16.0, 27.8	1006	15.6	11.1, 21.5	948	13.6	8.7, 20.6
Any anxiety disorder <sup>h</sup>	5102	44.6	37.2, 52.2	1902	29.5	22.5, 37.5	2223	31.9	24.9, 39.9

<sup>a</sup> Ex-Serving vs Inactive: OR 4.4, 95% CI 2.2, 8.5; Ex-Serving vs Active: OR 2.1, 95% CI 1.1, 4.2

<sup>b</sup> Ex-Serving vs Inactive: OR 3.8, 95% CI 1.7, 8.5

<sup>c</sup> Ex-Serving vs Inactive: OR 3.2, 95% CI 1.4, 7.2; Ex-Serving vs Active: OR 3.1, 95% CI 1.2, 7.9

<sup>d</sup> Ex-Serving vs Inactive: OR 2.8, 95% CI 1.1, 7.1; Ex-Serving vs Active: OR 5.5, 95% CI 2.9, 10.5

<sup>e</sup> Ex-Serving vs Inactive: OR 5.9, 95% CI 3.1, 11.5; Ex-Serving vs Active: OR 3.1, 95% CI 1.5, 6.7

<sup>f</sup> Ex-Serving vs Inactive: OR 5.0, 95% CI 1.9, 13.7

<sup>g</sup> Ex-Serving vs Inactive: OR 2.1, 95% CI 1.1, 3.9

<sup>h</sup> Ex-Serving vs Inactive: OR 2.3, 95% CI 1.4 3.8; Ex-Serving vs Active: OR 1.7, 95% CI 1.0, 2.9

Note: 95% CI: 95% confidence interval



#### 4.1.2 Demographic factors

##### Sex

Overall, compared to males, females tended to have slightly higher estimated rates of 12-month anxiety disorders (41.9% vs 36.3%) including panic attacks (22.8% vs 16.2%), social phobia (14.9% vs 10.4%) and PTSD (24.8% vs 16.6%). In contrast, males had slightly higher rates of panic disorder (5.7% vs 3.0%) and agoraphobia (12.5% vs 7.9%). However, these differences were not statistically significant (Table 4.5 and Figure 4.2).

##### Age

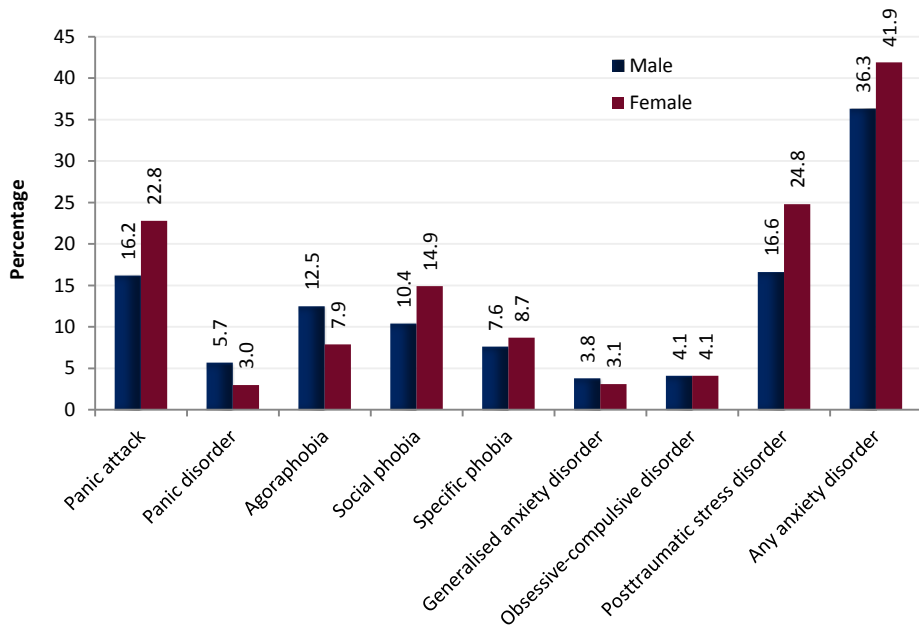
Table 4.6 and Figure 4.3 show the estimated prevalence of 12-month anxiety disorders, by age. Overall, there was little difference in the prevalence of anxiety disorders between the different age groups. The lowest reported prevalence for anxiety disorders was in the 48–57 age group (34.3%), with the 38–47 age group reporting the highest prevalence. In terms of the individual anxiety disorder types, Transitioned ADF members in the 28–37 age group reported the highest prevalence of panic disorder and social phobia. In contrast, panic attacks, agoraphobia and GAD were most prevalent in the 38–47 age group; specific phobia was most prevalent in the 48–57 age group; PTSD was most prevalent in the 58+ age group; and OCD was most prevalent in the 18–27 age group. Statistical tests showed no linear effect for age. The only disorder that showed a significant difference in prevalence by age was OCD, with rates among those aged 28–37 (0.8%, 95% CI 0.4, 1.9) significantly lower than for those aged 18–27 (10.8%, 95% CI 4.6, 23.3) (OR 0.1, 95% CI 0.0, 0.3).

**Table 4.5** Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by sex

ICD-10 anxiety disorder	Sex					
	Male (n = 21,671)			Female (n = 3261)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Panic attack	3500	16.2	12.7, 20.4	744	22.8	16.4, 30.9
Panic disorder	1246	5.7	3.7, 8.8	98	3.0	1.4, 6.1
Agoraphobia	2718	12.5	9.4, 16.5	257	7.9	3.3, 17.7
Social phobia	2253	10.4	7.5, 14.3	485	14.9	11.9, 18.4
Specific phobia	1651	7.6	5.5, 10.4	285	8.7	4.7, 15.7
Generalised anxiety disorder	815	3.8	2.2, 6.5	102	3.1	1.5, 6.4
Obsessive-compulsive disorder	894	4.1	2.5, 6.8	135	4.1	1.3, 12.1
Posttraumatic stress disorder	3598	16.6	13.2, 20.7	810	24.8	18.2, 32.8
Any anxiety disorder	7865	36.3	31.5, 41.4	1367	41.9	32.3, 52.2

Note: 95% CI: 95% confidence interval

**Figure 4.2** Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by sex



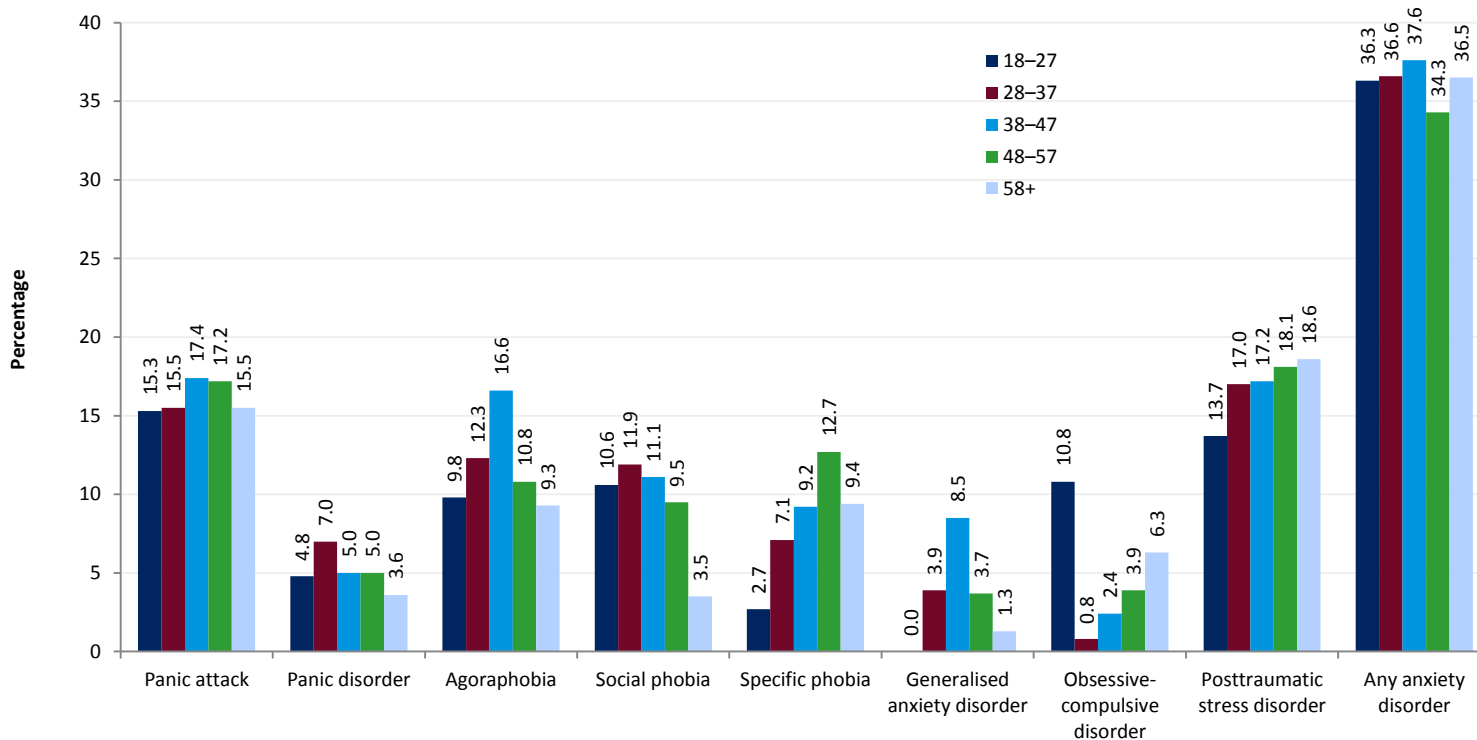
**Table 4.6 Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by anxiety disorder type and age**

ICD-10 anxiety disorder	Age														
	18–27 (n = 5195)			28–37 (n = 8808)			38–47 (n = 5215)			48–57 (n = 3389)			58+ (n = 1937)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Panic attack	796	15.3	7.4, 28.9	1369	15.5	9.5, 24.4	907	17.4	12.4, 23.9	584	17.2	12.9, 22.5	300	15.5	8.7, 26.1
Panic disorder	250	4.8	1.3, 16.5	616	7.0	3.2, 14.5	261	5.0	3.1, 7.9	171	5.0	3.1, 8.1	69	3.6	1.8, 7.1
Agoraphobia	507	9.8	3.8, 23.1	1085	12.3	7.0, 20.7	862	16.6	10.7, 24.8	366	10.8	7.4, 15.5	180	9.3	4.3, 18.9
Social phobia	551	10.6	4.4, 23.2	1047	11.9	6.6, 20.4	579	11.1	6.9, 17.4	321	9.5	6.3, 14.0	68	3.5	1.7, 7.1
Specific phobia	139	2.7	0.7, 9.5	625	7.1	3.3, 14.4	478	9.2	5.3, 15.5	430	12.7	9.0, 17.6	181	9.4	6.2, 13.8
Generalised anxiety disorder	0	0.0	0.0, 0.0	346	3.9	1.5, 10.1	443	8.5	3.9, 17.3	124	3.7	1.9, 7.1	25	1.3	0.4, 3.8
Obsessive-compulsive disorder <sup>a</sup>	558	10.8	4.6, 23.3	72	0.8	0.4, 1.9	127	2.4	1.3, 4.6	130	3.9	1.9, 7.4	122	6.3	2.1, 17.4
Posttraumatic stress disorder	711	13.7	6.6, 26.2	1499	17.0	10.7, 26.0	894	17.2	11.7, 24.4	613	18.1	13.7, 23.5	360	18.6	12.4, 26.9
Any anxiety disorder	1885	36.3	23.9, 50.7	3219	36.6	27.5, 46.7	1962	37.6	29.2, 46.8	1161	34.3	28.3, 40.7	707	36.5	28.5, 45.3

<sup>a</sup> 28–37 age group vs 18–27 age group: OR 0.1, 95% CI 0.0, 0.3

Note: 95% CI: 95% confidence interval

Figure 4.3 Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by anxiety disorder type and age



Obsessive-compulsive disorder: 28-37 age group vs 18-27 age group: OR 0.1, 95% CI 0.0, 0.3

### 4.1.3 Service factors

#### Service

When the individual Services were considered (Table 4.7, Figure 4.4), Transitioned Army and Air Force members showed no significant differences in the prevalence of anxiety disorder. Looking at specific diagnoses, compared to Transitioned Navy members, Transitioned Army (OR 2.6, 95% CI 1.6, 4.2) and Air Force (OR 1.6, 95% CI 0.9, 3.1) members were significantly more likely to have meet criteria for 12-month PTSD.

#### Rank

Table 4.8 and Figure 4.5 show the estimated prevalence of 12-month anxiety disorders, by rank at time of transition. The likelihood of having any 12-month ICD-10 anxiety disorder was greater for Non-Commissioned Officers compared to Officers (OR 1.6, 95% CI 1.2, 2.2). When examining the individual anxiety disorders, Non-Commissioned Officers had higher rates of panic attacks (OR 1.7, 95% CI 1.1, 2.6), agoraphobia (OR 2.6, 95% CI 1.5, 4.4), social phobia (OR 1.9, 95% CI 1.1, 3.3), OCD (OR 2.3, 95% CI 1.0, 5.4) and PTSD (OR 1.5, 95% CI 1.0, 2.1) compared with Officers. There were no significant differences between the ranks for panic disorder, specific phobia and generalised anxiety disorder. Similarly, Other Ranks showed no significant differences when compared with Officers or Non-Commissioned Officers.

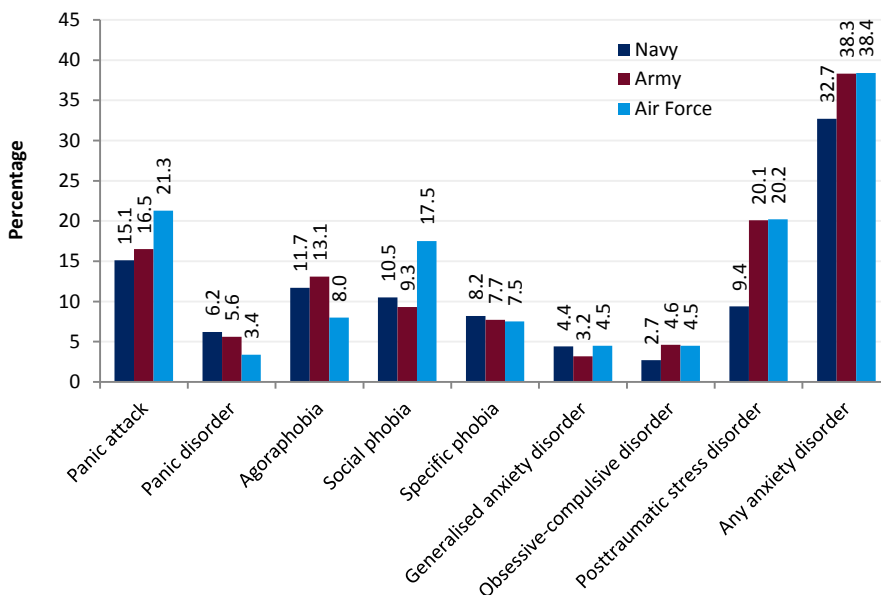
**Table 4.7 Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members (Navy, Army and Air Force)**

ICD-10 anxiety disorder	Service at transition								
	Navy (n = 5671)			Army (n = 15,038)			Air Force (n = 4223)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Panic attack	859	15.1	9.2, 24.0	2485	16.5	12.3, 21.8	901	21.3	15.9, 27.9
Panic disorder	353	6.2	2.7, 13.8	847	5.6	3.3, 9.4	144	3.4	2.0, 5.8
Agoraphobia	661	11.7	6.6, 19.7	1977	13.1	9.2, 18.4	337	8.0	4.7, 13.3
Social phobia	596	10.5	5.8, 18.2	1404	9.3	6.0, 14.2	739	17.5	12.4, 24.2
Specific phobia	462	8.2	4.3, 15.0	1156	7.7	5.2, 11.3	318	7.5	5.2, 10.7
Generalised anxiety disorder	252	4.4	1.9, 10.2	477	3.2	1.5, 6.7	189	4.5	1.9, 10.1
Obsessive-compulsive disorder	151	2.7	0.7, 9.6	686	4.6	2.5, 8.2	192	4.5	2.0, 10.2
Posttraumatic stress disorder <sup>a</sup>	532	9.4	6.6, 13.1	3022	20.1	15.3, 25.9	854	20.2	15.3, 26.3
Any anxiety disorder	1856	32.7	24.3, 42.5	5755	38.3	32.1, 44.8	1621	38.4	31.3, 46.0

<sup>a</sup> Army vs Navy: OR 2.6, 95% CI 1.6, 4.2; Air Force vs Navy: OR 1.6, 95% CI 0.9, 3.1.

Note: 95% CI: 95% confidence interval

**Figure 4.4** Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members (Navy, Army and Air Force)



PTSD: Army vs Navy: OR 2.6, 95% CI 1.6, 4.2; Air Force vs Navy: OR 1.6, 95% CI 0.9, 3.1.

**Table 4.8** Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by anxiety disorder type and rank at transition

ICD-10 anxiety disorder	Rank at transition								
	OFFR (n = 4063)			NCO (n = 7866)			Other Ranks (n = 13,003)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Panic attack <sup>a</sup>	477	11.7	8.7, 15.6	1472	18.7	15.5, 22.3	2296	17.7	12.2, 24.8
Panic disorder	207	5.1	3.2, 8.0	421	5.3	3.7, 7.6	716	5.5	2.7, 11.0
Agoraphobia <sup>b</sup>	237	5.8	3.8, 8.9	1129	14.4	11.5, 17.8	1609	12.4	7.7, 19.3
Social phobia <sup>c</sup>	224	5.5	3.5, 8.5	823	10.5	8.0, 13.6	1691	13.0	8.5, 19.3
Specific phobia	362	8.9	6.3, 12.4	945	12.0	9.4, 15.2	629	4.8	2.2, 10.2
Generalised anxiety disorder	112	2.7	1.4, 5.2	307	3.9	2.5, 6.1	499	3.8	1.6, 8.8
Obsessive-compulsive disorder <sup>d</sup>	84	2.1	1.0, 4.2	354	4.5	3.0, 6.7	591	4.5	2.1, 9.7
Posttraumatic stress disorder <sup>e</sup>	608	15.0	11.6, 19.1	1559	19.8	16.6, 23.5	2242	17.2	12.0, 24.2
Any anxiety disorder <sup>f</sup>	1203	29.6	25.0, 34.6	3181	40.5	36.3, 44.8	4848	37.3	29.5, 45.8

<sup>a</sup> NCO vs OFFR: OR 1.7, 95% CI 1.1, 2.6

<sup>b</sup> NCO vs OFFR: OR 2.6, 95% CI 1.5, 4.4

<sup>c</sup> NCO vs OFFR: OR 1.9, 95% CI 1.1, 3.3

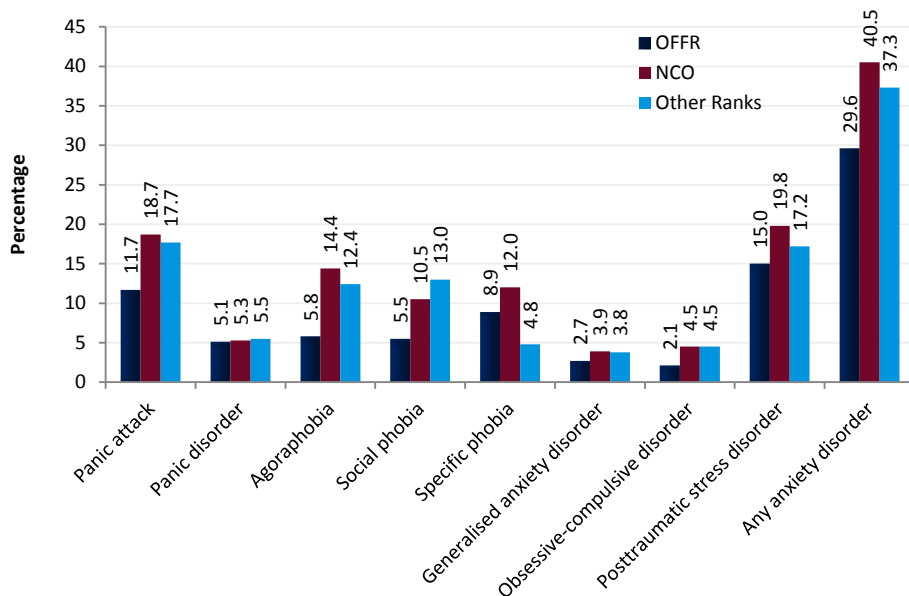
<sup>d</sup> NCO vs OFFR: OR 2.3, 95% CI 1.0, 5.4

<sup>e</sup> NCO vs OFFR: OR 1.5, 95% CI 1.0, 2.1

<sup>f</sup> NCO vs OFFR: OR 1.6, 95% CI 1.2, 2.2

Note: 95% CI: 95% confidence interval

**Figure 4.5** Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by anxiety disorder type and rank at transition



Panic attacks: NCO vs OFFR: OR 1.7, 95% CI 1.1, 2.6  
 Agoraphobia: NCO vs OFFR: OR 2.6, 95% CI 1.5, 4.4  
 Social phobia: NCO vs OFFR: OR 1.9, 95% CI 1.1, 3.3  
 Obsessive-compulsive disorder: NCO vs OFFR: OR 2.3, 95% CI 1.0, 5.4  
 PTSD: NCO vs OFFR: OR 1.5, 95% CI 1.0, 2.1  
 Any anxiety disorder: NCO vs OFFR: OR 1.6, 95% CI 1.2, 2.2

### Deployment

When the effects of deployment were examined (Table 4.9 and Figure 4.6), Transitioned ADF members who had ever been deployed were more likely to meet criteria for ‘any anxiety disorder’ than those who had never been deployed (OR 2.0, 95% CI 1.0, 3.8). Similarly, although a pattern showed that Transitioned ADF members who had ever been deployed were more likely to meet criteria for all individual anxiety disorders, OCD and PTSD were significantly more prevalent in the ‘ever deployed’ versus the ‘never deployed’ group. Those who had ever been deployed were over 12 times more likely to meet criteria for OCD (OR 12.9, 95% CI 2.7, 62.5) and over seven times more likely to meet criteria for PTSD (OR 7.5, 95% CI 2.6, 21.1) compared to those who had never been deployed. The wide confidence interval for the estimate for OCD in particular should be noted, and this result interpreted with caution.

**Table 4.9** Estimated prevalence of 12-month ICD-10 anxiety disorders in the ADF, by anxiety disorder type and deployment status

ICD-10 anxiety disorder	Deployment status					
	Ever deployed (n = 20,087)			Never deployed (n = 4885)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Panic attack	3133	16.6	13.2, 20.8	788	14.1	7.1, 26.0
Panic disorder	1044	5.5	3.6, 8.3	282	5.1	1.5, 16.1
Agoraphobia	2400	12.7	9.6, 16.7	518	9.3	3.8, 20.9
Social phobia	2139	11.4	8.3, 15.4	261	4.7	1.4, 14.2
Specific phobia	1579	8.4	6.2, 11.2	320	5.7	2.2, 14.1
Generalised anxiety disorder	755	4.0	2.4, 6.7	143	2.6	0.4, 13.6
Obsessive-compulsive disorder <sup>a</sup>	951	5.1	3.1, 8.2	34	0.6	0.2, 2.4
Posttraumatic stress disorder <sup>b</sup>	3782	20.1	16.2, 24.5	196	3.5	1.3, 9.0
Any anxiety disorder <sup>c</sup>	7370	39.1	34.2, 44.3	1405	25.1	15.7, 37.7

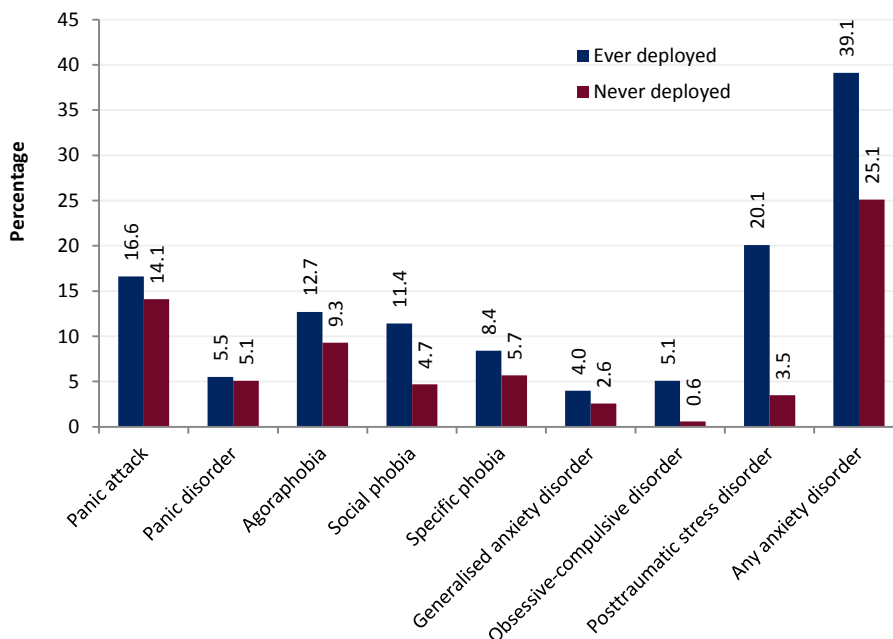
<sup>a</sup> Ever vs Never: OR 12.9, 95% CI 2.7, 62.5

<sup>b</sup> Ever vs Never: OR 7.5, 95% CI 2.6, 21.1

<sup>c</sup> Ever vs Never: OR 2.0, 95% CI 1.0, 3.8

Note: 95% CI: 95% confidence interval

**Figure 4.6** Estimated prevalence of 12-month ICD-10 anxiety disorders in the ADF, by anxiety disorder type and deployment status



<sup>a</sup> OCD: OR 12.9, 95% CI 2.7, 62.5

<sup>b</sup> PTSD: OR 7.5, 95% CI 2.6, 21.1

<sup>c</sup> Any anxiety disorder: OR 2.0, 95% CI 1.0, 3.8



### *Years of service*

When the impact of years of service in the Regular ADF was considered (Table 4.10 and Figure 4.7), there was an overall trend for estimated rates of 12-month ICD-10 anxiety disorders to decrease with increasing service length, with the highest rates among those with less than four years of service (41.7%, 95% CI 23.0, 63.2) and the lowest among those with 12–15.9 years of service (25.2%, 95% CI 17.4, 35.2). However, for some conditions, the differences in estimated rates across years of service were more striking. For PTSD, while estimated 12-month prevalence was reasonably evenly distributed among the different lengths of service (as can be seen in Figure 4.7), it was highest among those who had served between four and 7.9 years (21.2%, 95% CI 14.2, 30.4).

Interestingly, estimated rates of panic attacks and panic disorder were highest among those who had served for under four years (26.7%, 95% CI 11.9, 49.6 and 19.1%, 95% CI 7.0, 42.3 respectively). While there was no statistically significant linear relationship between years of service and estimated rates of 12-month anxiety disorders, when compared against those with between four and 7.9 years of service (the largest subpopulation), those with under four years of Regular service were five times more likely to meet the criteria for panic disorder (OR 5.3, 95% CI 1.2, 24.4), those with eight to 11.9 years of service were 90% less likely to meet the criteria OCD (OR 0.1, 95% CI 0.0, 0.6), and those with between 12 and 15.9 years of service were 60% less likely to meet the criteria for panic attacks (OR 0.4, 95% CI 0.2, 0.9) and 70% less likely to meet the criteria for PTSD (OR 0.3, 95% CI 0.2, 0.7). Those with 16 to 19.9 and more than 20 years of service were also 60% less likely to meet the criteria for PTSD when compared to those with between four and 7.9 years of service (OR 0.4., 95% CI 0.2, 0.9 and OR 0.4, 95% CI 0.2, 0.9, respectively).

**Table 4.10** Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by years of service in the Regular ADF

ICD-10 anxiety disorder	Years of service in Regular ADF																	
	3 months – 3.9 years (n = 2413)			4–7.9 years (n = 9015)			8–11.9 years (n = 3295)			12–15.9 years (n = 2086)			16–19.9 years (n = 967)			> 20 years (n = 5772)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Panic attack <sup>a</sup>	644	26.7	11.9, 49.6	1478	16.4	10.4, 25.0	369	11.2	5.7, 21.0	219	10.5	6.1, 17.4	196	20.3	12.4, 31.4	843	14.6	11.7, 18.1
Panic disorder <sup>b</sup>	461	19.1	7.0, 42.3	433	4.8	2.0, 11.3	72	2.2	0.8, 5.7	46	2.2	0.7, 6.6	56	5.8	2.2, 14.2	323	5.6	3.9, 7.9
Agoraphobia	333	13.8	4.2, 36.6	1316	14.6	8.7, 23.3	297	9.0	4.0, 18.9	194	9.3	5.0, 16.5	138	14.3	7.8, 24.7	664	11.5	8.4, 15.6
Social phobia	166	6.9	1.2, 30.8	1145	12.7	7.4, 20.9	432	13.1	5.8, 27.2	196	9.4	5.1, 16.8	113	11.7	6.0, 21.7	427	7.4	5.3, 10.3
Specific phobia	63	2.6	0.8, 7.8	577	6.4	2.9, 13.4	313	9.5	4.0, 20.6	136	6.5	3.4, 12.3	149	15.4	8.7, 25.8	595	10.3	7.9, 13.4
Generalised anxiety disorder	166	6.9	1.2, 30.7	234	2.6	0.8, 7.8	92	2.8	1.1, 6.9	81	3.9	1.6, 9.1	23	2.4	0.6, 9.2	300	5.2	2.5, 10.4
Obsessive-compulsive disorder	104	4.3	0.7, 22.6	577	6.4	2.9, 13.3	33	1.0	0.3, 3.8	58	2.8	1.1, 7.3	27	2.8	0.7, 10.2	219	3.8	2.4, 5.9
Posttraumatic stress disorder	275	11.4	3.8, 29.6	1911	21.2	14.2, 30.4	445	13.5	7.1, 24.2	252	12.1	7.3, 19.4	145	15.0	8.5, 25.3	999	17.3	14.2, 21.0
Any anxiety disorder	1006	41.7	23.0, 63.2	3354	37.2	28.2, 47.2	1358	41.2	28.3, 55.5	526	25.2	17.4, 35.2	362	37.4	26.5, 49.9	2049	35.5	30.9, 40.4

Panic disorder: < 4 years vs 4–7.9 years OR 5.3, 95% CI 1.2, 24.4

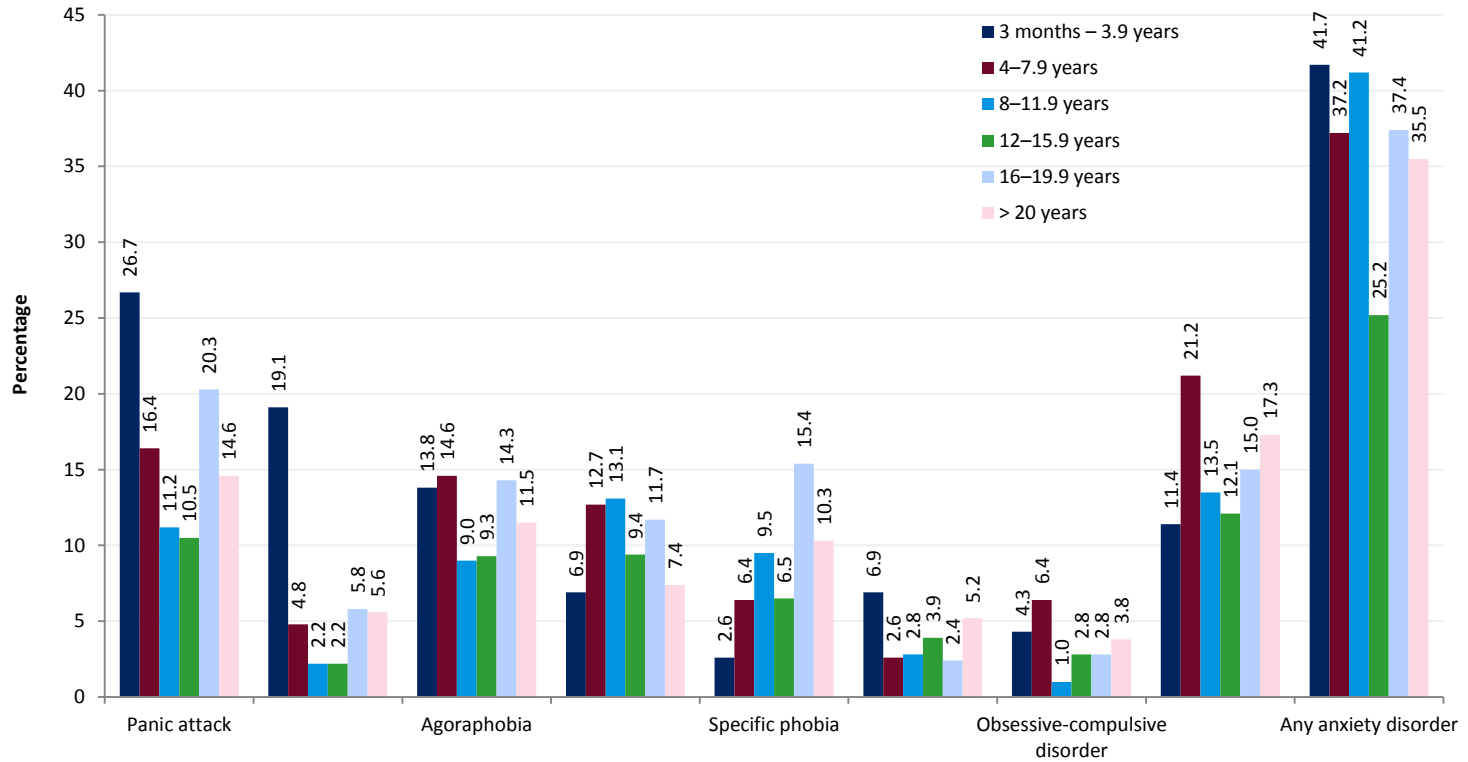
Obsessive-compulsive disorder: 8–11.9 years vs 4–7.9 years OR 0.1, 95% CI 0.0, 0.6

Panic attacks: 12–15.9 years vs 4–7.9 years OR 0.4, 95% CI 0.2, 0.9

Posttraumatic stress disorder: 12–15.9 years vs 4–7.9 years OR 0.3, 95% CI 0.2, 0.7; 16–19.9 years vs 4–7.9 years OR 0.4, 95% CI 0.2, 0.9; 20+ years vs 4–7.9 years OR 0.4, 95% CI 0.2, 0.9

Note: 95% CI: 95% confidence interval

**Figure 4.7** Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by years of service in the Regular ADF



Panic disorder: < 4 years vs 4–7.9 years OR 5.3, 95% CI 1.2, 24.4; Obsessive-compulsive disorder: 8–11.9 years vs 4–7.9 years OR 0.1, 95% CI 0.0, 0.6; Panic attacks: 12–15.9 years vs 4–7.9 years OR 0.4, 95% CI 0.2, 0.9; Posttraumatic stress disorder: 12–15.9 years vs 4–7.9 years OR 0.3, 95% CI 0.2, 0.7; 16–19.9 years vs 4–7.9 years OR 0.4, 95% CI 0.2, 0.9; 20+ years vs 4–7.9 years OR 0.4, 95% CI 0.2, 0.9

#### 4.1.4 Transition factors

##### *Years since transition*

Table 4.11 and Figure 4.8 show the estimated prevalence of 12-month anxiety disorders, by years since transition from the Regular ADF. For most anxiety disorder types, there was a notable increase one and two years post-transition. Specifically, compared to ADF members who had transitioned less than 12 months prior (year 0), those who had transitioned one year ago were two times more likely to meet criteria for 12-month panic attacks (OR 2.1, 95% CI 1.0, 4.6), more than four times more likely to meet criteria for 12-month agoraphobia (OR 4.5, 95% CI 1.6, 11.4), three times more likely to meet criteria for 12-month specific phobia (OR 3.0, 95% CI 1.1, 8.3), and just over four times more likely to meet criteria for 12-month generalised anxiety disorder (OR 4.2, 95% CI 1.0, 18.1). Indicating that the elevation in estimated rates of specific phobia and agoraphobia was relatively stable for another year following this increase, those two years post-transition were three times more likely to meet criteria for 12-month agoraphobia (OR 3.3, 95% CI 1.2, 9.0) and two-and-a-half times more likely to meet criteria for 12-month specific phobia (OR 2.5, 95% CI 1.0, 6.8) compared to those less than one year post-transition. Interestingly, at two years post transition there was an increase in estimated PTSD prevalence (20.7%, 95% CI 13.2, 31.0), with rates two times higher among this group compared to those less than one year post transition (OR 2.1, 95% CI 1.0, 4.6). Finally, there appears to be a second peak in the estimated prevalence of generalised anxiety disorder at four years post transition, with rates more than four times higher at this point compared to those under one year post-transition (OR 4.5, 95% CI 1.0, 20.6).

##### *Reason for discharge*

Table 4.12 and Figure 4.9 summarise the estimated prevalence of 12-month anxiety disorder, by reason for discharge. Estimated rates of 12-month ICD-10 anxiety disorders were significantly greater for Transitioned ADF members who were medically discharged (51.3%, 95% CI 41.4, 61.2) compared to those with another type of discharge (30.3%, 95% CI 25.4, 35.7) (OR 2.5, 95% CI 1.5, 4.1). Specifically, those with a medical discharge were nearly two-and-a-half times more likely to meet criteria for 12-month panic attacks (OR 2.4, 95% CI 1.3, 4.3), three times more likely to meet criteria for panic disorder (OR 3.0, 95% CI 1.2, 7.5), over three times more likely to meet criteria for 12-month agoraphobia (OR 3.3, 95% CI 1.6, 6.7), over six times more likely to meet criteria for social phobia (OR 6.2, 95% CI 2.8, 13.7), 7.7 times more likely to meet criteria for specific phobia (OR 7.7, 95% CI 4.7, 12.7), four times more likely to meet criteria for generalised anxiety disorder (OR 4.3, 95% CI 1.5, 12.8) and nearly two times more likely to meet criteria for PTSD (OR 1.8, 95% CI 1.0, 3.1).

**Table 4.11 Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by anxiety disorder type and years since transition**

ICD-10 anxiety disorder	Years since transition																	
	0 (n = 1945)			1 (n = 4874)			2 (n = 4944)			3 (n = 5233)			4 (n = 3582)			5 (n = 2785)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Panic attack <sup>a</sup>	253	13.0	7.8, 21.0	1131	23.2	15.0, 34.1	934	18.9	11.6, 29.3	633	12.1	7.3, 19.5	562	15.7	8.5, 27.3	532	19.1	12.5, 28.2
Panic disorder	113	5.8	2.8, 11.5	322	6.6	3.3, 12.7	282	5.7	1.9, 15.7	178	3.4	1.1, 10.2	287	8.0	3.1, 19.2	70	2.5	1.1, 5.5
Agoraphobia <sup>b</sup>	99	5.1	2.4, 10.5	853	17.5	10.3, 28.2	717	14.5	8.2, 24.4	455	8.7	4.5, 16.1	401	11.2	5.2, 22.3	259	9.3	4.0, 19.9
Social phobia	254	13.0	5.2, 28.8	833	17.1	9.7, 28.2	499	10.1	5.4, 18.1	445	8.5	4.1, 17.0	150	4.2	2.1, 8.3	384	13.8	10.0, 18.7
Specific phobia <sup>c</sup>	103	5.3	2.4, 11.3	590	12.1	6.2, 22.3	499	10.1	5.6, 17.3	199	3.8	2.2, 6.3	337	9.4	4.8, 17.7	156	5.6	3.2, 9.8
Generalised anxiety disorder <sup>d</sup>	39	2.0	0.6, 6.0	366	7.5	3.1, 17.1	143	2.9	1.6, 5.4	58	1.1	0.4, 3.5	308	8.6	3.2, 21.2	25	0.9	0.2, 3.3
Obsessive-compulsive disorder	146	7.5	2.6, 19.6	141	2.9	0.6, 12.9	282	5.7	2.2, 13.9	277	5.3	2.0, 13.0	86	2.4	1.0, 5.9	50	1.8	0.7, 4.8
Posttraumatic stress disorder <sup>e</sup>	222	11.4	6.8, 18.6	936	19.2	11.9, 29.3	1023	20.7	13.2, 31.0	785	15.0	9.2, 23.6	541	15.1	9.0, 24.3	666	23.9	15.5, 35.0
Any anxiety disorder	669	34.4	22.4, 48.7	2154	44.2	33.9, 55.0	1963	39.7	29.5, 50.8	1622	31.0	22.6, 31.0	1336	37.3	26.3, 49.9	1022	36.7	26.1, 48.7

<sup>a</sup> 1 year vs < 1 year: OR 2.1, 95% CI 1.0, 4.6

<sup>b</sup> 1 year vs < 1 year: OR 4.5, 95% CI 1.6, 11.4; 2 years vs < 1 year: OR 3.3, 95% CI 1.2, 9.0

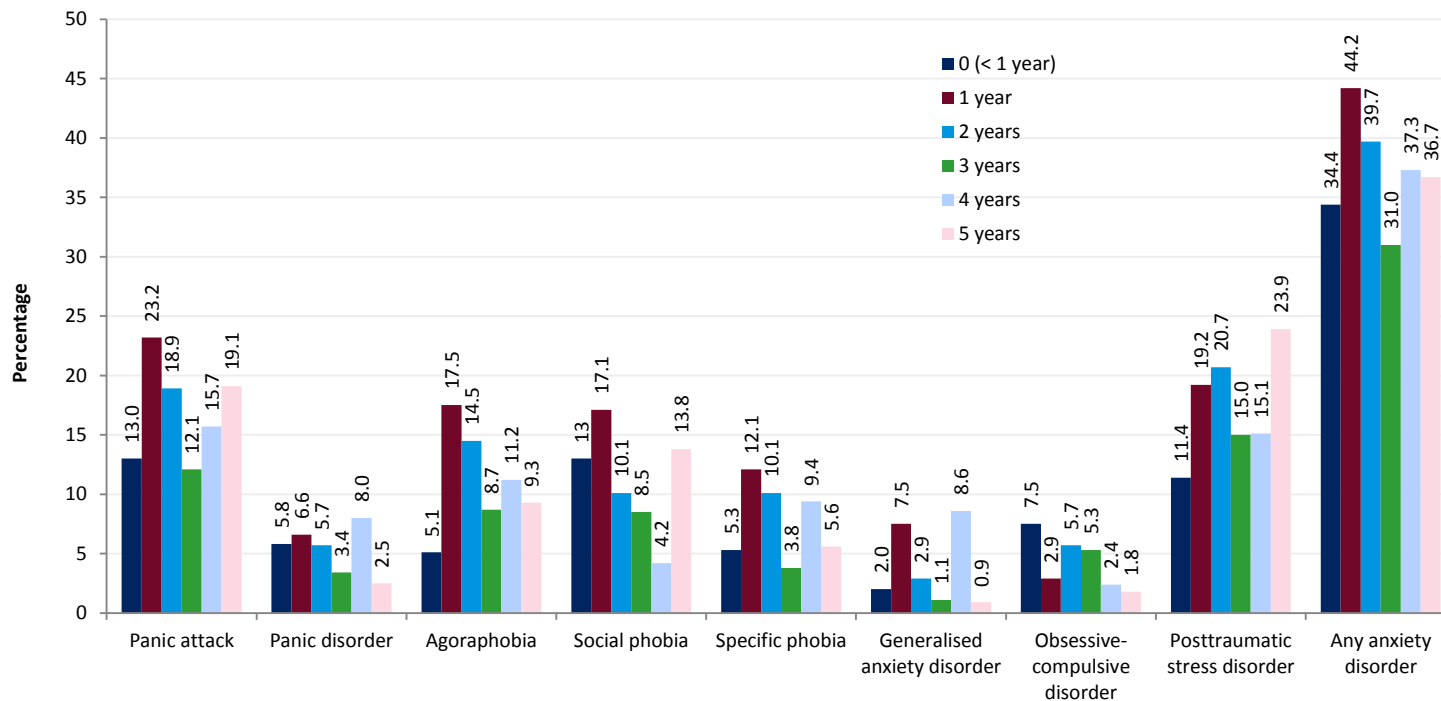
<sup>c</sup> 1 year vs < 1 year: OR 3.0, 95% CI 1.1, 8.3; 2 years vs < 1 year: OR 2.5, 95% CI 1.0, 6.8

<sup>d</sup> 1 year vs < 1 year: OR 4.2, 95% CI 1.0, 18.1; 4 years vs < 1 year: OR 4.5, 95% CI 1.0, 20.6

<sup>e</sup> 2 years vs < 1 year: OR 2.1, 95% CI 1.0, 4.6

Note: 95% CI: 95% confidence interval

**Figure 4.8** Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by anxiety disorder type and years since transition



Panic attack: 1 year vs < 1 year: OR 2.1, 95% CI 1.0, 4.6; Agoraphobia: 1 year vs < 1 year: OR 4.5, 95% CI 1.6, 11.4; 2 years vs < 1 year: OR 3.3, 95% CI 1.2, 9.0; Specific Phobia: 1 year vs < 1 year: OR 3.0, 95% CI 1.1, 8.3; 2 years vs < 1 year: OR 2.5, 95% CI 1.0, 6.8; GAD: 1 year vs < 1 year: OR 4.2, 95% CI 1.0, 18.1; 4 years vs < 1 year: OR 4.5, 95% CI 1.0, 20.6; PTSD: 2 years vs < 1 year: OR 2.1, 95% CI 1.0, 4.6

**Table 4.12 Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by anxiety disorder type and reason for discharge**

ICD-10 anxiety disorder	Reason for discharge					
	Medical (n = 5082)			Other (n = 19,154)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Panic attack <sup>a</sup>	1284	25.3	17.8, 34.5	2444	12.8	9.4, 17.1
Panic disorder <sup>b</sup>	495	9.7	5.1, 17.9	743	3.9	2.3, 6.4
Agoraphobia <sup>c</sup>	1119	22.0	14.9, 31.2	1491	7.8	5.2, 11.4
Social phobia <sup>d</sup>	1123	22.1	15.0, 31.3	948	5.0	3.0, 8.0
Specific phobia <sup>e</sup>	949	18.7	12.3, 27.3	721	3.8	2.8, 5.0
Generalised anxiety disorder <sup>f</sup>	429	8.5	4.2, 16.4	378	2.0	1.0, 3.8
Obsessive-compulsive disorder	201	4.0	1.6, 9.3	823	4.3	2.4, 7.5
Posttraumatic stress disorder <sup>g</sup>	1171	23.0	16.3, 31.6	2800	14.6	11.1, 19.0
Any anxiety disorder <sup>h</sup>	2608	51.3	41.4, 61.2	5800	30.3	25.4, 35.7

<sup>a</sup> Medical vs Other: OR 2.4, 95% CI 1.3, 4.3

<sup>b</sup> Medical vs Other: OR 3.0, 95% CI 1.2, 7.5

<sup>c</sup> Medical vs Other: OR 3.3, 95% CI 1.6, 6.7

<sup>d</sup> Medical vs Other: OR 6.2, 95% CI 2.8, 13.7

<sup>e</sup> Medical vs Other: OR 7.7, 95% CI 4.7, 12.7

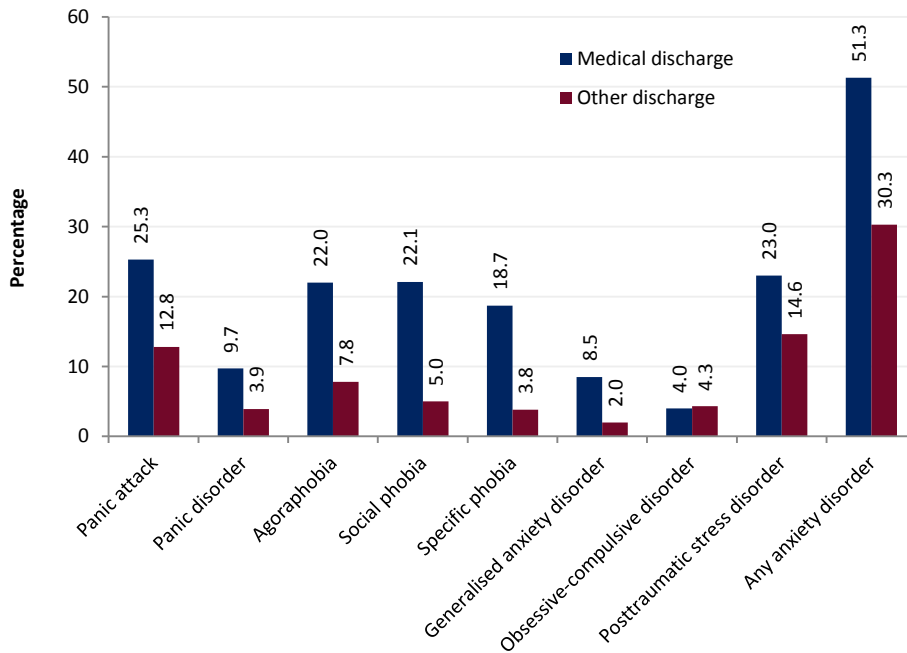
<sup>f</sup> Medical vs Other: OR 4.3, 95% CI 1.5, 12.8

<sup>g</sup> Medical vs Other: OR 1.8, 95% CI 1.0, 3.1

<sup>h</sup> Medical vs Other: OR 2.5, 95% CI 1.5, 4.1

Note: 95% CI: 95% confidence interval

**Figure 4.9** Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by anxiety disorder type and reason for discharge



Panic attacks: Medical vs Other: OR 2.4, 95% CI 1.3, 4.3  
 Panic disorder: Medical vs Other: OR 3.0, 95% CI 1.2, 7.5  
 Agoraphobia: Medical vs Other: OR 3.3, 95% CI 1.6, 6.7  
 Social phobia: Medical vs Other: OR 6.2, 95% CI 2.8, 13.7  
 Specific phobia: Medical vs Other: 7.7, 95% CI 4.7, 12.7  
 GAD: Medical vs Other: 4.3, 95% CI 1.5, 12.8  
 PTSD: Medical versus Other: OR 1.8, 95% CI 1.0, 3.1  
 Any anxiety disorder: Medical vs Other: OR 2.5, 95% CI 1.5, 4.1

### DVA status

The estimated prevalence of 12-month anxiety disorders, by DVA client status, are presented in Table 4.13 and Figure 4.10. A significantly higher estimated prevalence of ‘any anxiety disorder’ was reported in DVA clients (45.3%, 95% CI 39.4, 51.3) compared to non-DVA clients (22.3%, 95% CI 16.4, 29.5) (OR 3.1, 95% CI, 1.9, 4.9). DVA clients were nearly three times more likely to meet criteria for panic attacks (OR 2.9, 95% CI 1.5, 5.5), 4.5 times more likely to meet criteria for agoraphobia (OR 4.5, 95% CI 2.0, 10.0), more than four times more likely to meet criteria for social phobia (OR 4.4, 95% CI 1.6, 11.6), 3.5 times more likely to meet criteria for specific phobia (OR 3.5, 95% CI 1.6, 7.9), more than 12 times more likely to meet criteria for GAD (OR 12.3, 95% CI 3.8, 39.1), and more than three times more likely to meet criteria for PTSD (OR 3.1, 95% CI 1.6, 6.0). The only two disorders that were not significantly more prevalent in DVA clients were panic disorder and OCD.



**Table 4.13 Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by anxiety disorder type and DVA status**

ICD-10 anxiety disorder	DVA client					
	No (n = 15,605)			Yes (n = 8774)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Panic attack <sup>a</sup>	1389	8.9	5.2, 14.6	1851	21.1	16.5, 26.5
Panic disorder	562	3.6	1.7, 7.5	579	6.6	4.0, 10.7
Agoraphobia <sup>b</sup>	749	4.8	2.4, 9.2	1509	17.2	12.8, 22.6
Social phobia <sup>c</sup>	640	4.1	1.8, 9.3	1211	13.8	9.9, 18.9
Specific phobia <sup>d</sup>	484	3.1	1.5, 6.1	956	10.9	7.9, 14.9
Generalised anxiety disorder <sup>e</sup>	78	0.5	0.2, 1.3	509	5.8	3.4, 9.7
Obsessive-compulsive disorder	281	1.8	0.6, 5.3	430	4.9	2.8, 8.4
Posttraumatic stress disorder <sup>f</sup>	1326	8.5	5.0, 14.1	1983	22.6	18.0, 28.0
Any anxiety disorder <sup>g</sup>	3480	22.3	16.4, 29.5	3975	45.3	39.4, 51.3

<sup>a</sup> DVA client vs not: OR 2.9, 95% CI 1.5, 5.5

<sup>b</sup> DVA client vs not: OR 4.5, 95% CI 2.0, 10.0

<sup>c</sup> DVA client vs not: OR 4.4, 95% CI 1.6, 11.6

<sup>d</sup> DVA client vs not: OR 3.5, 95% CI 1.6, 7.9

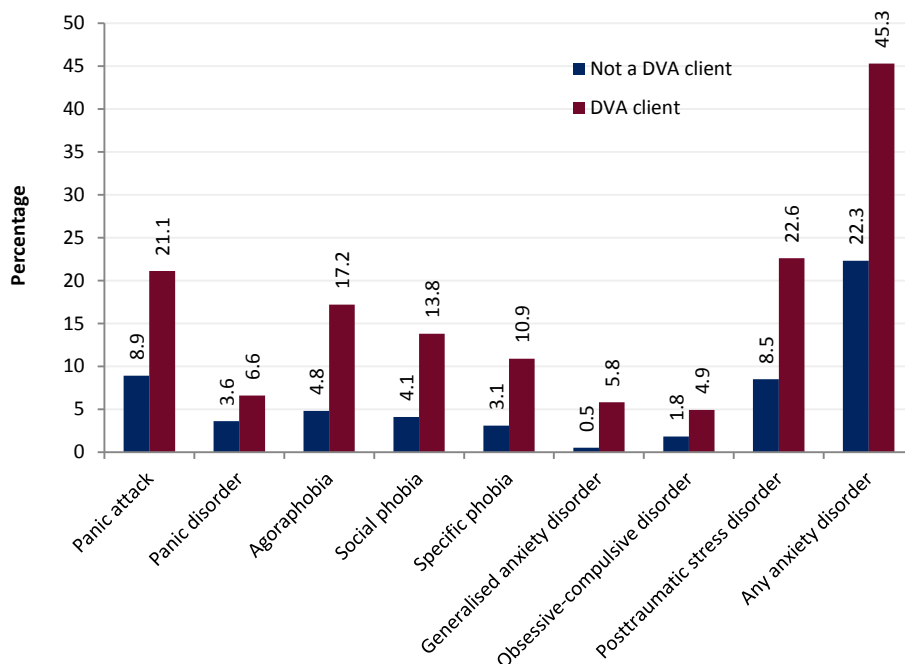
<sup>e</sup> DVA client vs not: OR 12.3, 95% CI 3.8, 39.1

<sup>f</sup> DVA client vs not: OR 3.1, 95% CI 1.6, 6.0

<sup>g</sup> DVA client vs not: OR 3.1, 95% CI, 1.9, 4.9

Note: 95% CI: 95% confidence interval

**Figure 4.10** Estimated prevalence of 12-month ICD-10 anxiety disorders in Transitioned ADF members, by anxiety disorder type and DVA status



Panic attack: DVA Client vs not: OR 2.9, 95% CI 1.5, 5.5  
 Agoraphobia: DVA Client vs not: OR 4.5, 95% CI 2.0, 10.0  
 Social phobia: DVA Client vs not: OR 4.4, 95% CI 1.6, 11.6  
 Specific phobia: DVA Client vs not: OR 3.5, 95% CI 1.6, 7.9  
 Generalised anxiety disorder: DVA Client vs not: OR 12.3, 95% CI 3.8, 39.1  
 Posttraumatic stress disorder: DVA Client vs not: OR 3.1, 95% CI 1.6, 6.0  
 Any anxiety disorder: DVA Client vs not: OR 3.1, 95% CI 1.9, 4.9

#### 4.1.5 Posttraumatic stress disorder

##### *Posttraumatic stress disorder and trauma exposure in the Transitioned ADF*

Tables 4.14 and 4.15, and Figures 4.11 and 4.12 examine the lifetime rates of trauma exposure in the Transitioned ADF as well as the proportion who develop PTSD. However, it is important to note that many individuals have had multiple trauma exposure; hence, the sum of the proportions for each trauma type exceeds 100%.

The most common traumatic experience in Transitioned ADF was seeing someone badly injured or killed, or unexpectedly seeing a dead body, with more than half of the Transitioned ADF being exposed to this event (57.7%, 95% CI 53.3, 62.2%). Also prevalent in this population were traumas likely to occur either during military service or on deployment, such as being exposed to a toxic chemical which could cause harm (43.1%, 95% CI 38.3, 48.0) being in combat (41.6%, 95% CI 37.3, 46.1), being a

peacekeeper in a warzone or place of ongoing terror (33.5%, 95% CI 29.7, 37.7) and seeing atrocities or carnage such as mutilated bodies (22.3%, 95% CI 18.8, 26.2). It is obvious that these traumatic events can occur contemporaneously, and therefore may not be mutually exclusive.

Rates of non-interpersonal trauma in this population were high, with almost one in three reporting being in a life-threatening motor vehicle accident, 27.1% being exposed to a man-made disaster and 26.1% being involved in a major natural disaster. These rates may partly be accounted for by military service and humanitarian deployments.

Finally, lifetime rates of interpersonal trauma were also high, particularly for sexual assault and rape, which were experienced by 12.9% (95% CI 10.4, 15.9) and 5.9% (95% CI 3.9, 8.4) of Transitioned ADF members respectively.

Interestingly, events that are most prevalent in this population (Table 4.14) are not those most likely to result in PTSD (Table 4.15). For example, of the 57.7% of Transitioned ADF members who saw someone badly injured or killed, or unexpectedly saw a dead body, 22.6% developed PTSD. In contrast, the event most likely to lead to PTSD was an event that the participant did not want to talk about, with 41.3% of those reporting this event also meeting criteria for PTSD. This event was only experienced by 12.6% of the population. However, the fact that they did not want to talk about it is indicative that these individuals may have found this event too distressing to relive. The other three events that were associated with very high rates of PTSD were rape (38.6% of those exposed meeting criteria for PTSD) being beaten by a parent (37.9%, of those exposed meeting criteria for PTSD), and being kidnapped or held captive (35.5% of those exposed meeting criteria for PTSD).

Injuring or killing someone either accidentally or deliberately was associated with a similar rate of lifetime PTSD of approximately 33.0%. This was followed closely by other traumatic events (29.7%, 95% CI 21.0, 40.0), seeing atrocities or carnage such as dead bodies (29.3%, 95% CI 21.7, 38.1) and combat (27.8%, 95% CI 21.6, 35.0).

**Table 4.14 Estimated prevalence of lifetime trauma exposure in Transitioned ADF members**

	Transitioned ADF 2015 (n = 24,932) CIDI		
	Weighted n	%	(95% CI)
Combat (military or organised group)	10,269	41.6	37.3, 46.1
Peacekeeper (in a war zone or place of ongoing terror)	8274	33.5	29.7, 37.7
Unarmed civilian (in a place or war, revolution, military coup or invasion)	1651	6.7	4.5, 9.8
Lived as a civilian (in a place of ongoing terror for political, ethnic, religious or other reason)	863	3.5	2.3, 5.4
Refugee	111	0.5	0.1, 2.4
Kidnapped or held captive	191	0.8	0.5, 1.3
Exposed to a toxic chemical that could cause harm	10,627	43.1	38.3, 48.0
Life-threatening motor vehicle accident	7446	30.2	26.0, 34.7
Other life-threatening accident	4990	20.2	16.9, 24.1
Major natural disaster	6436	26.1	22.4, 30.1
Man-made disaster	6684	27.1	23.1, 31.5
Life-threatening illness	4069	16.5	13.6, 19.8
Beaten by parent	1517	6.2	4.2, 8.9
Beaten by spouse/romantic partner	893	3.6	2.2, 5.8
Badly beaten by anyone else	3651	14.8	11.8, 18.5
Mugged, held up, threatened with a weapon	7129	28.9	24.9, 33.3
Raped	1429	5.9	3.9, 8.4
Sexually assaulted	3193	12.9	10.4, 15.9
Stalked	1860	7.5	5.3, 10.6
Someone close died unexpectedly	10,437	42.3	37.7, 47.0
Child had life-threatening illness/injury	1660	6.7	5.2, 8.7
Someone close had traumatic experience	3046	12.3	9.6, 15.8
Witness fight or assault as a child	2371	9.6	7.3, 12.5
Saw someone badly injured/killed or unexpectedly saw a dead body	14,257	57.7	53.3, 62.2
Accidentally injured/killed someone	1426	5.8	3.8, 8.7
Purposely injured/tortured/killed someone	2229	9.0	6.4, 12.6
Saw atrocities or carnage such as mutilated bodies or mass killings	5492	22.3	18.8, 26.2
Other traumatic event	4183	16.9	13.8, 20.6
Other traumatic event they don't want to talk about	3108	12.6	9.8, 16.1

Note: 95% CI: 95% confidence interval

**Figure 4.11 Estimated prevalence of lifetime trauma exposure in Transitioned ADF members**

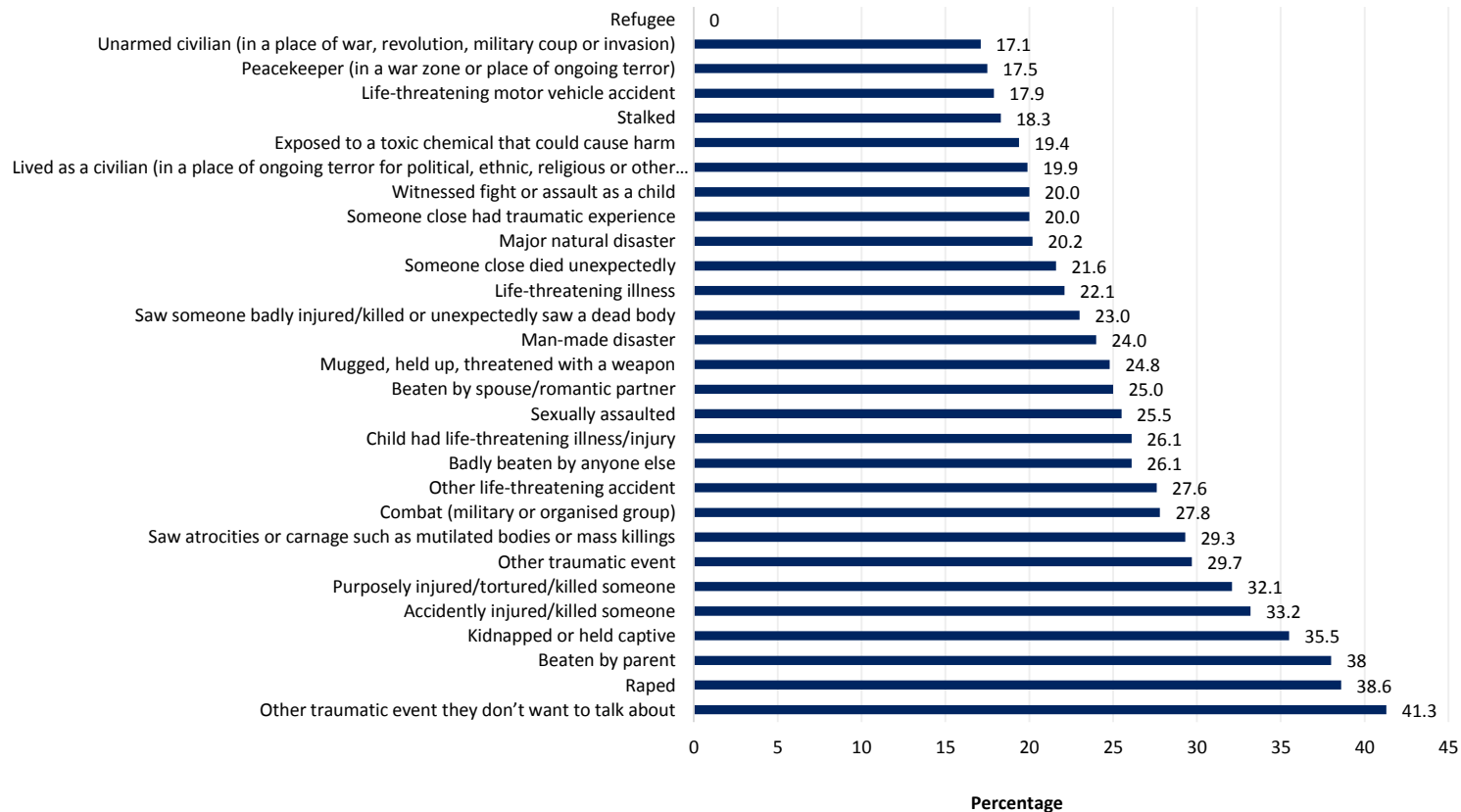


**Table 4.15 Estimated prevalence of posttraumatic stress disorder from specific event types in Transitioned ADF**

	Weighted n who experienced traumatic event	Estimated proportion of Transitioned ADF in 2015 (n = 24,932) who met criteria for PTSD from among those reporting each traumatic event		
		Weighted n	%	(95% CI)
Combat (military or organised group)	10,269	2856	27.8	21.6, 35.0
Peacekeeper (in a war zone or place of ongoing terror)	8274	1446	17.5	13.2, 22.8
Unarmed civilian (in a place or war, revolution, military coup or invasion)	1651	283	17.1	8.7, 31.0
Lived as a civilian (in a place of ongoing terror for political, ethnic, religious or other reason)	863	172	19.9	8.0, 41.5
Refugee	111	0	0.0	0.0, 0.0
Kidnapped or held captive	191	68	35.5	15.9, 61.6
Exposed to a toxic chemical that could cause harm	10,627	2060	19.4	14.6, 25.3
Life-threatening automobile accident	7446	1334	17.9	12.4, 25.1
Other life-threatening accident	4990	1376	27.6	19.4, 37.6
Major natural disaster	6436	1301	20.2	14.7, 27.1
Man-made disaster	6684	1603	23.9	16.8, 33.1
Life-threatening illness	4069	897	22.1	14.8, 31.5
Beaten by parent	1517	576	37.9	21.0, 58.5
Beaten by spouse/romantic partner	893	223	25.0	11.5, 46.2
Badly beaten by anyone else	3651	954	26.1	16.8, 38.2
Mugged, held up, threatened with a weapon	7129	1766	24.8	17.8, 33.4
Raped	1429	552	38.6	22.4, 57.8
Sexually assaulted	3193	815	25.5	17.5, 35.7
Stalked	1860	340	18.3	11.2, 28.4
Someone close died unexpectedly	10,437	2258	21.6	16.6, 27.6
Child had life-threatening illness/injury	1660	433	26.1	15.5, 40.4
Someone close had traumatic experience	3046	610	20.0	11.8, 31.8
Witnessed fight or assault as a child	2371	474	19.9	11.8, 31.9
Saw someone badly injured/killed or unexpectedly saw a dead body	14,257	3218	22.6	17.8, 28.2
Accidentally injured/killed someone	1426	473	33.2	17.0, 54.8
Purposely injured/tortured/killed someone	2229	716	32.1	18.1, 50.3
Saw atrocities or carnage such as mutilated bodies or mass killings	5492	1606	29.3	21.7, 38.1
Other traumatic event	4183	1240	29.7	21.0, 40.0
Other traumatic event they don't want to talk about	3108	1285	41.3	29.1, 54.8

Note: 95% CI: 95% confidence interval

**Figure 4.12 Estimated prevalence of posttraumatic stress disorder from specific event types in Transitioned ADF**



## 4.2 Estimated prevalence of affective disorders in Transitioned ADF

- One in five (23.1%) Transitioned ADF are estimated to have experienced an affective disorder in the last 12 months.
- The most common affective disorder type in Transitioned ADF was depressive episodes (11.2%).
- Ex-Serving Transitioned ADF reported higher rates of affective disorder (32.9%) compared to those who remained in the Active Reserves (12.5%) or Inactive Reserves (17.0%).
- Affective disorders were lowest in Transitioned ADF aged 58+ (10.8%). However, dysthymia was most commonly observed in the 38–47 age group (11.8%).
- Affective disorders were most commonly observed in Transitioned ADF members with fewer years of service, who were lower in rank, who had been medically discharged and who were DVA clients.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

The following section provides a summary of the estimated prevalence of 12-month ICD-10 affective disorders among ADF members in the first five years post-transition (transitioned from the Regular ADF between 2010 and 2014). It describes the associated demographic (sex, age), transition (transition status, years since transition, type of discharge) and Service (Service, rank, years of service, deployment status) predictors. The association between affective disorder and DVA status is also outlined.

The Mental Health and Wellbeing Transition Study examined three types of affective disorder:

- **Depressive episodes** are a characteristic of a major depressive disorder and require 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, reduced 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 a hypomanic or manic episode
- **Dysthymia** is 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 depressive disorder. Hierarchy rules were applied to dysthymia, such that to have this mental disorder, a person could not have met criteria for a hypomanic or manic episode, and could not have reported episodes of severe or moderate depression within the first two years of dysthymia



- **Bipolar Affective Disorder** is associated with fluctuations of mood that are significantly disturbed. These fluctuations of mood 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 individuals met criteria for mania or hypomania in the last 12 months, as follows.
  - **Hypomanic episodes** 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 that manifests as risk taking (for example, mild spending sprees). In a subgroup of people, these mental disorders are particularly characterised by irritability. To meet criteria for the ‘with hierarchy’ version, the person cannot have met criteria for an episode of mania.
  - **Mania** is similar to hypomania but is 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 under hypomania, mania is often associated with feelings of grandiosity, marked sexual indiscretions and racing thoughts.

The following tables summarise the estimated prevalence of 12-month ICD-10 affective disorder for the entire Transitioned ADF (Transitioned ADF), which is then separated by transition status (Ex-Serving, Inactive Reservist, Active Reservist) according to ICD-10 criteria. The criteria were based on interviews conducted using the World Mental Health Survey Initiative Version of the World Health Organization Composite International Diagnostic Interview – version 3.0 (CIDI).

#### **4.2.1 Transitioned ADF population**

Among Transitioned ADF, the overall estimated rate of 12-month affective disorders identified was 23.1% (95% CI 19.2, 27.5). This represents some 5755 individuals. The most prevalent affective disorder was depressive episodes (11.2%, 95% CI 8.6, 14.3). Bipolar affective disorder (which included individuals who had experienced either hypomanic or manic episodes in the previous 12 months) was similar in prevalence, with 9.8% of the Transitioned ADF meeting criteria for this disorder in the last 12 months (Table 4.16).

**Table 4.16 Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF**

ICD-10 affective disorder	Transitioned ADF (n = 24,932)		
	Weighted n	%	95% CI
Depressive episodes	2783	11.2	8.6, 14.3
Dysthymia	1140	4.6	3.1, 6.7
Bipolar affective disorder	2443	9.8	7.0, 13.5
Any affective disorder	5755	23.1	19.2, 27.5

Note: 95% CI: 95% confidence interval

#### 4.2.2 Transition status

The estimated prevalence of any ICD-10 affective disorder in the last 12 months was highest in Ex-Serving ADF members (32.9%, 95% CI 26.0, 40.5). The prevalence was significantly higher than rates for both Inactive Reservists (17.0%, 95% CI 11.2, 24.9) and Active Reservists (12.5% 95% CI 7.9, 19.2). Ex-Serving ADF members were just over two times more likely than Inactive Reservists (OR 2.2%, 95% CI 1.2, 4.0) and nearly three times more likely than Active Reservists (OR 2.9, 95% CI 1.5, 5.5) to have ‘any 12-month affective disorder’. Regarding 12-month ICD-10 depressive episodes, Ex-Serving members were two times more likely than Inactive Reservists (OR 2.0, 95% CI 1.0, 4.1) and more than four times more likely than Active Reservists (OR 4.5, 95% CI 2.6, 8.0) to meet criteria. Inactive Reservists were more than twice as likely to meet criteria compared to Active Reservists (OR 2.3, 95% CI 1.1, 4.8). While rates of affective disorders were lower among individuals still engaged in Reserve Service in some form, the fact that more than 12% of Active Reservists (95% CI 7.9, 19.2) met criteria for an affective disorder in the preceding 12 months indicates a significant level of disorder in this group (Table 4.17 and Figure 4.13).

**Table 4.17 Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and transition status**

ICD-10 affective disorder	Transition status*								
	Ex-Serving (n = 11,440)			Inactive Reservists (n = 6447)			Active Reservists (n = 6968)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes <sup>a</sup>	1876	16.4	11.7, 22.4	561	8.7	5.0, 14.6	327	4.7	3.0, 7.2
Dysthymia	686	6.0	3.6, 9.8	206	3.2	1.3, 7.6	251	3.6	1.5, 8.7
Bipolar affective disorder	1590	13.9	9.1, 20.7	464	7.2	3.4, 14.3	376	5.4	2.3, 12.2
Any affective disorder <sup>b</sup>	3764	32.9	26.0, 40.5	1096	17.0	11.2, 24.9	871	12.5	7.9, 19.2

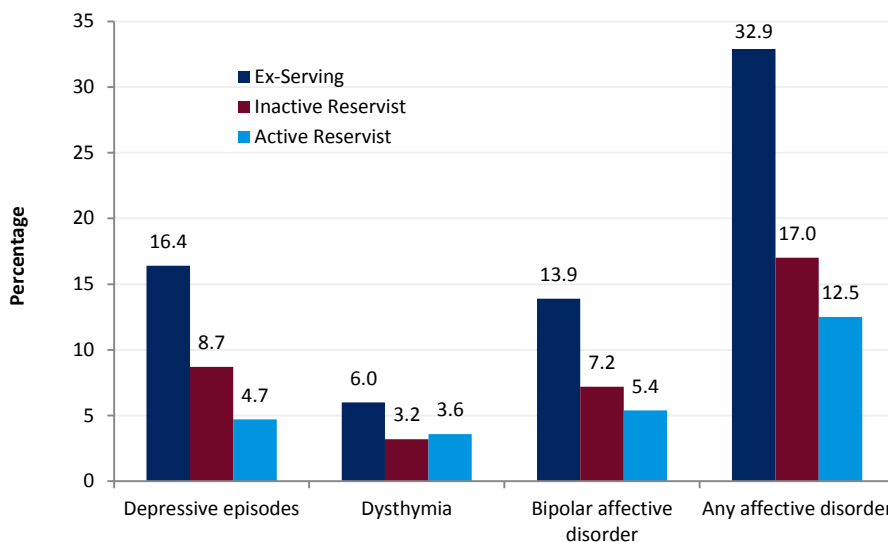
\*n = 77 members were missing transition status, but were included in the population, and therefore for the purpose of this analysis are included as a non-responder

<sup>a</sup> Ex-Serving vs Inactive Reservists: OR 2.0, 95% CI 1.0, 4.1; Ex-Serving vs Active Reservists: OR 4.5, 95% CI 2.6, 8.0; Inactive vs Active Reservists: OR 2.3, 95% CI 1.1, 4.8

<sup>b</sup> Ex-Serving vs Inactive Reservists: OR 2.2%, 95% CI 1.2, 4.0; Ex-Serving vs Active Reservists: OR 2.9, 95% CI 1.5, 5.5

Note: 95% CI: 95% confidence interval

**Figure 4.13** Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and transition status



Depressive episodes: Ex-Serving vs Inactive Reservists: OR 2.0, 95% CI 1.0, 4.1; Ex-Serving vs Active Reservists: OR 4.5, 95% CI 2.6, 8.0; Inactive vs Active Reservists: OR 2.3, 95% CI 1.1, 4.8  
 Any affective disorder: Ex-Serving vs Inactive Reservists: OR 2.2, 95% CI 1.2, 4.0; Ex-Serving vs Active Reservists: OR 2.9, 95% CI 1.5, 5.5

### 4.2.3 Demographic factors

#### Sex

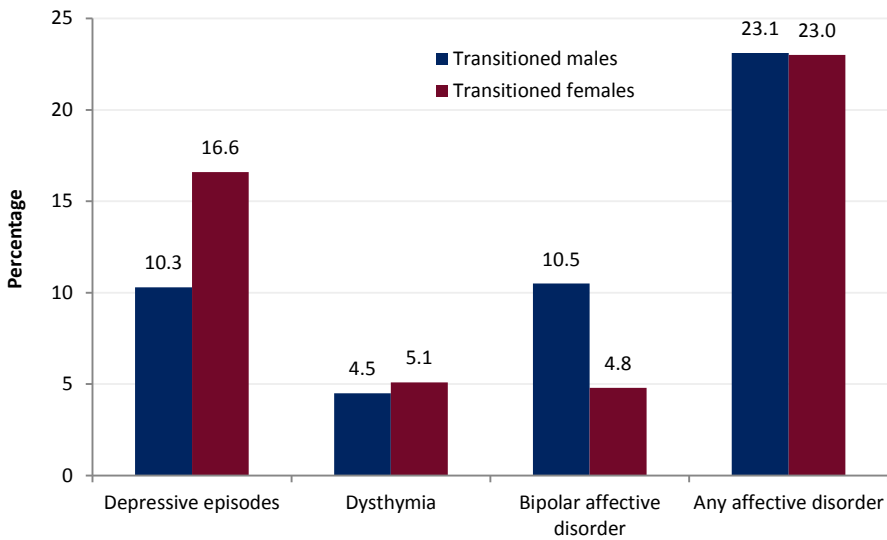
Table 4.18 and Figure 4.14 show there were no statistically significant differences between males and females in the Transitioned ADF in the estimated prevalence of affective disorders.

**Table 4.18** Estimated prevalence of 12-month affective disorders in Transitioned ADF members, by affective disorder type and sex

ICD-10 affective disorder	Sex					
	Transitioned males (n = 21,671)			Transitioned females (n = 3261)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes	2241	10.3	7.7, 13.7	542	16.6	9.4, 27.7
Dysthymia	972	4.5	2.8, 7.0	168	5.1	2.9, 9.0
Bipolar affective disorder	2286	10.5	7.4, 14.8	157	4.8	1.6, 13.5
Any affective disorder	5005	23.1	18.8, 28.0	750	23.0	14.7, 34.1

Note: 95% CI: 95% confidence interval

**Figure 4.14** Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF members, by affective disorder type and sex



### Age

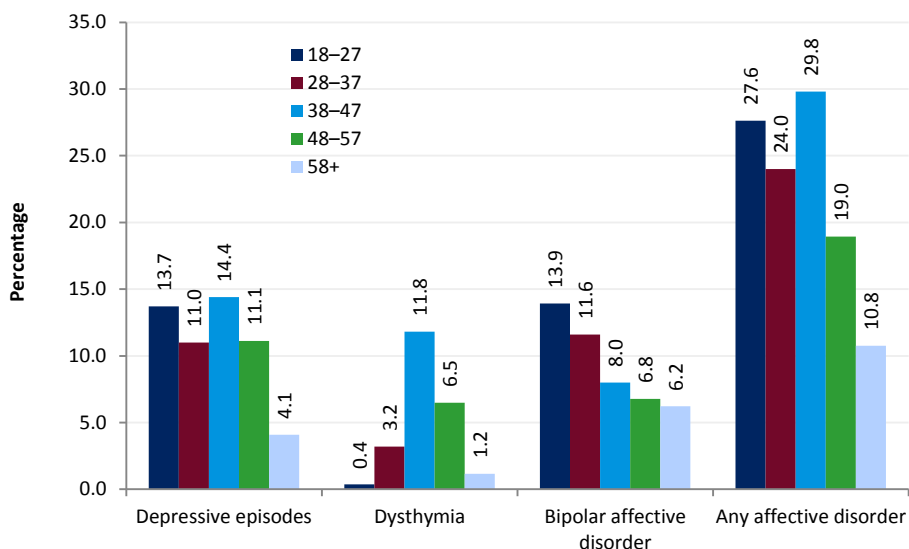
Table 4.19 and Figure 4.15 show the estimated rates of 12-month affective disorders by age categories. For affective disorders overall, rates were lowest among those aged 58+ (OR 10.8%, 95% CI 5.9, 18.9) and highest among the 38–47 age group (OR 29.8%, 95% CI 21.8, 39.4). The only significant overall decrease with age was for depressive episodes. When examining the individual categories, the estimated prevalence in the Transitioned ADF for individuals aged over 58 (OR 4.1%, 95% CI 2.3, 7.2) was significantly lower than for those aged 18–27 (OR 13.7%, 95% CI 6.7, 25.9; OR 0.2, 95% CI 0.1, 0.6 respectively).

**Table 4.19** Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and age

ICD-10 affective disorder	Age														
	18–27 (n = 5195)			28–37 (n = 8808)			38–47 (n = 5215)			48–57 (n = 3389)			58+ (n = 1937)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes <sup>a</sup>	711	13.7	6.7, 25.9	967	11.0	6.2, 18.8	751	14.4	9.5, 21.1	377	11.1	7.7, 15.9	79	4.1	2.3, 7.2
Dysthymia	20	0.4	0.1, 2.5	283	3.2	1.2, 8.3	616	11.8	6.4, 20.8	220	6.5	3.8, 10.7	22	1.2	0.4, 3.4
Bipolar affective disorder	723	13.9	6.5, 27.4	1022	11.6	6.4, 20.3	418	8.0	3.9, 15.7	230	6.8	3.1, 14.3	121	6.2	2.3, 15.8
Any affective disorder	1435	27.6	16.8, 41.9	2111	24.0	16.3, 33.8	1554	29.8	21.8, 39.4	642	18.9	13.5, 25.9	208	10.8	5.9, 18.9

<sup>a</sup> 58+ versus 18–27: OR 0.2, 95% CI 0.1, 0.6  
 Note: 95% CI: 95% confidence interval

**Figure 4.15** Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and age



Depressive episodes: 58+ versus 18-27: OR 0.2, 95% CI 0.1, 0.6

#### 4.2.4 Service factors

##### Service

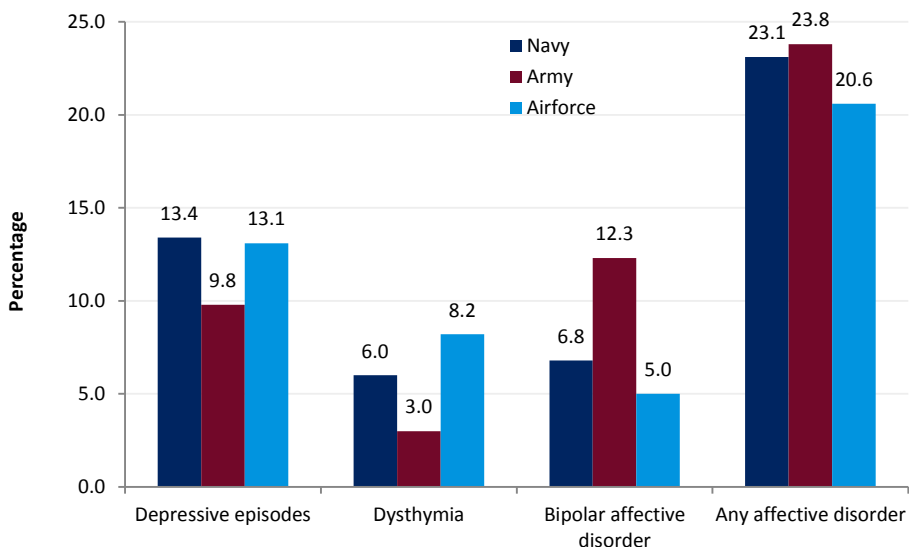
When the individual Services were considered (Table 4.20 and Figure 4.16), there were no significant differences in the prevalence of any of the individual ICD-10 affective disorders.

**Table 4.20** Estimated prevalence of 12-month ICD-10 affective disorders, by Service at time of transition from Regular ADF into Transitioned ADF

ICD-10 affective disorder	Service at transition								
	Navy (n = 5671)			Army (n = 15,038)			Air Force (n = 4223)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes	758	13.4	7.8, 22.1	1473	9.8	6.8, 13.9	551	13.1	8.0, 20.6
Dysthymia	338	6.0	3.0, 11.5	454	3.0	1.5, 5.9	348	8.2	4.1, 15.7
Bipolar affective disorder	386	6.8	2.9, 15.0	1847	12.3	8.2, 17.9	209	5.0	2.3, 10.5
Any affective disorder	1309	23.1	15.5, 32.9	3577	23.8	18.5, 30.0	869	20.6	14.4, 28.6

Note: 95% CI: 95% confidence interval

**Figure 4.16** Estimated prevalence of 12-month ICD-10 affective disorders, by Service at time of transition from Regular ADF into Transitioned ADF



### Rank

The estimated prevalence of ‘any 12-month ICD-10 affective disorder’ was highest among Transitioned ADF members with a lower rank upon transition (28.0%, 95% CI 21.1, 36.2). Compared to Officers, Other Ranks were 2.4 times more likely to meet criteria for ‘any 12-month affective disorder’ (OR 2.4, 95% CI 1.3, 4.6) and more than four times more likely to meet criteria for bipolar affective disorder (OR 4.5, 95% CI 1.6, 13.3). Other Ranks were also more likely to meet criteria for bipolar affective disorder compared to Non-Commissioned Officers (OR 2.8, 95% CI 1.1, 6.8) (Table 4.21 and Figure 4.17).

Compared to Officers, Non-Commissioned Officers were one-and-a-half times more likely to meet criteria for depressive episodes (OR 1.6, 95% CI 1.0, 2.6), and 1.7 times more likely to meet 12-month criteria for any affective disorder (OR 1.7, 95% CI 1.1, 2.5).

**Table 4.21** Estimated prevalence of 12-month ICD-10 affective disorders, by rank at time of transition from Regular ADF into Transitioned ADF

ICD-10 affective disorder	Rank at transition								
	OFFR (n = 4063)			NCO (n = 7866)			Other Ranks (n = 13,003)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes <sup>a</sup>	348	8.6	6.0, 12.1	1034	13.1	10.4, 16.5	1401	10.8	6.6, 17.0
Dysthymia	146	3.6	2.0, 6.3	461	5.9	4.0, 8.5	532	4.1	1.9, 8.6
Bipolar affective disorder <sup>b</sup>	141	3.5	2.0, 6.0	447	5.7	4.0, 8.0	1855	14.3	9.2, 21.4
Any affective disorder <sup>c</sup>	531	13.1	9.9, 17.1	1582	20.1	16.8, 23.9	3642	28.0	21.1, 36.2

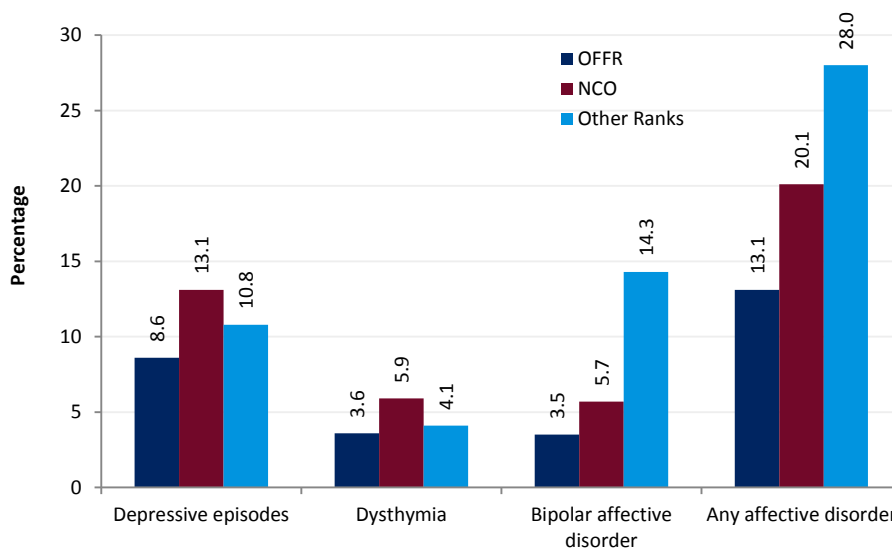
<sup>a</sup> NCO vs OFFR: OR 1.6, 95% CI 1.0, 2.6

<sup>b</sup> Other Ranks vs OFFR: OR 4.5, 95% CI 1.6, 13.3; Other Ranks vs NCO: OR 2.8, 95% CI 1.1, 6.8

<sup>c</sup> Other Ranks vs OFFR: OR 2.4, 95% CI 1.3, 4.6; NCO vs OFFR: OR 1.7, 95% CI 1.1, 2.5

Note: 95% CI: 95% confidence interval

**Figure 4.17** Estimated prevalence of 12-month ICD-10 affective disorders, by rank at time of transition from Regular ADF into Transitioned ADF



Depressive episodes: NCO vs OFFR: OR 1.6, 95% CI 1.0, 2.6

Bipolar affective disorder: Other Ranks vs OFFR: OR 4.5, 95% CI 1.6, 13.3; Other Ranks vs NCO: OR 2.8, 95% CI 1.1, 6.8

Any affective disorder: Other Ranks vs OFFR: OR 2.4, 95% CI 1.3, 4.6; NCO vs OFFR: OR 1.7, 95% CI 1.1, 2.5



## Deployment

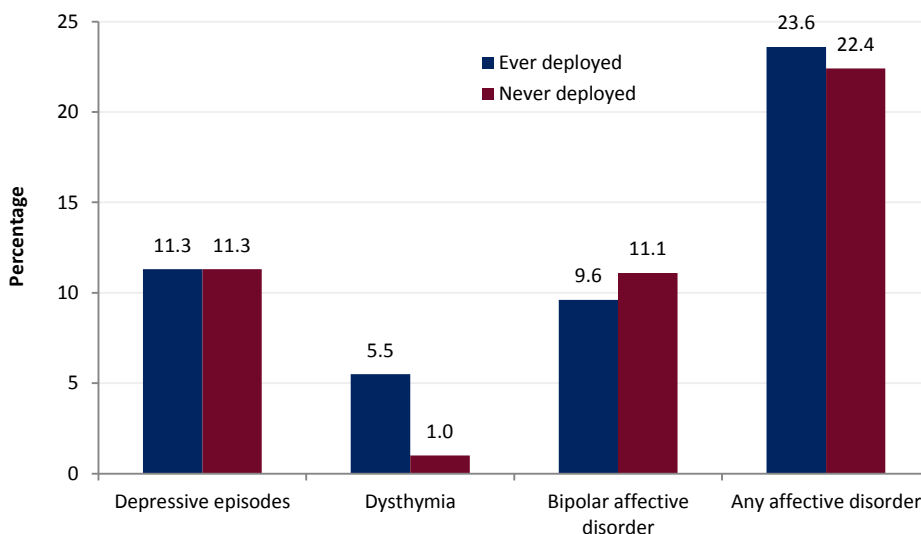
Table 4.22 and Figure 4.18 show the estimated prevalence of any 12-month ICD-10 affective disorder according to deployment status. Rates for each affective disorder and ‘any affective disorder’ were similar across the ‘ever deployed’ and ‘never deployed’ groups, except for dysthymia. Dysthymia was significantly more prevalent among those who been deployed during their career than those who had not (OR 7.3, 95% CI 1.6, 34.6). As dysthymia is a relatively low-prevalence mental disorder, the confidence intervals for this estimate are quite wide, and the result should be interpreted with caution.

**Table 4.22** Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and deployment status

ICD-10 affective disorder	Deployment status					
	Ever deployed (n = 20,087)			Never deployed (n = 4885)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes	2125	11.3	8.5, 14.8	634	11.3	5.4, 22.1
Dysthymia <sup>a</sup>	1043	5.5	3.6, 8.3	53	1.0	0.3, 3.0
Bipolar affective disorder	1807	9.6	6.6, 13.8	618	11.1	4.8, 23.4
Any affective disorder	4436	23.6	19.3, 28.5	1251	22.4	13.2, 35.3

<sup>a</sup> Ever vs Never Deployed: OR 7.3 95% CI 1.6, 34.6  
 Note: 95% CI: 95% confidence interval

**Figure 4.18** Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and deployment status

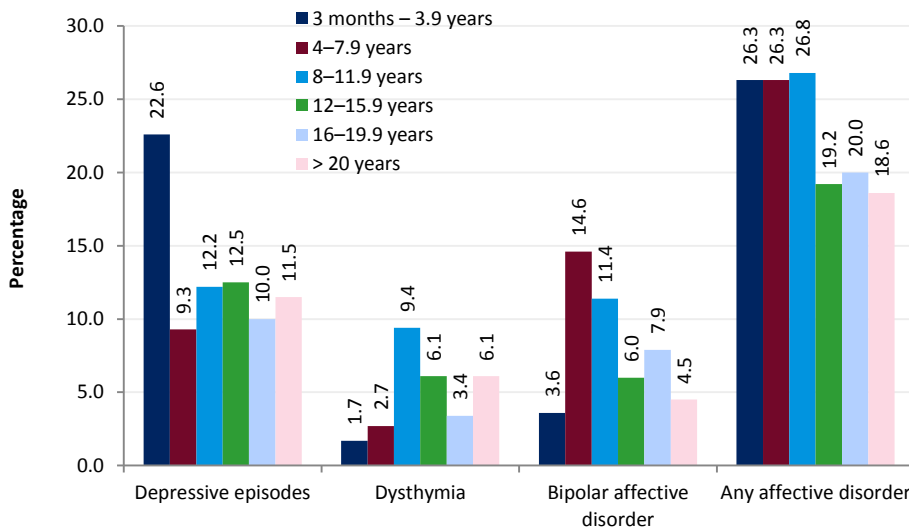


Dysthymia: Ever vs Never deployed: OR 7.3, 95% CI 1.6, 34.6

## Years of service

Table 4.23 and Figure 4.19 show the estimated prevalence of 12-month affective disorders by years of service in the Regular ADF among members of the Transitioned ADF. Estimated rates of depressive episodes were highest among those with under four years of service (22.6%, 95% CI 9.4, 45.1), while estimated rates of bipolar affective disorder were highest among those with 4–7.9 years of service (14.6%, 95% CI 8.7, 23.5). The only significant finding was for dysthymia where those with 8–11.9 years of Regular service had significantly greater rates of 12-month dysthymia than those with under four years of Regular ADF service (OR 7.4, 95% CI 1.3, 43.9). Again, as dysthymia is a relatively low-prevalence mental disorder, the confidence intervals for this estimate are quite wide, and the result should be interpreted with caution.

**Figure 4.19** Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and years of service in Regular ADF



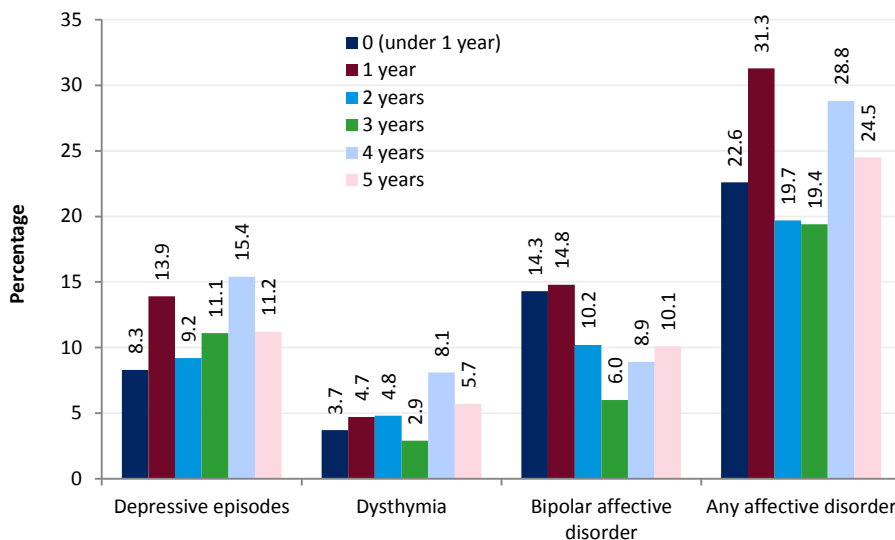
Dysthymia: 8–11.9 vs < 4 years of Regular Service: OR 7.4, 95% CI 1.3, 43.9

## 4.2.5 Transition factors

### Years since transition

Table 4.24 and Figure 4.20 show the estimated prevalence of 12-month affective disorders, by the number of years since transition in the Transitioned ADF. There were no significant impacts of years since transition on any of the individual affective disorder types.

**Figure 4.20** Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and years since transition



### ***Reason for discharge***

The estimated prevalence of ‘any 12-month ICD-10 affective disorder’ was significantly greater for Transitioned ADF members who were medically discharged (39.5%, 95% CI 30.2, 49.6) compared to those who were discharged for another reason (17.4%, 95% CI 13.2, 22.3; OR 2.8, 95% CI 1.6, 4.9). Medically discharged Transitioned ADF members were also 2.4 times more likely to meet criteria for depressive episodes (OR 2.4, 95% CI 1.2, 4.6), three times more likely to meet criteria for 12-month ICD-10 dysthymia (OR 3.2, 95% CI 1.2, 8.3) and more than two times more likely to meet criteria for bipolar affective disorder (OR 2.4, 95% CI 1.1, 5.2) (Table 4.25 and Figure 4.21).

**Table 4.23 Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and years of service in Regular ADF**

ICD-10 affective disorder	Years of service in Regular ADF								
	3 months – 3.9 years (n = 2413)			4–7.9 years (n = 9015)			8–11.9 years (n = 3295)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes	545	22.6	9.4, 45.1	838	9.3	5.2, 16.1	402	12.2	5.9, 23.4
Dysthymia <sup>a</sup>	41	1.7	0.4, 6.6	243	2.7	0.8, 8.6	310	9.4	4.3, 19.1
Bipolar affective disorder	87	3.6	0.7, 16.2	1316	14.6	8.7, 23.5	376	11.4	4.5, 25.7
Any affective disorder	635	26.3	12.0, 48.3	2371	26.3	18.5, 35.9	883	26.8	16.1, 41.0

ICD-10 affective disorder	Years of service in Regular ADF								
	12–15.9 years (n = 2086)			16–19.9 years (n = 967)			> 20 years (n = 5772)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes	261	12.5	6.2, 23.4	97	10.0	4.9, 19.5	664	11.5	8.4, 15.6
Dysthymia <sup>a</sup>	127	6.1	1.8, 18.5	33	3.4	0.9, 12.3	352	6.1	3.6, 10.2
Bipolar affective disorder	125	6.0	2.8, 12.5	76	7.9	3.6, 16.4	260	4.5	2.4, 8.3
Any affective disorder	401	19.2	11.5, 30.3	193	20	12.1, 31.1	1074	18.6	14.3, 23.8

<sup>a</sup> 8–11.9 vs < 4 years of Regular Service: OR 7.4, 95% CI 1.3, 43.9

Note: 95% CI: 95% confidence interval

**Table 4.24 Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and years since transition**

ICD-10 affective disorder	Years since transition								
	0 (n = 1945)			1 (n = 4874)			2 (n = 4944)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes	161	8.3	4.5, 14.8	677	13.9	8.7, 21.3	455	9.2	4.9, 16.7
Dysthymia	72	3.7	1.5, 8.7	229	4.7	1.9, 11.3	237	4.8	2.2, 9.8
Bipolar affective disorder	278	14.3	6.2, 29.6	721	14.8	7.7, 26.5	504	10.2	4.8, 20.4
Any affective disorder	440	22.6	12.9, 36.5	1526	31.3	21.9, 42.5	974	19.7	12.2, 30.2

ICD-10 affective disorder	Years since transition								
	3 (n = 5233)			4 (n = 3582)			5 (n = 2785)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes	581	11.1	6.0, 19.5	552	15.4	7.9, 27.7	312	11.2	5.0, 23.2
Dysthymia	152	2.9	0.8, 10.3	290	8.1	3.3, 18.4	159	5.7	2.2, 14.0
Bipolar affective disorder	314	6.0	2.3, 14.8	319	8.9	3.8, 19.8	281	10.1	3.8, 24.3
Any affective disorder	1015	19.4	12.1, 29.6	1032	28.8	18.4, 42.0	682	24.5	14.4, 38.6

Note: 95% CI: 95% confidence interval

**Table 4.25** Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and reason for discharge

ICD-10 affective disorder	Reason for discharge					
	Medical (n = 5082)			Other (n = 19,154)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes <sup>a</sup>	925	18.2	12.1, 26.5	1670	8.7	6.1, 12.3
Dysthymia <sup>b</sup>	462	9.1	5.1, 15.7	573	3.0	1.7, 5.3
Bipolar affective disorder <sup>c</sup>	872	17.2	10.5, 26.9	1384	7.2	4.5, 11.4
Any affective disorder <sup>d</sup>	2008	39.5	30.2, 49.6	3324	17.4	13.2, 22.3

<sup>a</sup> Medical discharge vs Other: OR 2.4, 95% CI 1.2, 4.6

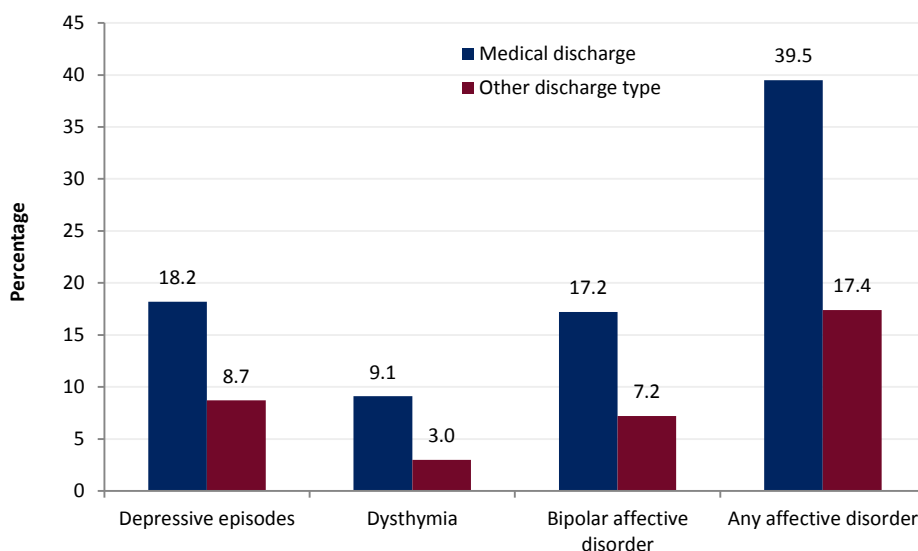
<sup>b</sup> Medical discharge vs Other: OR 3.2, 95% CI 1.2, 8.3

<sup>c</sup> Medical discharge vs Other: OR 2.4, 95% CI 1.1, 5.2

<sup>d</sup> Medical discharge vs Other: OR 2.8, 95% CI 1.6, 4.9

Note: 95% CI: 95% confidence interval

**Figure 4.21** Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and reason for discharge



Depressive episodes: Medical vs Other: OR 2.4, 95% CI 1.2, 4.6

Dysthymia: Medical vs Other: OR 3.2, 95% CI 1.2, 8.3

Bipolar affective disorder: Medical vs Other: OR 2.4, 95% CI 1.1, 5.2

Any affective disorder: Medical vs Other: OR 2.8, 95% CI 1.6, 4.9

### ***DVA status***

Table 4.26 and Figure 4.22 show the estimated prevalence of 12-month affective disorders for Transitioned ADF members who were DVA clients compared to those who were not. More than one-quarter of Transitioned ADF members who were DVA clients met criteria for ‘any 12-month ICD-10 affective disorder’ (28.4%, 95% CI 23.1, 24.4) compared to 16.6% (95% CI 11.1, 24.0) of those who were not DVA clients (OR 2.3, 95% CI 1.3, 4.0). Interestingly, there were no significant differences between these two groups in rates of 12-month bipolar affective disorder, with 10.2% of DVA clients and 10.0% who were not DVA clients meeting criteria. However, DVA clients were nearly three times more likely to meet criteria for 12-month ICD-10 depressive episodes (OR 2.9, 95% CI 1.4, 5.7) and over five times more likely to meet criteria for 12-month ICD-10 dysthymia (OR 5.6, 95% CI 1.5, 21.0).

**Table 4.26 Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and DVA status**

ICD-10 affective disorder	DVA client					
	No (n = 15,605)			Yes (n = 8774)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Depressive episodes <sup>a</sup>	999	6.4	3.6, 11.0	1290	14.7	10.9, 19.5
Dysthymia <sup>b</sup>	203	1.3	0.4, 4.2	605	6.9	4.5, 10.5
Bipolar affective disorder	1561	10.0	5.7, 17.2	895	10.2	6.7, 15.1
Any affective disorder <sup>c</sup>	2590	16.6	11.1, 24.0	2492	28.4	23.1, 24.4

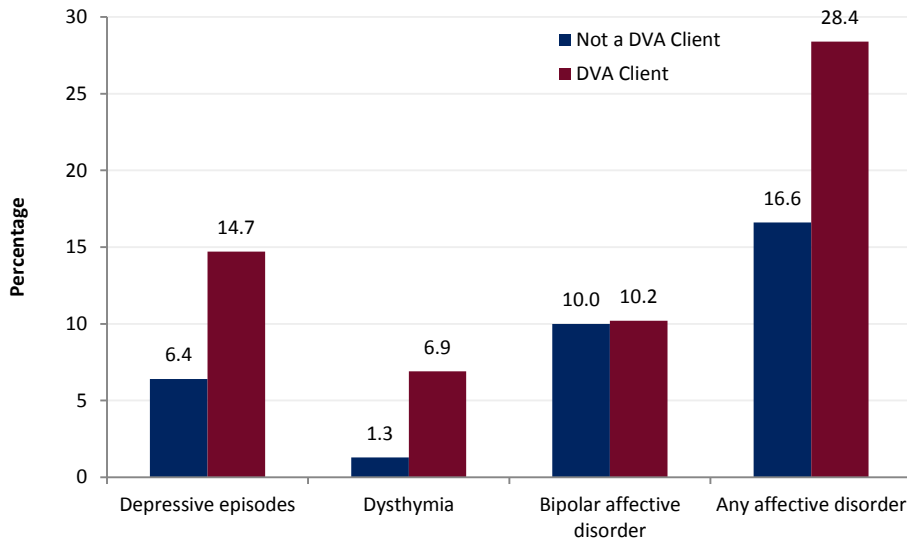
<sup>a</sup> DVA client vs Not a Client: OR 2.9, 95% CI 1.4, 5.7

<sup>b</sup> DVA client vs Not a Client: OR 5.6, 95% CI 1.5, 21.0

<sup>c</sup> DVA client vs Not a Client: OR 2.3, 95% CI 1.3, 4.0

Note: 95% CI: 95% confidence interval

**Figure 4.22 Estimated prevalence of 12-month ICD-10 affective disorders in Transitioned ADF, by affective disorder type and DVA status**



Depressive episodes: DVA client vs Not a Client: OR 2.9, 95% CI 1.4, 5.7

Dysthymia: DVA client vs Not a Client: OR 5.6, 95% CI 1.5, 21.0

Any affective disorder: DVA client vs Not a Client: OR 2.3, 95% CI 1.3, 4.0



### 4.3 Estimated prevalence of alcohol disorders in Transitioned ADF

- 12.9% of the Transitioned ADF met criteria for an alcohol disorder in the last 12 months.
- Ex-Serving ADF members were over two times more likely to meet criteria for any 12-month ICD-10 alcohol disorder compared to Inactive and Active Reservists.
- Alcohol disorders were most commonly observed in Transitioned ADF members aged 18–47, those with fewer years of service and lower rank, those who were medically discharged and DVA clients.
- Navy and Army Transitioned ADF members reported higher rates of alcohol disorder compared to Air Force members, with the prevalence of 12-month alcohol disorder highest at one year post-transition.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

The following section provides a summary of the estimated prevalence of 12-month ICD-10 alcohol disorders among ADF members who transitioned from the Regular ADF between 2010 and 2014. It describes the associated predictors related to demographic (sex, age), transition (transition status, years since transition, type of discharge) and Service (Service, rank, years of service, deployment status). The association between alcohol disorders and DVA status is also outlined. A summary is provided of how these estimated rates compare to the national and international literature included in Chapter 6.

The Mental Health and Wellbeing Transition Study examined two types of alcohol disorders:

- **Alcohol harmful use:** a pattern of alcohol use that is damaging to health. The damage may be physical or mental (in the absence of the diagnosis of dependence syndrome (ICD-10). Diagnosis requires a high level of alcohol consumption that is damaging 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 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 their family or friends; was consumed in a situation where they could get hurt; resulted in them being stopped or arrested by police; or if the participant continued to consume alcohol despite experiencing social or interpersonal problems related to their drinking during the last 12 months. A person could not meet criteria for alcohol harmful use if they met criteria for alcohol dependence

- **Alcohol dependence:** a cluster of cognitive, behavioural and physiological characteristics indicating that the person continues to use alcohol despite significant alcohol-related problems (ICD-10). This is characterised by 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 several associated problems. A diagnosis is given if the person reported three or more of the following symptoms in the last 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.

The tables below report the patterns of alcohol harmful use and dependence in Transitioned ADF members according to ICD-10 criteria, based on CIDI interviews.

### 4.3.1 Transitioned ADF

Table 4.27 presents the estimated prevalence of ICD-10 alcohol harmful use and dependence in Transitioned ADF members. In total, 12.9% (95% CI 9.8, 16.9) of the Transitioned ADF met criteria for an ICD-10 alcohol disorder, with alcohol dependence more prevalent (9.1%, 95% CI 6.4, 12.8) than harmful use (3.8%, 95% CI 2.3, 6.3).

**Table 4.27 Estimated prevalence of 12-month ICD-10 alcohol disorders**

ICD-10 alcohol disorder	Transitioned ADF (n = 24,932)		
	Weighted n	%	95% CI
Alcohol harmful use	948	3.8	2.3, 6.3
Alcohol dependence	2271	9.1	6.4, 12.8
Any alcohol disorder	3219	12.9	9.8, 16.9

Note: 95% CI: 95% confidence interval

### Transition status

When considering transition status (Table 4.28 and Figure 4.23), 18.7% (95% CI 13.2, 25.9) of Ex-Serving ADF members met criteria for ‘any 12-month ICD-10 alcohol disorder’. This rate was more than double the estimated rates for Inactive Reservists (8.7%, 95% CI 4.8, 15.4) and Active Reservists (7.3%, 95% CI 3.4, 15.0). Accordingly, Ex-Serving Transitioned ADF members were twice as likely to meet 12-month criteria for ‘any alcohol disorder’ compared to Inactive Reservists (OR 2.1, 95% CI 1.0, 4.7). Although there were no significant differences in estimated rates of alcohol harmful use between the different transition status groups, Ex-Serving ADF members were also

nearly four times more likely than Inactive Reservists to meet criteria for alcohol dependence (OR 3.9, 95% CI 1.4, 11.0).

**Table 4.28** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and transition status (Ex-Serving, Inactive Reservist and Active Reservist)

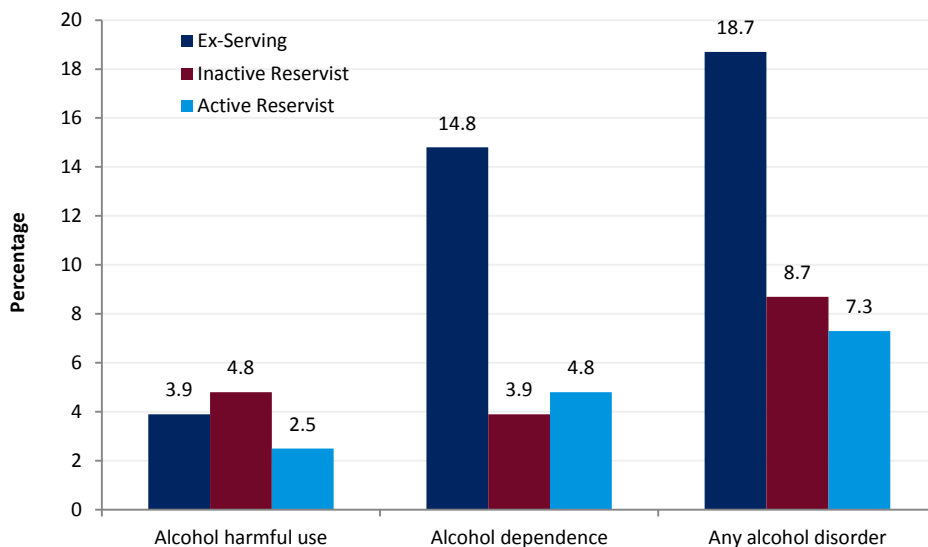
ICD-10 alcohol disorder	Transition status								
	Ex-Serving (n = 11,440)			Inactive Reservist (n = 6447)			Active Reservist (n = 6968)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use	446	3.9	1.9, 8.0	309	4.8	2.1, 10.9	174	2.5	0.7, 8.2
Alcohol dependence <sup>a</sup>	1693	14.8	9.8, 21.7	251	3.9	1.6, 9.1	334	4.8	1.8, 12.4
Any alcohol disorder <sup>b</sup>	2139	18.7	13.2, 25.9	561	8.7	4.8, 15.4	509	7.3	3.4, 15.0

<sup>a</sup> Ex-Serving vs Inactive: OR 3.9, 95% CI 1.4, 11.0

<sup>b</sup> Ex-Serving vs Inactive: OR 2.1, 95% CI 1.0, 4.7

Note: 95% CI: 95% confidence interval

**Figure 4.23** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and transition status (Ex-Serving, Inactive Reservist and Active Reservist)



Alcohol dependence: Ex-Serving vs Inactive Reservist: OR 3.9, 95% CI 1.4, 11.0

Any alcohol disorder: Ex-Serving vs Inactive Reservist: OR 2.1, 95% CI 1.0, 4.7

### 4.3.2 Demographic factors

#### Sex

Table 4.29 and Figure 4.24 present the estimated prevalence of ICD-10 alcohol harmful use and dependence in Transitioned ADF males and females. There was no significant difference in estimated rates of alcohol disorders between males and females overall. Interestingly, when examining individual disorder types, there was a trend towards higher estimated rates of 12-month ICD-10 alcohol harmful use among females (6.6%, 95% CI 2.2, 18.2) compared to males (3.4%, 95% CI 1.9, 5.1). The opposite pattern was seen for alcohol dependence, with higher estimated rates among males (9.8%, 95% CI 6.7, 13.9) compared to females (4.8%, 95% CI 1.8, 12.5). However, these differences were not statistically significant, as suggested by the wide confidence intervals.

#### Age

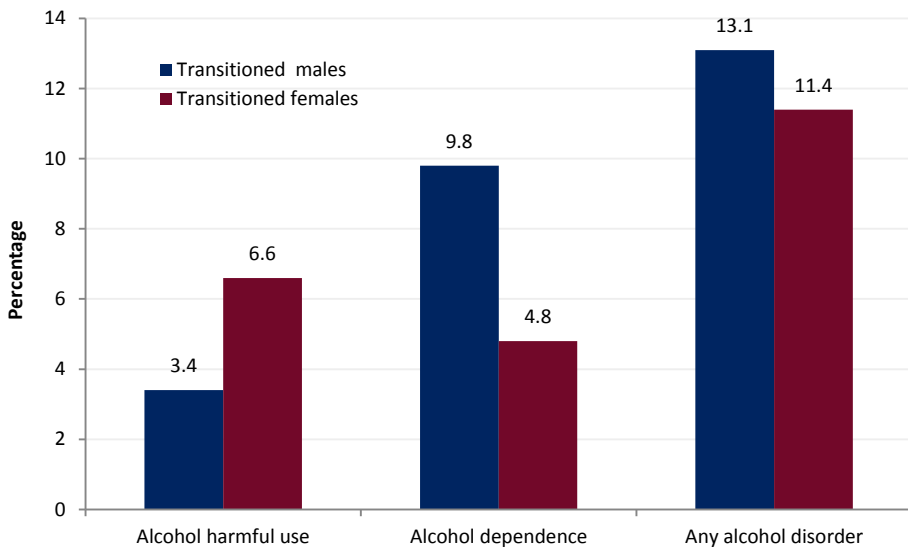
Table 4.30 and Figure 4.25 show the estimated prevalence of 12-month alcohol disorders. When the estimated prevalence of ‘any 12-month ICD-10 alcohol disorder’ was examined across age groups, there was an apparent decline in prevalence with increasing age for alcohol dependence, although this relationship was not statistically significant. The prevalence of alcohol harmful use showed a steady increase until ages 38–47 where prevalence was at its maximum (7.2%, CI 3.1, 15.7) after which it rapidly decreased to only 0.5% in the 58+ age group. The greatest estimated prevalence of any alcohol disorder was in those aged 28–37 (16.8%, CI 10.1, 26.5). Overall, there was no significant relationship between age and alcohol disorder

**Table 4.29** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and sex

ICD-10 alcohol disorder	Sex					
	Transitioned males (n = 21,671)			Transitioned females (n = 3261)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use	734	3.4	1.9, 5.1	214	6.6	2.2, 18.2
Alcohol dependence	2114	9.8	6.7, 13.9	157	4.8	1.8, 12.5
Any alcohol disorder	2848	13.1	9.7, 17.5	371	11.4	5.3, 22.7

Note: 95% CI: 95% confidence interval

**Figure 4.24** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and sex

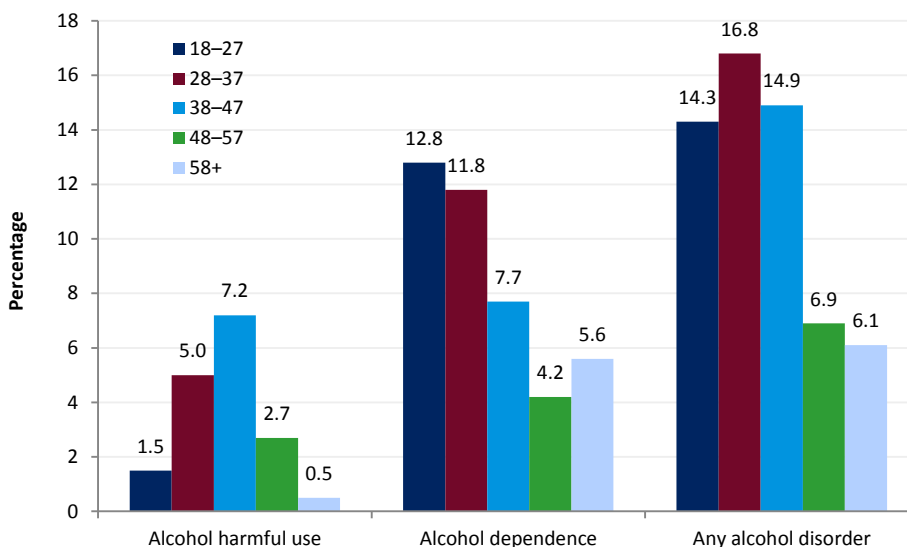


**Table 4.30** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and age

ICD-10 alcohol disorder	Age														
	18–27 (n = 5195)			28–37 (n = 8808)			38–47 (n = 5215)			48–57 (n = 3389)			58+ (n = 1937)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use	80	1.5	0.3, 7.1	436	5.0	2.0, 12.0	375	7.2	3.1, 15.7	92	2.7	1.4, 5.3	10	0.5	0.1, 3.3
Alcohol dependence	664	12.8	5.9, 25.4	1042	11.8	6.4, 20.9	403	7.7	3.8, 15.1	142	4.2	2.3, 7.4	108	5.6	1.9, 15.7
Any alcohol disorder	744	14.3	7.1, 26.9	1478	16.8	10.1, 26.5	777	14.9	8.8, 24.1	234	6.9	4.4, 10.6	118	6.1	2.2, 15.8

Note: 95% CI: 95% confidence interval

**Figure 4.25** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and age



### 4.3.3 Service factors

#### Service

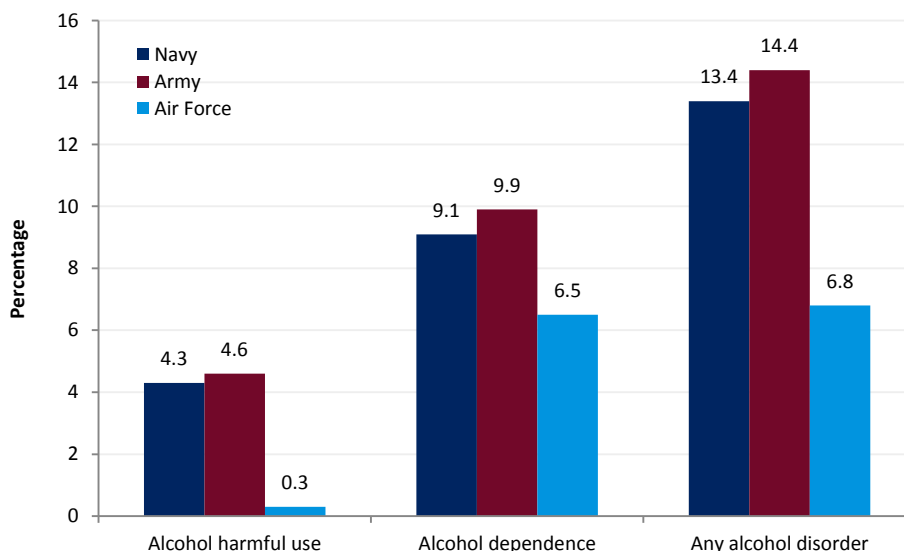
Table 4.31 and Figure 4.26 show the 12-month estimated prevalence of alcohol disorders across the Navy, Army and Air Force. When the individual Services were considered, the Navy and tended to have the highest estimated rates of alcohol disorders, followed by the Air Force. For example, 14.4% (95% CI 10.2, 20.1) of Transitioned Army and 13.4% (95% CI 7.5, 22.8) of Transitioned Navy met criteria for a 12-month ICD-10 alcohol disorder, in contrast with 6.8% (95% CI 3.0, 14.8) of Transitioned Air Force members. Compared to Transitioned Air Force members, Transitioned Army members were more than 14 times more likely (OR 14.7, 95% CI 2.0, 110.6) and Transitioned Navy just over 11 times more likely (OR 11.7, 95% CI 1.4, 101.8) to meet criteria for alcohol harmful use. However, these estimates should be treated with caution due to the extremely wide confidence intervals. There were no significant differences between the Services in the rates of ICD-10 alcohol dependence or ‘any alcohol disorder’.

**Table 4.31** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type (Navy, Army and Air Force)

ICD-10 alcohol disorder	Service at transition								
	Navy (n = 5671)			Army (n = 15,038)			Air Force (n = 4223)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use <sup>a</sup>	243	4.3	1.4, 12.8	691	4.6	2.6, 8.0	13	0.3	0.0, 2.1
Alcohol dependence	517	9.1	4.6, 17.1	1481	9.9	6.2, 15.2	273	6.5	2.7, 14.6
Any alcohol disorder	760	13.4	7.5, 22.8	2173	14.4	10.2, 20.1	286	6.8	3.0, 14.8

<sup>a</sup> Army vs Air Force: OR 14.7, 95% CI 2.0, 110.6; Navy vs Air Force: OR 11.7, 95% CI 1.4, 101.8  
 Note: 95% CI: 95% confidence interval

**Figure 4.26** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type (Navy, Army and Air Force)



Alcohol Harmful Use: Army vs Air Force: OR 14.7, 95% CI 2.0, 110.6; Navy vs Air Force: OR 11.7, 95% CI 1.4, 101.8

### Rank

Table 4.32 and Figure 4.27 shows the impacts of rank at time of transition. Other Ranks had overall higher estimated rates of 12-month ICD-10 alcohol disorder (18.3%, 95% CI 12.6, 25.9) than Commissioned (6.5%, 95% CI 4.3, 9.7) and Non-Commissioned Officers (7.3%, 95% CI 5.3, 9.8), with estimated rates of alcohol dependence in particular higher among Other Ranks.

Other Ranks were approximately three times more likely than Officers (OR 3.2, 95% CI 1.3, 7.9) and Non-Commissioned Officers (OR 2.9, 95% CI 1.3, 6.2) to meet 12-month



criteria for ‘any alcohol disorder’. While there was little difference in estimated rates of harmful use of alcohol between ranks, Other Ranks were just over three times more likely than Officers (OR 3.2, 95% CI 1.1, 9.1) and nearly four times more likely than Non-Commissioned Officers (OR 3.7, 95% CI 1.5, 9.3) to meet criteria for 12-month alcohol dependence.

**Table 4.32** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and ADF rank/rank at time of transition from service in Regular ADF

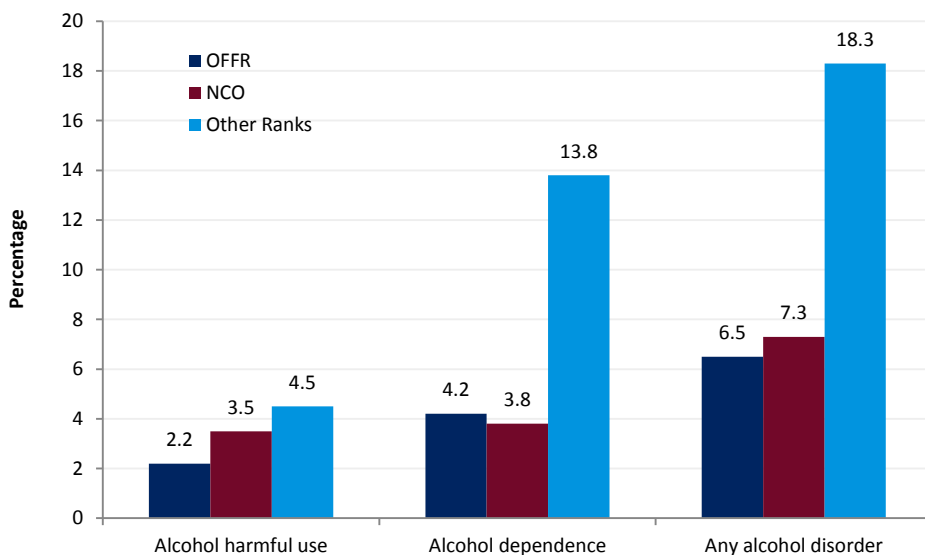
ICD-10 alcohol disorder	Rank at transition								
	OFFR (n = 4063)			NCO (n = 7866)			Other Ranks (n = 13,003)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use	90	2.2	1.1, 4.6	272	3.5	2.2, 5.3	585	4.5	2.0, 9.7
Alcohol dependence <sup>a</sup>	173	4.2	2.5, 7.1	299	3.8	2.4, 5.9	1799	13.8	8.9, 20.8
Any alcohol disorder <sup>b</sup>	263	6.5	4.3, 9.7	571	7.3	5.3, 9.8	2385	18.3	12.6, 25.9

<sup>a</sup> Other Ranks vs OFFRS: OR 3.2, 95% CI 1.1, 9.1; Other Ranks vs NCOs: OR 3.7, 95% CI 1.5, 9.3

<sup>b</sup> Other Ranks vs OFFRS: OR 3.2, 95% CI 1.3, 7.9; Other Ranks vs NCOs: OR 2.9, 95% CI 1.3, 6.2

Note: 95% CI: 95% confidence interval

**Figure 4.27** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and ADF rank/rank at time of transition from service in Regular ADF



Alcohol dependence: Other Ranks vs OFFRS: OR 3.2, 95% CI 1.1, 9.1; Other Ranks vs NCOs: OR 3.7, 95% CI 1.5, 9.3

Any alcohol disorder: Other Ranks vs OFFRS: OR 3.2, 95% CI 1.3, 7.9; Other Ranks vs NCOs: OR 2.9, 95% CI 1.3, 6.2

## Deployment

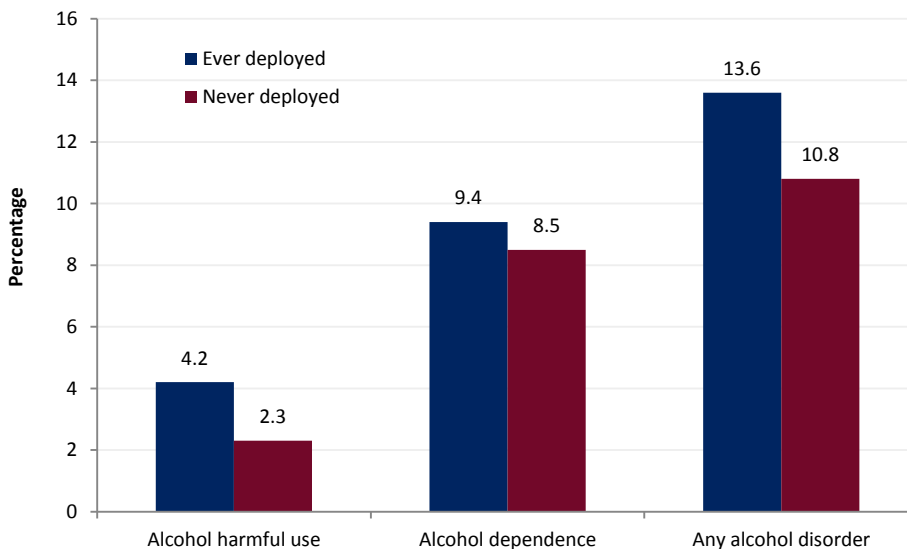
Table 4.33 and Figure 4.28 show that when the effects of deployment were examined, there was a pattern for alcohol harmful use to be highest in those who had ever deployed (13.6%, 95% CI 10.0, 18.2) compared with those who had never deployed (10.8%, 95% CI 4.7, 22.6). Compared to those Transitioned ADF who had never deployed, those who had deployed were almost twice as likely to meet criteria for alcohol harmful use. Despite these trends, however, there were no significant differences between those who had deployed and those who had never deployed in the prevalence of alcohol disorders.

**Table 4.33** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF, by alcohol disorder type and deployment status

ICD-10 alcohol disorder	Deployment status					
	Ever deployed (n = 20,087)			Never deployed (n = 4885)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use	795	4.2	2.5, 7.1	127	2.3	0.3, 14.4
Alcohol dependence	1765	9.4	6.3, 13.6	475	8.5	3.4, 19.5
Any alcohol disorder	2560	13.6	10.0, 18.2	602	10.8	4.7, 22.6

Note: 95% CI: 95% confidence interval

**Figure 4.28** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF, by alcohol disorder type and deployment status



### *Years of service*

Overall the estimated prevalence of ‘any 12-month ICD-10 alcohol disorder’ decreased with length of Regular service. As can be seen in Table 4.34 and Figure 4.29, estimated prevalence was highest among those with under four years of service (24.8%, 95% CI 10.8, 47.2), with the lowest rates observed in Transitioned ADF members with 12 or more years of Regular service. Those with 12–15.9 years of service were significantly less likely to meet criteria for ‘any 12-month alcohol disorder’ compared to those with under four years of service (OR 0.2, 95% CI 0.1, 0.9).

Compared with those with under four years of Regular service, Transitioned ADF with 12–15.9 years of service were 90% less likely (OR 0.1, 95% CI 0.0, 0.6), and those with more than 20 years of service 80% less likely (OR 0.2, 95% CI 0.0, 0.8) to meet criteria for 12-month alcohol dependence.

**Table 4.34** Estimated prevalence of 12-month ICD-10 alcohol disorders, by years of service in the Regular ADF\*

ICD-10 alcohol disorder	Years of service in Regular ADF								
	3 months – 3.9 years (n = 2413)			4–7.9 years (n = 9015)			8–11.9 years (n = 3295)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use	241	10.0	2.8, 29.9	270	3.0	1.0, 8.6	171	5.2	1.3, 19.3
Alcohol dependence <sup>a</sup>	357	14.8	4.8, 37.4	1451	16.1	10.1, 24.9	191	5.8	1.8, 17.0
Any alcohol disorder <sup>b</sup>	598	24.8	10.8, 47.2	1722	19.1	12.5, 28.2	366	11.1	4.5, 24.6

ICD-10 alcohol disorder	Years of service in Regular ADF								
	12–15.9 years (n = 2086)			16–19.9 years (n = 967)			> 20 years (n = 5772)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use	77	3.7	1.5, 8.8	40	4.1	1.3, 11.7	185	3.2	1.4, 7.4
Alcohol dependence <sup>a</sup>	33	1.6	0.4, 6.0	38	3.9	1.3, 11.3	179	3.1	1.9, 5.0
Any alcohol disorder <sup>b</sup>	111	5.3	2.5, 10.9	77	8.0	3.7, 16.6	369	6.4	3.9, 10.2

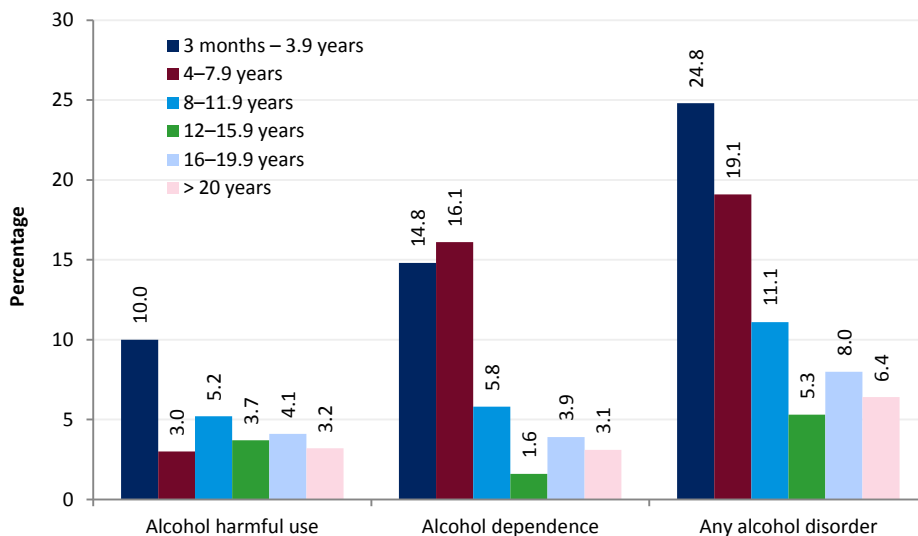
\* an estimated 521 Transitioned ADF recorded less than 3 months of service. Due to the small numbers in this subpopulation, prevalence estimates cannot be calculated for this group

<sup>a</sup> 12–15.9 years vs < 4 years: OR 0.1, 95% CI 0.0, 0.6; 20+ years vs < 4 years: OR 0.2, 95% CI 0.0, 0.8

<sup>b</sup> 12–15.9 years vs < 4 years: OR 0.2, 95% CI 0.1, 0.9

Note: 95% CI: 95% confidence interval

**Figure 4.29** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and years of service in Regular ADF



Alcohol dependence: 12–15.9 years vs < 4 years: OR 0.1, 95% CI 0.0, 0.6; 20+ years vs < 4 years: OR 0.2, 95% CI 0.0, 0.8  
 Any alcohol disorder: 12–15.9 years vs < 4 years: OR 0.2, 95% CI 0.1, 0.9

#### 4.3.4 Transition factors

##### *Years since transition*

Table 4.35 and Figure 4.30 shows the estimated pattern of 12-month alcohol disorder, by years since transition from the Regular ADF. For ‘any alcohol disorder’, the highest estimated prevalence was at one year post-transition (18.0%, 95% CI 10.2, 29.7). Those at one year post-transition were 4.5 times more likely than those at less than one year post-transition to meet criteria for 12-month alcohol dependence (OR 4.5, 95% CI 1.1, 17.5).

**Table 4.35** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and years since transition

ICD-10 alcohol disorder	Years since transition								
	0 (n = 1945)			1 (n = 4874)			2 (n = 4944)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use	144	7.4	1.6, 28.1	49	1.0	0.3, 3.0	84	1.7	0.5, 6.0
Alcohol dependence <sup>a</sup>	74	3.8	1.4, 10.0	829	17.0	9.4, 28.9	351	7.1	3.0, 15.6
Any alcohol disorder	216	11.1	3.9, 28.0	877	18.0	10.2, 29.7	435	8.8	4.2, 17.3

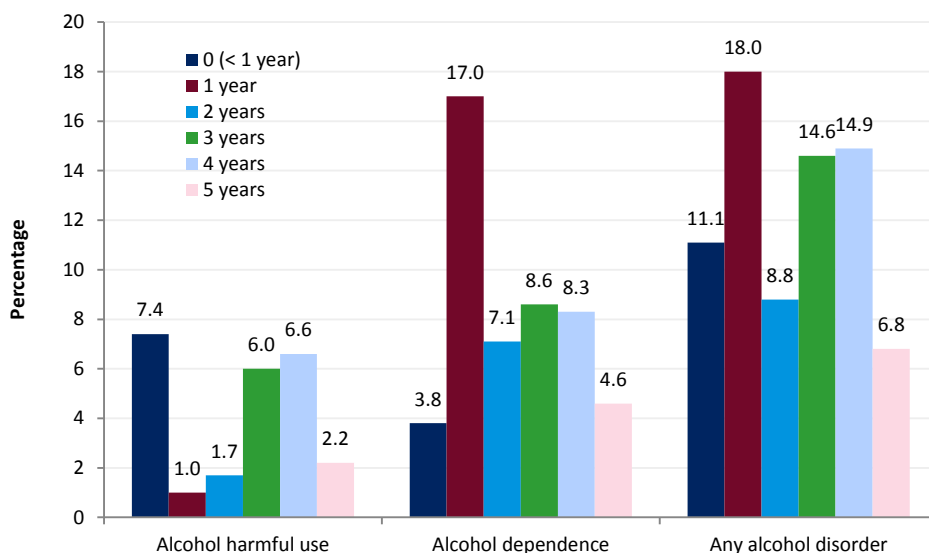
  

ICD-10 alcohol disorder	Years since transition								
	3 (n = 5233)			4 (n = 3582)			5 (n = 2785)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use	314	6.0	2.6, 13.4	236	6.6	2.0, 20.1	61	2.2	0.9, 5.2
Alcohol dependence <sup>a</sup>	450	8.6	4.0, 17.6	297	8.3	3.3, 19.5	128	4.6	1.0, 19.2
Any alcohol disorder	764	14.6	8.4, 24.1	534	14.9	7.3, 28.2	189	6.8	2.3, 18.5

<sup>a</sup> 1 year vs < 1 year: OR 4.5, 95% CI 1.1, 17.5

Note: 95% CI: 95% confidence interval

**Figure 4.30** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and years since transition



Alcohol Dependence: 1 year vs < 1 year: OR 4.5, 95% CI 1.1, 17.5

### Reason for discharge

Table 4.36 and Figure 4.31 show the estimated prevalence of 12-month alcohol disorders for those with a medical discharge compared to other types of discharge. The estimated prevalence of any 12-month alcohol disorder was higher among Transitioned ADF with a medical discharge (20.3%, 95% CI 13.0, 30.2) compared to those with another type of discharge (10.4%, 95% CI 7.1, 15.0), (OR 1.8, 95% CI 0.9, 3.8). While estimated rates of alcohol harmful use were similar between the two groups, the estimated 12-month prevalence of alcohol dependence was also significantly higher among those with a medical discharge (16.6%, 95% CI 10.0, 26.4) compared to others (6.5%, 95% CI 3.9, 10.6), (OR 2.6, 95% CI 1.1, 6.4).

**Table 4.36** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and reason for discharge

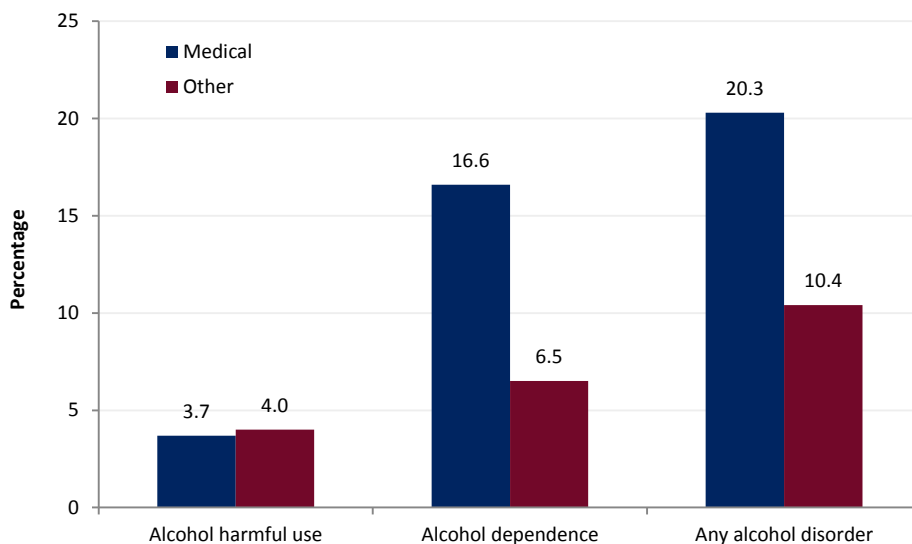
ICD-10 alcohol disorder	Reason for discharge					
	Medical (n = 5082)			Other (n = 19,154)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use	186	3.7	1.3, 9.7	756	4.0	2.2, 7.1
Alcohol dependence <sup>a</sup>	844	16.6	10.0, 26.4	1241	6.5	3.9, 10.6
Any alcohol disorder <sup>b</sup>	1030	20.3	13.0, 30.2	1997	10.4	7.1, 15.0

<sup>a</sup> medical vs other: OR 2.6, 95% CI 1.1, 6.4

<sup>b</sup> medical vs other: OR 1.8, 95% CI 0.9, 3.8

Note: 95% CI: 95% confidence interval

**Figure 4.31 Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and reason for discharge**



Alcohol dependence: Medical versus Other: OR 2.6, 95% CI 1.1, 6.4  
 Any alcohol disorder: Medical vs other: OR 1.8, 95% CI 0.9, 3.8

### DVA status

Table 4.37 and Figure 4.32 show the estimated prevalence of any 12-month alcohol disorder varied according to whether or not the Transitioned ADF were DVA clients. Those who were DVA clients were 2.5 times more likely to meet 12-month ICD-10 criteria for ‘any alcohol disorder’ (OR 2.6, 95% CI 1.2, 5.5). While estimated rates of alcohol harmful use were similar across groups, DVA clients were significantly more likely to meet criteria for alcohol dependence compared to non-clients (11.1%, 95% CI 7.9, 17.2), (OR 3.3, 95% CI 1.3, 8.2).

**Table 4.37 Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and DVA status**

ICD-10 alcohol disorder	DVA client					
	No (n = 15,605)			Yes (n = 8774)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Alcohol harmful use	499	3.2	1.2, 8.1	360	4.1	2.2, 7.6
Alcohol dependence <sup>a</sup>	749	4.8	2.3, 9.7	1035	11.1	7.9, 17.2
Any alcohol disorder <sup>b</sup>	1248	8.0	4.5, 13.9	1395	15.9	11.5, 21.6

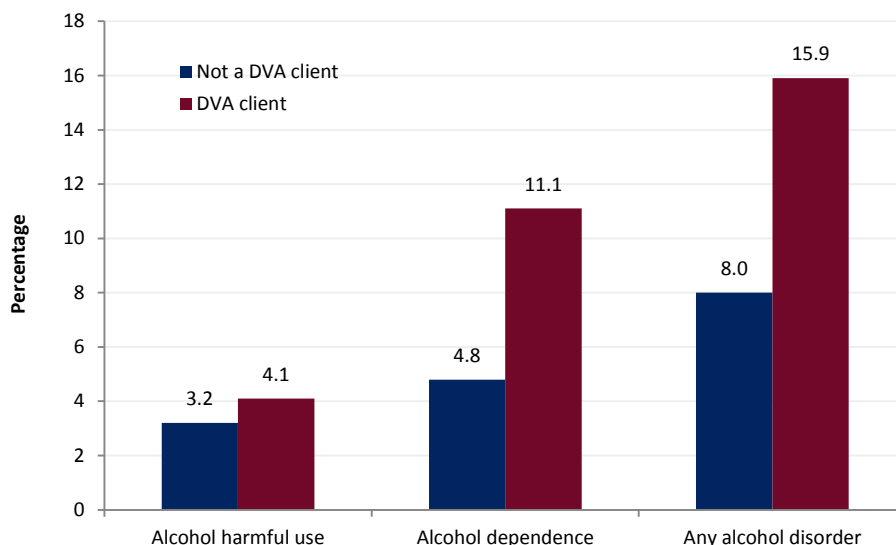
<sup>a</sup> DVA client vs Not (OR 3.3, 95% CI 1.3, 8.2.)

<sup>b</sup> DVA client vs Not (OR 2.6, 95% CI 1.2, 5.5)

Note: 95% CI: 95% confidence interval



**Figure 4.32** Estimated prevalence of 12-month ICD-10 alcohol disorders in Transitioned ADF members, by alcohol disorder type and DVA status



Alcohol dependence: DVA client vs Not (OR 3.3, 95% CI 1.3, 8.2.)  
 Any alcohol disorder: DVA client vs Not (OR 2.6, 95% CI 1.2, 5.5)

#### 4.4 Estimated prevalence of comorbid mental health conditions in the Transitioned ADF

- 54.2% of the Transitioned ADF had no 12-month ICD-10 disorder.
- Of the 45.8% of the Transitioned ADF with a disorder in the last 12 months, more than half (55%) had at least one comorbid disorder.
- 15.2% of the Transitioned ADF met criteria for two mental disorder classes.
- 10.1% of the Transitioned ADF met criteria for three or more mental disorder classes.
- Anxiety and affective disorders were the most common comorbid disorders.
- More than 80% of those Transitioned ADF with PTSD had another comorbid disorder.
- More than 95% of those Transitioned ADF with an alcohol disorder had another comorbid disorder.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

The following section examines mental health comorbidity in the Transitioned ADF. First it examines comorbidity between alcohol, affective and other anxiety disorders, and PTSD for the entire cohort. It then examines the transitioned subgroups of Ex-Serving, Inactive Reservists and Active Reservists.

Comorbidity was defined by grouping the three disorder classes ‘any ICD-10 alcohol disorder’, ‘any ICD-10 affective disorder’ and ‘ICD-10 anxiety disorders (excluding PTSD)’, and PTSD, according to their co-occurrence. In addition to breaking down the individual patterns of co-occurrence, five categories were defined to represent those with no mental disorder and those with one, two, three or four mental disorder classes.

#### **4.4.1 Transitioned ADF population**

Table 4.38 shows the estimated rates of mental disorder comorbidity for the entire Transitioned ADF. In total, just over half (54.2%, 95% CI 49.5, 58.9) of the Transitioned ADF did not have a 12-month ICD-10 mental disorder. Of the 45.8% with a mental disorder, more than half (55.0%) had at least one comorbid disorder. Approximately 15% of the Transitioned ADF met criteria for two mental disorder classes (33% of those with a mental disorder), while a further 10.1% (22% of those with a mental disorder) met criteria for three or more mental disorder classes. The most common comorbidity was between anxiety (excluding PTSD) and affective disorders (5.7%, 95% CI 3.8, 8.6) (12.2% of those with a mental disorder). An important observation is that only 19.8% (weighted n = 873) of those with PTSD (weighted n = 4408) did not have a comorbid disorder. Similarly, only 1601 (6.5% of participants) met criteria for an affective disorder diagnosis alone.

Finally, only 501 of the 3219 individuals (15.6%) with an alcohol-related disorder had this problem alone, with alcohol disorder most commonly associated with a diagnosis of both an anxiety and an affective disorder.

**Table 4.38** Estimated prevalence n (%) of single and comorbid affective, anxiety (excluding PTSD), PTSD and alcohol disorder in the Transitioned ADF in the last 12 months, using ICD-10 criteria

ICD-10 mental disorder group	Total (n = 24,932)		
	Weighted n	%	95% CI
No mental disorder	13,374	54.2	49.5, 58.9
Any alcohol disorder only	501	2.0	1.0, 3.9
Any anxiety disorder only (excl. PTSD)	2084	8.4	6.5, 10.9
PTSD only	873	3.5	2.3, 5.4
Any affective disorder only	1601	6.5	4.4, 9.4
One mental disorder class	5059	20.4	17.1, 24.3
Any anxiety disorder (excl. PTSD) and any alcohol disorder	596	2.4	1.2, 4.8
Any affective disorder and any alcohol disorder	224	0.9	0.3, 2.7
PTSD and any alcohol disorder	317	1.3	0.5, 3.4
Any anxiety disorder (excl. PTSD) and any affective disorder	1412	5.7	3.8, 8.6
Any anxiety disorder (excl. PTSD) and PTSD	814	3.3	2.1, 5.1
Any affective disorder and PTSD	381	1.5	0.7, 3.3
Two mental disorder classes	3744	15.1	12.0, 19.1
Any anxiety disorder (excl. PTSD) and any alcohol disorder and PTSD	356	1.4	0.6, 3.7
Any anxiety disorder (excl. PTSD) and any alcohol disorder and any affective disorder	731	3.0	1.5, 5.7
Any alcohol disorder and PTSD and any affective disorder	26	0.1	0.0, 0.4
Any anxiety disorder (excl. PTSD) and PTSD and any affective disorder	912	3.7	2.3, 5.9
Three mental disorder classes	2025	8.2	5.7, 11.6
Four mental disorder classes	468	1.9	0.9, 4.0

Note: 95% CI: 95% confidence interval

#### 4.4.2 Transition status

Table 4.39 shows the estimated prevalence of comorbidity for the subgroups of the Transitioned ADF. Estimated rates of mental disorder and comorbidity are highest among the Ex-Serving, with 55.9% having at least one mental disorder (compared to 38.3% of Inactive Reservists and 35.8% of Active Reservists). While the percentage of those classified as having ‘one mental disorder class’ was similar across the three groups (20.4%, 22.3% and 18.6% in the Ex-Serving, Inactive Reservists and Active Reservists respectively), the Ex-Serving had higher rates of ‘two mental disorder classes’, ‘three mental disorder classes’ and ‘four mental disorder classes’. Of the Ex-Serving group who met criteria for a mental disorder (n = 4049), 63.4% had more than one mental disorder compared to 41.9% of Inactive Reservists and 48% of Active Reservists. The difference in these estimated rates increased with the more disorder classes identified. For example, among the Ex-Serving, the estimated rates for those classified with two or three mental disorder classes were approximately twice that as of those in the Inactive and Active Reserves, whereas the estimated rate among the Ex-Serving with four mental disorder classes was more than five-fold those in the Inactive and Active Reserves.

**Table 4.39** Estimated prevalence of comorbidity for the subgroups of the Transitioned ADF

ICD-10 mental disorder group	Ex-Serving (n = 11,440)			Inactive Reservists (n = 6447)			Active Reservists (n = 6968)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
No mental disorder	5045	44.1	36.7, 51.9	3977	61.7	52.7, 69.9	4474	64.2	56.4, 71.4
Any alcohol disorder only	297	2.6	1.0, 6.3	168	2.6	0.9, 7.5	35	0.5	0.1, 1.8
Any anxiety disorder only (excl. PTSD)	858	7.5	4.9, 11.2	451	7.0	3.9, 12.3	808	11.6	7.6, 17.2
PTSD only	378	3.3	1.6, 6.7	264	4.1	1.8, 9.1	230	3.3	2.0, 5.5
Any affective disorder only	812	7.1	3.9, 12.5	554	8.6	4.7, 15.1	223	3.2	1.8, 5.5
One mental disorder class	2334	20.4	15.2, 26.8	1437	22.3	15.9, 30.3	1296	18.6	13.9, 24.4
Any anxiety disorder (excl. PTSD) and any alcohol disorder	332	2.9	1.3, 6.5	129	2.0	0.4, 9.1	139	2.0	0.4, 10.2
Any affective disorder and any alcohol disorder	183	1.6	0.4, 5.8	26	0.4	0.1, 1.5	14	0.2	0.0, 1.5
PTSD and any alcohol disorder	126	1.1	0.2, 6.1	64	1.0	0.4, 2.3	139	2.0	0.4, 10.2
Any anxiety disorder (excl. PTSD) and any affective disorder	972	8.5	5.1, 13.7	251	3.9	1.5, 10.0	195	2.8	0.9, 8.1
Any anxiety disorder (excl. PTSD) and PTSD	366	3.2	1.6, 6.3	187	2.9	1.7, 5.0	272	3.9	1.5, 9.5
Any affective disorder and PTSD	217	1.9	0.8, 4.6	13	0.2	0.0, 1.2	160	2.3	0.5, 9.6
Two mental disorder classes	2196	19.2	14.1, 25.7	670	10.4	6.3, 16.7	920	13.2	7.8, 21.5
Any anxiety disorder (excl. PTSD) and any alcohol disorder and PTSD	275	2.4	0.8, 7.2	71	1.1	0.2, 6.7	0	0.0	0.0
Any anxiety disorder (excl. PTSD) and any alcohol disorder and any affective disorder	515	4.5	2.0, 9.8	90	1.4	0.2, 8.8	139	2.0	0.4, 8.8
Any alcohol disorder and PTSD and any affective disorder	11	0.1	0.0, 0.8	13	0.2	0.0, 1.3	0	0.0	0.0
Any anxiety disorder (excl. PTSD) and PTSD and any affective disorder	641	5.6	3.2, 9.8	168	2.6	0.7, 8.6	98	1.4	0.6, 3.3
Three mental disorder classes	1453	12.7	8.3, 18.9	342	5.3	2.2, 12.2	237	3.4	1.3, 8.6
Four mental disorder classes	400	3.5	1.5, 8.1	26	0.4	0.1, 2.5	42	0.6	0.2, 1.9

Note: 95% CI: 95% confidence interval

## 4.5 Estimated prevalence of suicidality in Transitioned ADF

- Just over 20% of Transitioned ADF reported some sort of suicidal ideation or behaviour in the last 12 months.
- In terms of suicidal ideation, 28.9% of Transitioned ADF reported that they felt that their life was not worth living in the last 12 months and 21.2% reported that they felt so low that they thought about taking their own life in the last 12 months.
- 7.9% of Transitioned ADF had made a suicide plan in the last 12 months.
- 2.0% of Transitioned ADF reported having attempted suicide in the last 12 months.
- Suicidality was most commonly observed in Transitioned ADF who were Ex-Serving, Army, Non-Commissioned Officers and lower in rank, those who had been medically discharged, and DVA clients.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

The study examined 12-month self-reported suicidal ideation and behaviour in the Transitioned ADF, using four questions:

*Suicidal ideation Q1:* In the last 12 months, have you ever felt that your life was not worth living?

*Suicidal ideation Q2:* In the last 12 months, have you ever felt so low that you thought about committing suicide?

*Suicide plan:* In the last 12 months, have you made a suicide plan?

*Suicide attempt:* In the last 12 months, have you attempted suicide?

The responses to these questions were limited to 'yes' or 'no'.

The following section presents the estimated prevalence of self-reported 12-month suicidality among ADF members who transitioned from the Regular ADF between 2010 and 2014. It describes the associated demographic (sex, age), transition (transition status, years since transition, type of discharge) and Service (Service, rank, years of service, deployment status) predictors. The association between suicidality and DVA status is also outlined.

### 4.5.1 Suicidality

#### *Transitioned ADF*

Table 4.40 summarises the estimated prevalence of 12-month suicidal ideation, plans and attempts, and any suicidality. In the Transitioned ADF, 28.9% (an estimated 7208 members) reported that they had felt that their life was not worth living in the last

12 months, 21.2% reported feeling so low they thought about committing suicide, 7.9% reported making a suicide plan and 2.0% (representing 505 members) reported making a suicide attempt in the last 12 months.

**Table 4.40 Self-reported suicidal ideation, and suicide plans and attempts in the Transitioned ADF**

Suicide			
n (%) represents those answering 'yes' to these items			
	Transitioned ADF 2015 (n = 24,935)		
	Weighted n	%	95% CI
Felt life not worth Living	7208	28.9	(27.3, 30.6)
Felt so low thought about committing suicide	5294	21.2	(19.8, 22.8)
Made a suicide plan	1965	7.9	(7.0, 8.9)
Attempted suicide	505	2.0	(1.6, 2.6)
Any suicidality*	5342	21.7	20.2, 23.3

\* Calculated as yes to either 'felt so low thought about committing suicide', 'made a suicide plan', or 'attempted suicide'

Notes:

95%CI: 95% confidence interval

This terminology reflects the standardised survey item used in this study – however, it should be noted that this is no longer considered an appropriate description, and the term 'thought about committing suicide' should be replaced with 'thought about taking their own life'

### **Transition status**

Table 4.41 and Figure 4.33 show that 'any suicidality' was significantly higher among Ex-Serving Transitioned ADF compared with Inactive (OR 2.4, 95% CI 1.9, 3.0) and Active Reservists (OR 3.2, 95% CI 2.4, 4.2). Estimated rates of plans and attempts, in particular, were at least three times higher among the Ex-Serving ADF compared with Inactive Reservists (plans OR 3.1, 95% CI 2.1, 4.5; attempts OR 3.3, 95% CI 1.4, 7.8), and at least five times higher compared to Active Reservists (plans OR 5.8, 95% CI 3.7, 9.1; attempts OR 31.4, 95% CI 9.3, 106.0). However, caution should be used when interpreting the difference in suicide attempts between Transitioned ADF and Active Reservists due to extremely large confidence intervals.

**Table 4.41 Estimated prevalence of suicidality in Transitioned ADF members, by transition status (Ex-Serving, Inactive Reservists, and Active Reservists)**

Suicidality	Transition status								
	Ex-Serving (n = 11,440)			Inactive Reservists (n = 6447)			Active Reservists (n = 6968)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living	4606	40.3	(37.5, 43.1)	1399	21.7	(18.9, 24.8)	1242	17.8	(15.5, 20.4)
Felt so low thought about committing suicide	3506	30.7	(28.1, 33.4)	982	15.2	(12.9, 18.0)	856	12.3	(10.2, 14.7)
Made a suicide plan <sup>a</sup>	1496	13.1	(11.4, 15.0)	302	4.7	(3.4, 6.4)	187	2.7	(1.8, 3.9)
Attempted suicide <sup>b</sup>	435	3.8	(2.9, 5.0)	68	1.1	(0.5, 2.3)	8	0.1	(0.0, 0.4)
Any suicidality <sup>c</sup>	3598	31.5	28.8, 34.2	1010	15.7	13.3, 18.4	866	12.4	10.3, 14.9

<sup>a</sup> Ex-Serving vs Inactive: OR 3.1, 95% CI 2.1, 4.5; Ex-Serving vs Active: OR 5.8, 95% CI 3.7, 9.1)

<sup>b</sup> Ex-Serving vs Inactive: OR 3.3, 95% CI 1.4, 7.8; Ex-Serving vs Active: OR 31.4, 95% CI 9.3, 106.0)

<sup>c</sup> Ex-Serving vs Inactive: OR 2.4, 95% CI 1.9, 3.0; Ex-Serving vs Active: OR 3.2, 95% CI 2.4, 4.2)

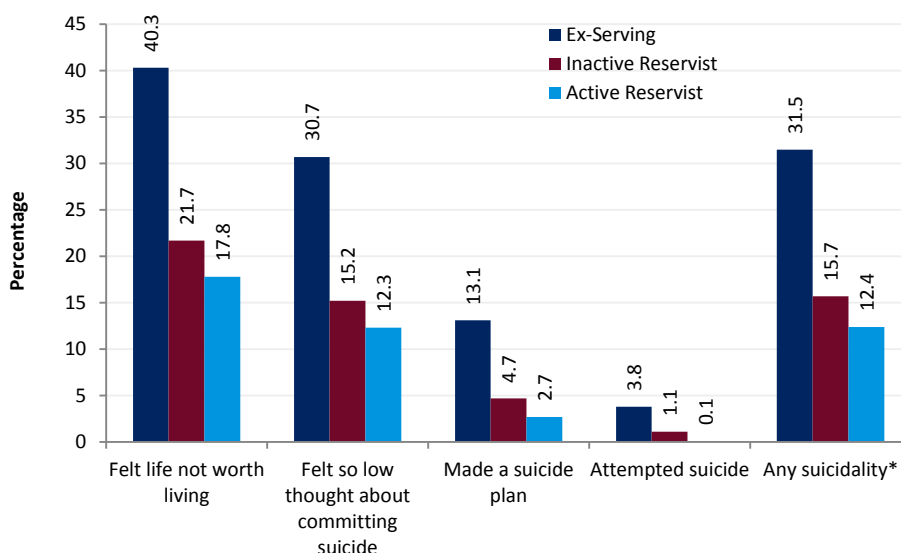
\* Calculated as yes to 'felt so low thought about committing suicide', 'made a suicide plan', or 'attempted suicide'

Notes:

95% CI: 95% confidence interval

This terminology reflects the standardised survey item used in this study – however, it should be noted that this is no longer considered an appropriate description, and the term 'thought about committing suicide' should be replaced with 'thought about taking their own life'

**Figure 4.33** Estimated prevalence of suicidality in Transitioned ADF members, by transition status (Ex-Serving, Inactive Reservists and Active Reservists)



Suicide plans: Ex-Serving vs Inactive: OR 3.1, 95% CI 2.1, 4.5; Ex-Serving vs Active: OR 5.8, 95% CI 3.7, 9.1  
 Suicide attempts: Ex-Serving vs Inactive: OR 3.3, 95% CI 1.4, 7.8; Ex-Serving vs Active: OR 31.4, 95% CI 9.3, 106.0  
 Any suicidality: Ex-Serving vs Inactive: OR 2.4, 95% CI 1.9, 3.0; Ex-Serving vs Active: OR 3.2 95% CI 2.41, 4.2

## 4.5.2 Suicidality demographic factors

### Sex

Table 4.42 and Figure 4.34 show suicidality for Transitioned males and females. There were no significant differences in the estimated prevalence of suicidality between males and females. Although it appears that males had slightly lower rates of attempts, this difference was not significant.

**Table 4.42** Estimated prevalence of suicidality in Transitioned ADF members, by sex

Suicidality	Sex					
	Transitioned males (n = 21,671)			Transitioned females (n = 3261)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living	6250	28.8	27.1, 30.7	958	29.4	25.6, 33.4
Felt so low thought about committing suicide	4602	21.2	19.6, 22.9	692	21.2	17.9, 24.9
Made a suicide plan	1714	7.9	6.9, 9.0	252	7.7	6.1, 9.7
Attempted suicide	399	1.8	1.4, 2.5	106	3.2	2.0, 5.2
Any suicidality*	4643	21.7	20.1, 23.4	699	21.7	18.4, 25.4

\* Calculated as yes to 'felt so low thought about committing suicide', 'made a suicide plan', or 'attempted suicide'

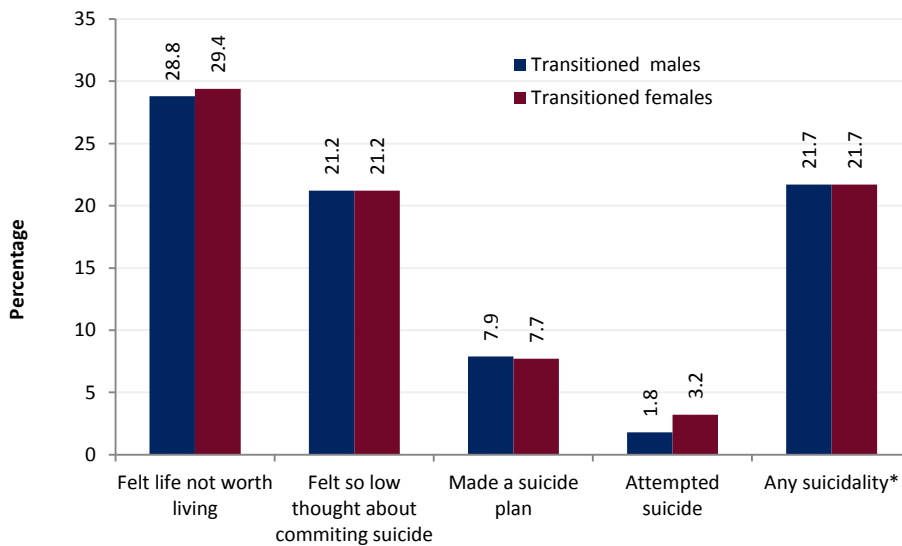
Notes:

95% CI: 95% confidence interval

This terminology reflects the standardised survey item used in this study – however, it should be noted that this is no longer considered an appropriate description, and the term 'thought about committing suicide' should be replaced with 'thought about taking their own life'



**Figure 4.34** Estimated prevalence of suicidality in Transitioned ADF members, by sex



### Age

Table 4.43 and Figure 4.35 show the estimated prevalence of 12-month suicidality by age bands. While ‘any 12-month suicidality’ appears to decrease overall with age, this was not statistically significant. There were peaks in the 18–27 age group (23.6%, 95% CI 19.6, 27.9) and the 38–47 age group (23.8%, 95% CI 21.0, 26.9), dropping to 14.4% among those aged over 58. A similar pattern was observed for individual ideation and plans, but not attempts.

**Table 4.43** Estimated prevalence of suicidality in Transitioned ADF members, by age

Suicidality	Age														
	18–27 (n = 5195)			28–37 (n = 8808)			38–47 (n = 5215)			48–57 (n = 3389)			58+ (n = 1937)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living	1553	29.6	25.3, 34.2	2534	29.1	26.1, 32.3	1735	32.8	29.7, 36.1	907	26.9	23.9, 30.0	377	19.5	16.4, 22.9
Felt so low thought about committing suicide	1234	23.5	19.6, 27.9	1827	21.0	18.4, 23.9	1259	23.8	21.0, 26.9	616	18.3	15.8, 21.0	272	14.0	11.2, 17.4
Made a suicide plan	436	8.3	6.0, 11.4	696	7.9	6.4, 9.8	504	9.5	7.8, 11.7	231	6.9	5.5, 8.5	73	3.8	2.6, 5.4
Attempted suicide	177	3.4	2.0, 5.6	163	1.9	1.2, 2.8	103	1.9	1.2, 3.2	44	1.3	0.7, 2.4	3	0.2	0.0, 0.9
Any suicidality*	1238	23.6	19.6, 27.9	1838	21.1	18.5, 24.0	1259	23.8	21.0, 26.9	643	19.1	16.5, 21.9	278	14.4	11.5, 17.7

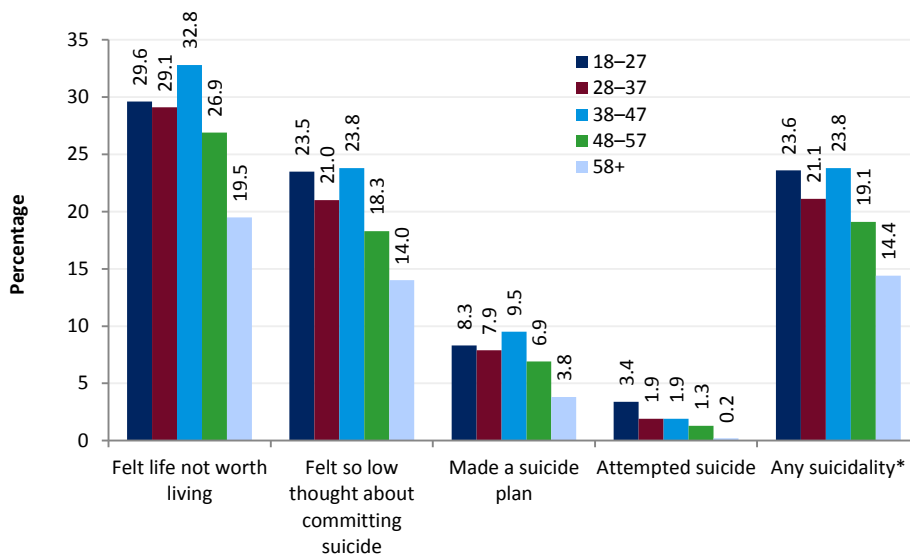
\* Calculated as yes to 'felt so low thought about committing suicide', 'made a suicide plan', or 'attempted suicide'

Notes:

95%CI: 95% confidence interval

This terminology reflects the standardised survey item used in this study – however, it should be noted that this is no longer considered an appropriate description, and the term 'thought about committing suicide' should be replaced with 'thought about taking their own life'

**Figure 4.35** Estimated prevalence of suicidality in Transitioned ADF members, by age



### 4.5.3 Suicidality service factors

#### Service

Table 4.44 and Figure 4.36 show there was little difference in suicidality between the Services, with a general pattern for the highest rates among Army, followed by Navy then Air Force. However, the only significant difference across the services was for 12-month suicide plans in the Army compared to the Navy (OR 1.6, 95% CI 1.1, 2.3), where those in the Army were significantly more likely to report making a suicide plan in the last 12 months.

**Table 4.44** Estimated prevalence of suicidality, by Service at transition from Regular ADF into Transitioned ADF (Navy, Army, Air Force)

Suicidality	Service at transition								
	Navy (n = 5671)			Army (n = 15,038)			Air Force (n = 4223)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living	1632	29.3	25.7, 33.2	4497	30.3	28.1, 32.6	1079	25.9	22.9, 29.0
Felt so low thought about committing suicide	1201	21.6	18.4, 25.2	3332	22.5	20.5, 24.6	761	18.2	15.7, 21.1
Made a suicide plan <sup>a</sup>	333	6.0	4.5, 7.9	1351	9.1	7.8, 10.6	281	6.7	5.2, 8.6
Attempted suicide	126	2.3	1.3, 4.1	328	2.2	1.6, 3.0	51	1.2	0.7, 2.0
Any suicidality*	1207	21.7	18.5, 25.3	3367	22.7	20.7, 24.8	768	18.4	15.8, 21.5

<sup>a</sup> Army vs Navy: OR 1.6, 95% CI 1.1, 2.3

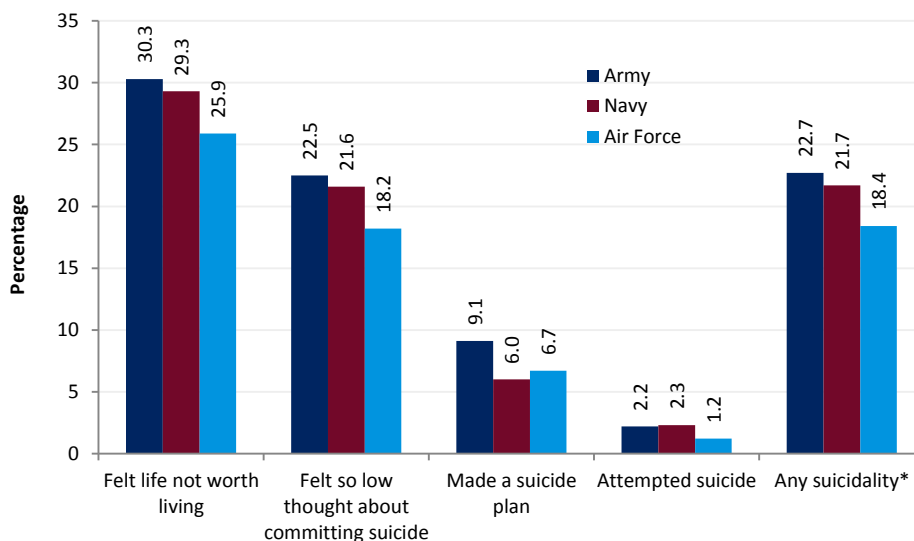
\* Calculated as yes to 'felt so low thought about committing suicide', 'made a suicide plan', or 'attempted suicide'

Notes:

95% CI: 95% confidence interval

This terminology reflects the standardised survey item used in this study – however, it should be noted that this is no longer considered an appropriate description, and the term 'thought about committing suicide' should be replaced with 'thought about taking their own life'

**Figure 4.36** Estimated prevalence of suicidality, by Service at transition from Regular ADF into Transitioned ADF (Navy, Army and Air Force)



Suicidal plans: Army vs Navy: OR 1.6, 95% CI 1.1, 2.3.

\* Calculated as yes to 'felt so low thought about committing suicide', 'made a suicide plan', or 'attempted suicide'

### Rank

Table 4.45 and Figure 4.37 show the estimated prevalence of 12-month suicidality in the Transitioned ADF, by rank at the time of transition. Officers had the lowest estimated prevalence of overall suicidality (13.2%, 95% CI 11.7, 14.8). Just over 8% of Non-Commissioned Officers and Other Ranks reported making a suicide plan in the last 12 months, representing about 1700 people. Approximately 2.5% of Other Ranks (estimated n = 337) and 1.8% of Non-Commissioned Officers (estimated n = 138) reported a suicide attempt. Compared to Officers, Non-Commissioned Officers were significantly more likely to report suicidal ideation (OR 1.9, 95% CI 1.6, 2.2), plans (OR 1.5, 95% CI 1.2, 1.9) and attempts (OR 2.3, 95% CI 1.3, 4.1) as were Transitioned ADF who were Other Ranks (suicidal ideation OR 2.3, 95% CI 1.7, 2.9; plans OR 1.4, 95% CI 1.0, 2.0; attempts OR 2.7, 95% CI 1.2, 5.8). The only significant difference between Non-Commissioned Officers and Other Ranks was for suicidal ideation, with Transitioned ADF in the Other Ranks being significantly more likely to report feeling so low they thought about committing suicide (OR 1.3, 95% CI 1.0, 1.5).

**Table 4.45 Estimated prevalence of suicidality, by rank at transition from Regular ADF into Transitioned ADF**

Suicidality	Rank at transition								
	OFFR (n = 4063)			NCO (n = 7866)			Other Ranks (n = 13,003)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living <sup>a</sup>	837	20.7	18.9, 22.6	2212	28.6	26.9, 30.4	4159	32.4	29.6, 35.5
Felt so low thought about committing suicide <sup>b</sup>	520	12.9	11.5, 14.5	1664	21.5	20.0, 23.1	3111	24.3	21.7, 27.1
Made a suicide plan <sup>c</sup>	227	5.6	4.7, 6.7	644	8.3	7.4, 9.4	1094	8.6	6.9, 10.4
Attempted suicide <sup>d</sup>	29	0.7	0.4, 1.2	138	1.8	1.4, 2.3	337	2.6	1.8, 3.8
Any suicidality*	533	13.2	11.7, 14.8	1687	21.8	0.3, 23.4	3122	24.4	21.7, 27.2

<sup>a</sup> NCO vs OFFR: OR 1.6, 95% CI 1.4, 1.8; Other Ranks vs OFFR: OR 2.3, 95% CI 1.7, 2.9

<sup>b</sup> NCO vs OFFR: OR 1.9, 95% CI 1.6, 2.2; Other Ranks vs NCO: OR 1.3, 95% CI 1.0, 1.5

<sup>c</sup> NCO vs OFFR: OR 1.5, 95% CI 1.2, 1.9; Other Ranks vs OFFR: OR 1.4, 95% CI 1.0, 2.0

<sup>d</sup> NCO vs OFFR: OR 2.3, 95% CI 1.3, 4.1; Other Ranks vs OFFR: OR 2.7, 95% CI 1.2, 5.8

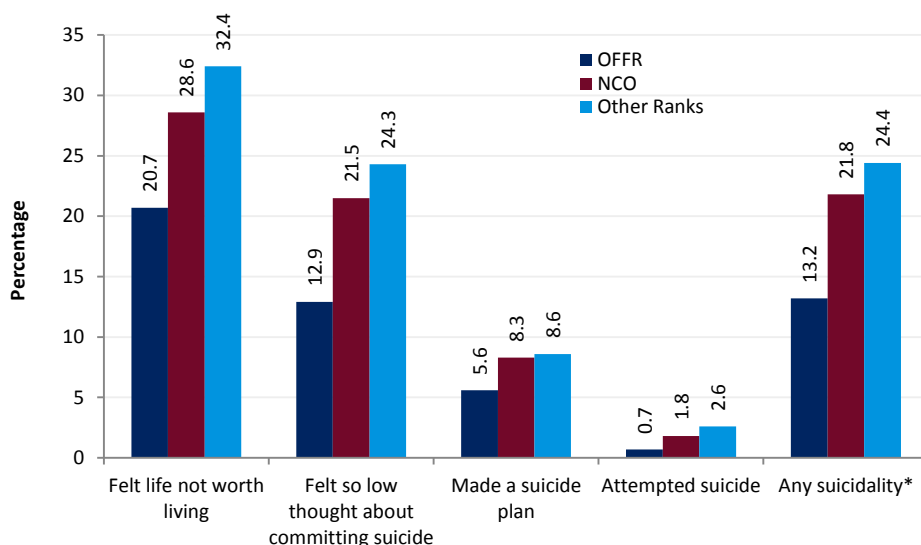
\*Calculated as yes to 'felt so low thought about committing suicide', 'made a suicide plan', or 'attempted suicide'

Notes:

\* 95% CI: 95% confidence interval

This terminology reflects the standardised survey item used in this study – however, it should be noted that this is no longer considered an appropriate description, and the term 'thought about committing suicide' should be replaced with 'thought about taking their own life'

**Figure 4.37 Estimated prevalence of suicidality in Transitioned ADF members, by rank at transition**



Suicidal ideation (felt life not worth living): NCO vs OFFR: OR 1.6, 95% CI 1.4, 1.8; Other Ranks vs OFFR: OR 2.26, 95% CI 1.7, 2.9  
 Suicidal ideation (felt so low thought about committing suicide): NCO vs OFFR: OR 1.9, 95% CI 1.6, 2.2; Other Ranks vs NCO: OR 1.3, 95% CI 1.0, 1.5  
 Suicide plans: NCO vs OFFR: OR 1.5, 95% CI 1.2, 1.9; Other Ranks vs OFFR: OR 1.4, 95% CI 1.0, 2.0  
 Suicide attempts: NCO vs OFFR: OR 2.3, 95% CI 1.3, 4.1; Other Ranks vs OFFR: OR 2.67, 95% CI 1.23, 5.8

### Deployment

Table 4.46 and Figure 4.38 show the estimated prevalence of 12-month suicidality, by deployment status, in the Transitioned ADF. There were no significant differences in 12-month suicidality between those who had ever been deployed (22.3%, 95% CI 20.7, 24.0) and those who had never been deployed (18.5%, 95% CI 15.4, 22.0).

**Table 4.46 Estimated prevalence of 12-month suicidality in the Transitioned ADF by deployment status**

12-month suicidality	Ever deployed (n = 20,087)			Never deployed (n = 4885)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living	5634	29.2	27.4, 31.1	1574	27.9	24.3, 31.9
Felt so low thought about committing suicide	4268	22.1	20.5, 23.9	1026	18.2	15.1, 21.8
Made a suicide plan	1521	7.9	6.9, 9.0	444	7.9	5.9, 10.5
Attempted suicide	363	1.9	1.4, 2.5	141	2.5	1.5, 4.2
Any suicidality*	4301	22.3	20.7, 24.0	1041	18.5	15.4, 22.0

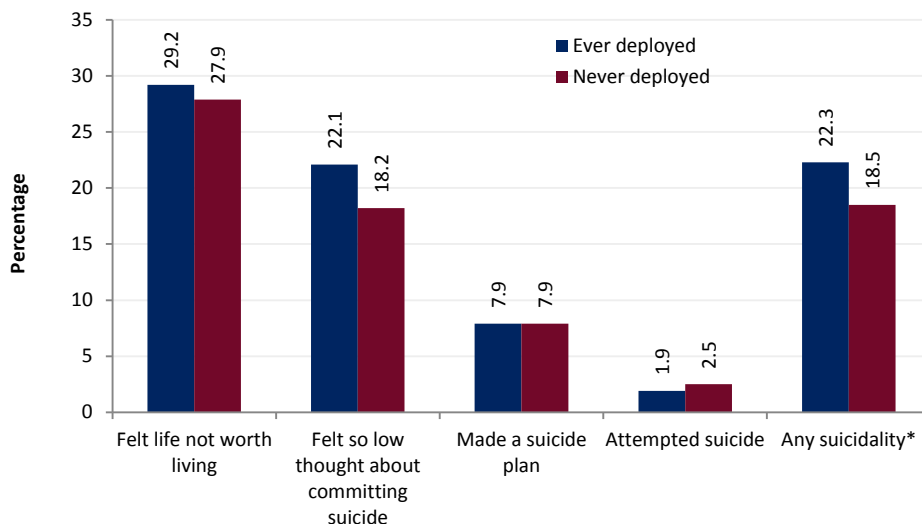
\* Calculated as yes to 'felt so low thought about committing suicide', 'made a suicide plan', or 'attempted suicide'

Notes:

\* 95% CI: 95% confidence interval

This terminology reflects the standardised survey item used in this study – however, it should be noted that this is no longer considered an appropriate description, and the term 'thought about committing suicide' should be replaced with 'thought about taking their own life'

**Figure 4.38** Estimated prevalence of 12-month suicidality in the Transitioned ADF, by deployment status



### *Years of service*

When examining suicidality by years of service in the Regular ADF, Table 4.47 and Figure 4.39 show that prevalence is highest among those with less than four years of service (28.1%, 95% CI 22.6, 34.5). This appears to mainly reflect higher estimated rates of ideation (28.5%, 95% CI 22.9, 34.8) rather than plans and attempts. Compared to those with 3 months to 3.9 years of service, suicidal ideation was significantly lower in Transitioned ADF with 8–11.9 years of service (ideation Q1: OR 0.6, 95% CI 0.4, 0.9; ideation Q2: OR 0.6, 95% CI 0.4, 0.9), 12–15.9 years of service (ideation Q1: OR 0.7, 95% CI 0.5, 0.9; ideation Q2: OR 0.6, 95% CI 0.4, 0.9), 16–19.9 years of service (ideation Q1: OR 0.7, 95% CI 0.5, 0.9; ideation Q2: OR 0.6, 95% CI 0.4, 0.9) and 20+ years of service (ideation Q1: OR 0.6, 95% CI 0.4, 0.8; ideation Q2: OR 0.5, 95% CI 0.4, 0.7). There were no significant differences in suicide plans or attempts by years of service in the Regular ADF.



**Table 4.47 Estimated prevalence of suicidality in Transitioned ADF members by years of service in Regular ADF**

Suicidality	Years of service in Regular ADF								
	3 months – 3.9 years (n = 2413)			4–7.9 years (n = 9015)			8–11.9 years (n = 3295)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living <sup>a</sup>	932	36.6	30.5, 43.1	2783	30.9	27.6, 34.4	863	26.2	22.3, 30.5
Felt so low thought about committing suicide <sup>b</sup>	726	28.5	22.9, 34.8	2137	23.7	20.7, 26.9	666	20.2	16.7, 24.2
Made a suicide plan	285	11.2	7.7, 16.0	759	8.4	6.7, 10.6	269	8.2	5.9, 11.2
Attempted suicide	90	3.6	1.7, 7.2	248	2.8	1.8, 4.1	65	1.9	1.1, 3.6
Any suicidality*	717	28.1	22.6, 34.5	2145	23.7	20.8, 27.0	681	20.7	17.1, 24.7

Suicidality	Years of service in Regular ADF								
	12–15.9 years (n = 2086)			16–19.9 years (n = 967)			> 20 years (n = 5772)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living <sup>a</sup>	571	27.4	23.3, 31.8	264	27.3	22.7, 32.5	1460	25.3	23.3, 27.4
Felt so low thought about committing suicide <sup>b</sup>	408	19.5	16.2, 23.4	190	19.7	15.8, 24.2	959	16.6	14.9, 18.4
Made a suicide plan	173	8.3	6.4, 10.6	81	8.4	5.9, 11.6	344	5.9	5.0, 7.1
Attempted suicide	41	1.9	1.2, 3.3	20	2.1	1.1, 4.0	31	0.5	0.3, 0.9
Any suicidality*	411	19.7	16.4, 23.5	190	19.7	15.8, 24.2	975	16.9	15.2, 18.7

<sup>a</sup> 8–11.9 years vs < 4: OR 0.6, 95% CI 0.4, 0.9; 12–15.9 years vs < 4 years: OR 0.7, 95% CI 0.5, 0.9; 16–19.9 years vs < 4 years: OR 0.7, 95% CI 0.5, 0.9; 20+ years vs < 4 years: OR 0.6, 95% CI 0.4, 0.8

<sup>b</sup> 8–11.9 years vs < 4 years: OR 0.6, 95% CI 0.4, 0.9; 12–15.9 years vs < 4 years: OR 0.6, 95% CI 0.4, 0.9; 16–19.9 years vs < 4 years: OR 0.6, 95% CI 0.4, 0.9; 20+ years vs < 4 years: OR 0.5, 95% CI 0.4, 0.7

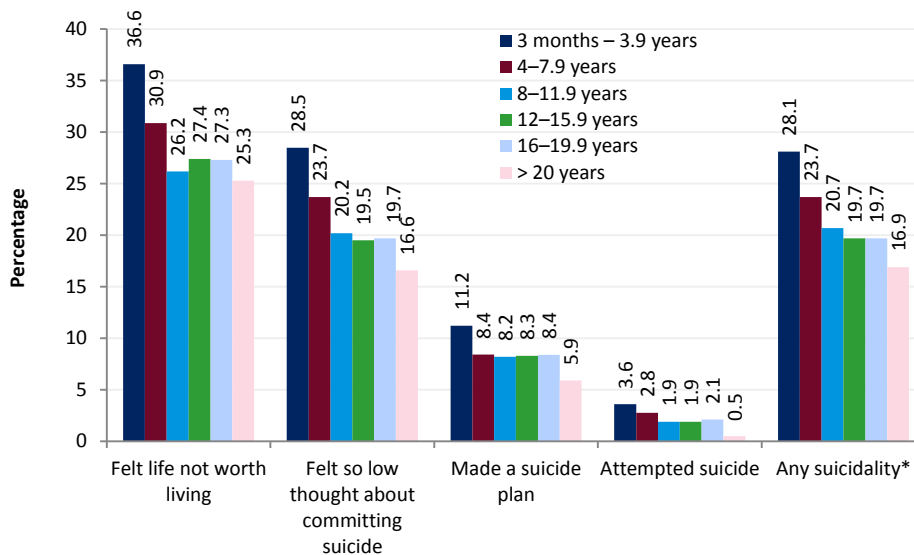
\* Calculated as yes to 'felt so low thought about committing suicide', 'made a suicide plan', or 'attempted suicide'

Notes:

\* 95% CI: 95% confidence interval

This terminology reflects the standardised survey item used in this study – however, it should be noted that this is no longer considered an appropriate description, and the term 'thought about committing suicide' should be replaced with 'thought about taking their own life'

**Figure 4.39** Estimated prevalence of suicidality in Transitioned ADF members, by years of service in Regular ADF



Suicidal ideation Q1: 8–11.9 years vs < 4 years: OR 0.6, 95% CI 0.4, 0.9; 12–15.9 years vs < 4 years: OR 0.7, 95% CI 0.5, 0.9; 16–19.9 years vs < 4 years: OR 0.7, 95% CI 0.5, 0.9; 20+ years vs < 4 years: OR 0.6, 95% CI 0.4, 0.8  
 Suicidal ideation Q2: 8–11.9 years vs < 4 years: OR 0.6, 95% CI 0.4, 0.9; 12–15.9 years vs < 4 years: OR 0.6, 95% CI 0.4, 0.9; 16–19.9 years vs < 4 years: OR 0.6, 95% CI 0.4, 0.9; 20+ years vs < 4 years: OR 0.5, 95% CI 0.4, 0.7

#### 4.5.4 Suicidality transition factors

##### *Years since transition*

Table 4.48 and Figure 4.40 present 12-month suicidality in Transitioned ADF, by years since transition. Estimated prevalence of suicidality was lowest in those who had transitioned less than a year previously (year 0) (13.9%, 95% CI 10.6, 18.2). Overall, there was a general pattern for suicidal thoughts and behaviour to increase sharply after the first 11 months after transition. Compared with the first 11 months after transition, the greatest increase in suicidal ideation, plans and attempts was observed at around three years post-transition (see Annex B, Tables B.5–B.8 for a more detailed summary of results).

**Table 4.48 Estimated prevalence of suicidality, by number of years since transition from the Regular ADF into Transitioned ADF**

Suicidality	Years since transition								
	0 (n = 1945)			1 (n = 4874)			2 (n = 4944)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living	367	18.9	14.9, 23.5	1470	30.2	26.5, 34.1	1354	27.4	23.8, 31.3
Felt so low thought about committing suicide	252	12.9	9.8, 17.0	1019	20.9	17.8, 24.4	995	20.1	16.9, 23.7
Made a suicide plan	96	4.9	3.4, 7.1	408	8.4	6.4, 10.9	401	8.1	6.2, 10.6
Attempted suicide	35	1.8	0.9, 3.8	156	3.2	2.0, 5.0	94	1.9	1.1, 3.4
Any suicidality*	271	13.9	10.6, 18.2	1038	21.3	18.2, 24.8	1007	20.4	17.2, 23.9

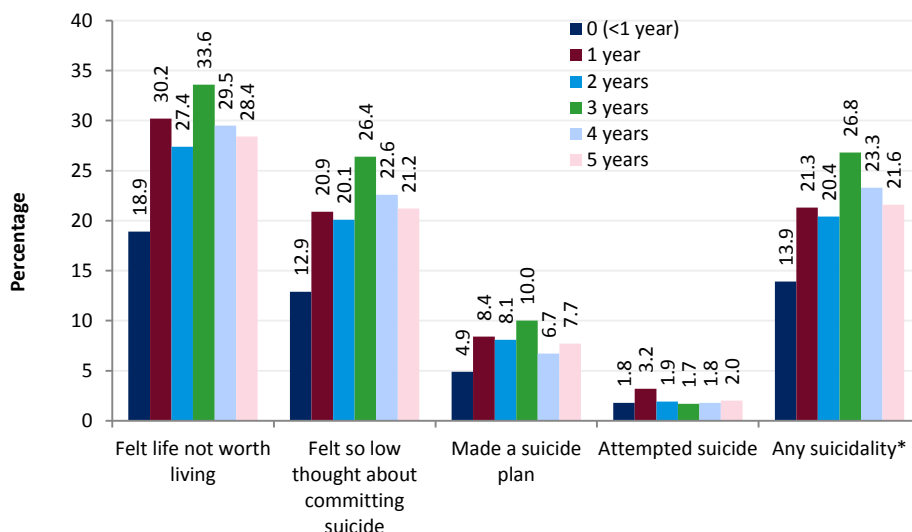
Suicidality	Years since transition								
	3 (n = 5233)			4 (n = 3582)			5 (n = 2785)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living	1759	33.6	29.8, 37.7	1057	29.5	25.5, 33.9	790	28.4	23.9, 33.4
Felt so low thought about committing suicide	1383	26.4	22.8, 30.4	808	22.6	18.8, 26.8	589	21.2	17.1, 25.8
Made a suicide plan	524	10.0	7.8, 12.8	241	6.7	4.9, 9.0	214	7.7	5.2, 11.2
Attempted suicide	88	1.7	0.9, 3.1	64	1.8	0.9, 3.2	57	2.0	0.8, 5.5
Any suicidality*	1402	26.8	23.2, 30.8	834	23.3	19.5, 27.6	601	21.6	17.5, 26.3

\*calculated as yes to 'felt so low thought about committing suicide', 'made a suicide plan', or 'attempted suicide'

Notes: 95% CI: 95% confidence interval

\* This terminology reflects the standardised survey item used in this study – however, it should be noted that this is no longer considered an appropriate description, and the term 'thought about committing suicide' should be replaced with 'thought about taking their own life'

**Figure 4.40** Estimated prevalence of suicidality, by number of years since transition from Regular ADF into Transitioned ADF



### **Reason for discharge**

Table 4.49 and Figure 4.41 show 12-month suicidality, by type of discharge. Those who reported a medical discharge had an estimated prevalence of ‘any suicidality’ of 42.6% (95% CI 38.9, 46.4), while those reporting another reason for leaving had a significantly lower estimated prevalence of 16% (95% CI 14.4, 17.7) (OR 3.9, 95% CI 3.2, 4.8). Notably, 20.3% (95% CI 17.4, 23.4) of those medically discharged (representing one in five) reported making a suicide plan in the last 12 months. This was significantly greater than the 4.6% (95% CI 3.8, 5.6) of those who had another reason for leaving (OR 5.3, 95% CI 4.0, 7.1). Likewise, 6.6% (95% CI 4.9, 8.8) of Transitioned ADF members who were medically discharged reported making a suicide attempt in the last 12 months. This was considerably higher than for those who were not medically discharged (0.9%, 95% CI 0.5, 1.5; OR 7.7, 95% CI 4.4, 14.3). Transitioned ADF who were medically discharged were also significantly more likely than those who were not medically discharged to report feeling their life was not worth living (OR 4.3, 95% CI 3.7, 5.3), and feeling so low they had thought about committing suicide in the last 12 months (OR 3.9, 95% CI 3.2, 4.8).

**Table 4.49 Estimated prevalence of suicidality in Transitioned ADF members, by medical versus other reason for discharge**

Suicidality	Reason for discharge					
	Medical (n = 5082)			Other (n = 19,154)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living <sup>a</sup>	2824	55.6	51.8, 59.3	4245	22.2	20.4, 24.0
Felt so low thought about committing suicide <sup>b</sup>	2155	42.4	38.7, 46.2	3032	15.8	14.3, 17.5
Made a suicide plan <sup>c</sup>	1029	20.3	17.4, 23.4	885	4.6	3.8, 5.6
Attempted suicide <sup>d</sup>	336	6.6	4.9, 8.8	169	0.9	0.5, 1.5
Any suicidality <sup>e*</sup>	2165	42.6	38.9, 46.4	3065	16.0	14.4, 17.7

<sup>a</sup> Medical vs Other: OR 4.3, 95% CI 3.7, 5.3

<sup>b</sup> Medical vs Other: OR 3.9, 95% CI 3.2, 4.8

<sup>c</sup> Medical vs Other: OR 5.3, 95% CI 4.0, 7.1

<sup>d</sup> Medical vs Other: OR 7.7, 95% CI 4.4, 14.3

<sup>e</sup> Medical vs Other: OR 3.9, 95% CI 3.2, 4.8

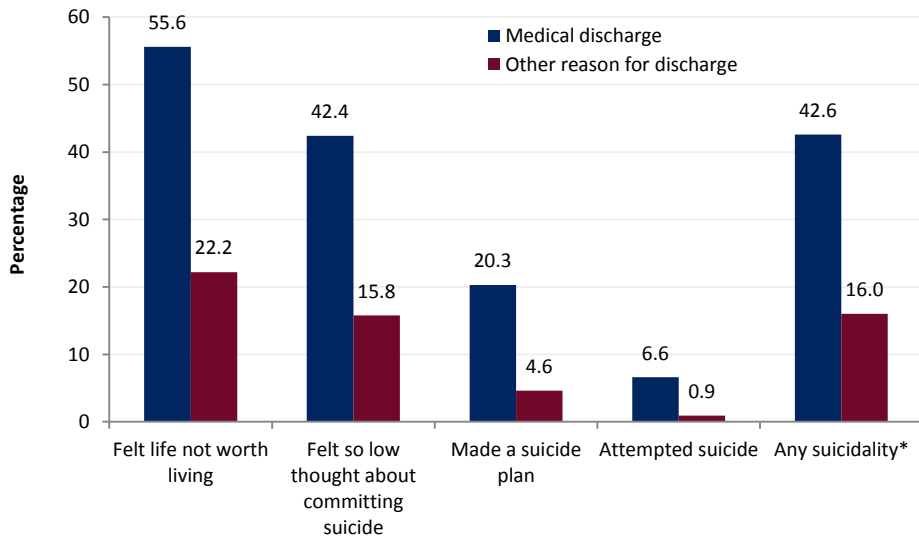
\* Calculated as yes to 'felt so low thought about committing suicide', 'made a suicide plan', or 'attempted suicide'

Notes:

95% CI: 95% confidence interval

This terminology reflects the standardised survey item used in this study – however, it should be noted that this is no longer considered an appropriate description, and the term 'thought about committing suicide' should be replaced with 'thought about taking their own life'

**Figure 4.41 Estimated prevalence of suicidality in Transitioned ADF members, by medical vs other reason for discharge**



Suicide ideation Q1: Medical vs Other: OR 4.3, 95% CI 3.7, 5.3

Suicide ideation Q2: Medical vs Other: OR 3.9, 95% CI 3.2, 4.8

Suicide plan: Medical vs Other: OR 5.3, 95% CI 4.0, 7.1

Suicide attempt: OR 7.7, 95% CI 4.4, 14.3

Any suicidality: medical versus Other: OR 3.9, 95% CI 3.2, 4.8

## DVA status

Table 4.50 and Figure 4.42 show that ‘any 12-month suicidality’ was significantly higher among Transitioned ADF who were DVA clients compared with those who were not (OR 1.9, 95% CI 1.6, 2.4). More than one-third (36.4%) of DVA clients (95% CI 34.1, 38.9) reported feeling life was not worth living in the last 12 months compared to 21.8% (95% CI 19.3, 24.5) who were not DVA clients (OR 2.1, 95% CI 1.7, 2.5). A similar pattern was observed for the item ‘felt so low they thought about committing suicide’, with a significantly greater estimated prevalence (27.0%) among DVA clients (95% CI 24.8, 29.3) in contrast to 15.9% (95% CI 13.7, 18.4) of those who were not DVA clients (OR 1.9, 95% CI 1.6, 2.4). Suicide plans (OR 2.6, 95% CI 1.9, 3.7) and attempts (OR 2.3, 95% CI 1.2, 4.5) showed the same pattern. They were significantly higher among DVA clients (11.3% and 2.8% respectively) compared to those who were non DVA clients (4.6% and 1.2% respectively).

**Table 4.50 Estimated prevalence of suicidality in Transitioned ADF members, by DVA status**

	No (n = 15,605)			Yes (n = 8774)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living <sup>a</sup>	3400	21.8	19.3, 24.5	3197	36.4	34.1, 38.9
Felt so low thought about committing suicide <sup>b</sup>	2481	15.9	13.7, 18.4	2370	27.0	24.8, 29.3
Made a suicide plan <sup>c</sup>	723	4.6	3.4, 6.2	988	11.3	9.8, 12.9
Attempted suicide <sup>d</sup>	194	1.2	0.7, 2.2	244	2.8	2.1, 3.8
Any suicidality <sup>e*</sup>	2497	16.0	13.8, 18.5	2393	27.3	25.1, 29.6

a DVA client vs not: OR 2.1, 95% CI 1.7, 2.5;

b DVA client vs not: OR 1.9 95% CI 1.6, 2.4;

c DVA client vs not: OR 2.6 95% CI 1.9, 3.7;

d DVA client vs not: OR 2.3 95% CI 1.2, 4.5

e DVA client vs not: OR 1.9 95% CI 1.6, 2.4.

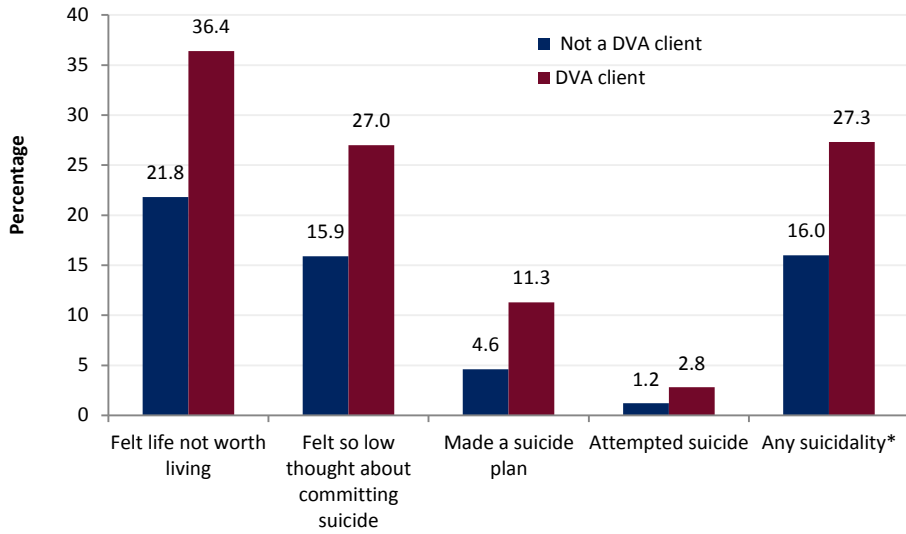
\* Calculated as yes to ‘felt so low thought about committing suicide’, ‘made a suicide plan’, or ‘attempted suicide’

Notes:

95%CI: 95% confidence interval

This terminology reflects the standardised survey item used in this study – however, it should be noted that this is no longer considered an appropriate description, and the term ‘thought about committing suicide’ should be replaced with ‘thought about taking their own life’

**Figure 4.42** Estimated prevalence of suicidality in Transitioned ADF members, by DVA status



Suicide ideation Q1: DVA client vs not: OR 2.1, 95% CI 1.7, 2.5  
 Suicide ideation Q2: DVA client vs not: OR 1.9, 95% CI 1.6, 2.4  
 Suicide plan: DVA client vs not: OR 2.6, 95% CI 1.9, 3.7  
 Suicide attempt: DVA client vs not: OR 2.3, 95% CI 1.2, 4.5  
 Any suicidality: DVA client vs not: OR 1.9, 95% CI 1.6, 2.4





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## 5 Self-reported current mental health symptoms, and trauma exposure among Transitioned ADF and 2015 Regular ADF members

- Little is known about the similarities and differences in the mental health of recently transitioned and current serving Regular ADF members and how symptoms change and develop in ADF members once they transition.
- While structured diagnostic interviews such as the World Mental Health Survey Initiative Version of the World Health Organization Composite International Diagnostic Interview – version 3.0 (CIDI) are considered the gold standard for establishing prevalence estimates of mental disorders (especially 12-month disorders), self-report measures of mental health can provide valuable additional information on the severity and nature of current symptomatology.
- Chapter 5 therefore extends the findings from chapter 4 by using weighted estimates of self-reported mental health outcomes to:
  - examine the severity of psychological distress, problem drinking, posttraumatic stress symptoms (PTSD), anger, depression, generalised anxiety, suicidality and illicit drug use in ADF members who transitioned from the Regular ADF between 2010 and 2014 (Transitioned ADF) compared with the 2015 Regular ADF
  - provide a summary of changes in the severity of psychological distress, problem drinking, PTSD, anger, depression and suicidality in the Regular ADF between 2010 (using results from the 2010 ADF Mental Health Prevalence and Wellbeing Study (MHPWS)) and 2015
  - compare the severity of psychological distress, problem alcohol use, PTSD, anger, depression, generalised anxiety, suicidality and illicit drug use in Transitioned ADF, according to years since transition and transition status (Ex-Serving, Inactive Reservists, Active Reservists).
- Finally, chapter 5 will provide a detailed summary of the estimated prevalence of self-reported lifetime deployment exposures and trauma exposure in the Transitioned ADF and 2015 Regular ADF, to provide details of the background morbidity (in terms of risk and protective factors for poor mental health) in these two populations.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

Little is known about the similarities and differences in the mental health of recently transitioned and current serving Regular ADF members. Although a comprehensive assessment is conducted to review a member's health status when they leave the ADF, how symptoms change and develop in the first five years after transition, and later, is largely unknown.

The 2010 ADF Mental Health Prevalence and Wellbeing Study (MHPWS) (McFarlane et al., 2011) indicated that 3% of the Regular ADF scored in the very high range on the Kessler Psychological Distress Scale (K10) and Posttraumatic Stress Disorder Checklist (PCL), and 1.4% scored in Band 4 (with scores suggesting the need for diagnostic evaluation and treatment) on the Alcohol Use Disorders Identification Test (AUDIT) in 2010. Scores in these ranges are highly indicative of 30-day mental disorder, and are well above the suggested epidemiological cut-offs for 30-day International Statistical Classification of Diseases and Related Health Problems – Tenth Revision (ICD-10). The comparability of these findings with rates of self-reported mental health symptoms in both 2015 Regular ADF and recently Transitioned (last five years) ADF members are important to Defence. They are important because not only do they provide critical information on the stability of mental health in the entire ADF workforce over time, but also valuable insight into the relationship between transition and mental health more broadly.

This section provides a detailed summary of the patterns of current self-reported psychological distress, drinking problems, PTSD, anger, generalised anxiety, suicidality, depression and illicit drug use among ADF members who transitioned from the Regular ADF between 2010 and 2014 compared to the 2015 Regular ADF. Additionally, it will give an indication of changes in self-reported mental health symptoms in the Regular ADF between 2010 (using results from the 2010 MHPWS) and 2015. As these two samples cannot be considered independently, between-group differences should be interpreted with caution. However, it should also be noted that some members of the 2015 Regular ADF sample are also represented in the 2010 Regular ADF sample. The issue of individual change in symptoms and disorder over time in this group will be addressed in a later Programme report. Finally, this section will provide a detailed summary of the estimated prevalence of self-reported lifetime deployment exposures and trauma exposure in the Transitioned ADF and 2015 Regular ADF. These potentially adverse events may or may not have impacted the physical or mental health of deployed ADF members, but are included in this report to provide details of the background morbidity (in terms of risk and protective factors) in these two populations.

The seven key self-report mental health measures used in this section are:

- **Psychological distress:** Kessler Psychological Distress Scale (K10) (Kessler et al., 2002), a short, easily administered screening instrument for psychological distress
- **Posttraumatic stress symptoms:** Posttraumatic Stress Disorder Checklist (PCL) (Weathers, 1993), a 17-item scale for measuring PTSD symptoms
- **Alcohol use:** Alcohol Use Disorders Identification Test (AUDIT) (Babor et al., 2001), a brief self-report instrument that is widely used in epidemiological and clinical practice for defining at risk patterns of drinking
- **Depressive symptoms:** The Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001), a nine-item depression module of the PHQ
- **Anger:** Dimensions of Anger Reactions Scale (DAR-5) (Forbes et al., 2004), a five-item scale assessing anger frequency, intensity and duration, and anger's perceived negative impact on social relationships
- **Suicidality:** A short four-item measure examining suicidal thoughts, plans and attempts, adapted from the National Survey of Mental Health and Wellbeing (NSMHW) (Australian Bureau of Statistics, 2008)
- **Drug Use:** A subset of questions modified from the 2013 National Drug Strategy Household Survey on drug use (Australian Institute of Health and Welfare, 2013)
- **Generalised anxiety:** Generalised Anxiety Disorder 7-item Scale (GAD-7) (Spitzer, 2006).

Further details about how these measures are scored are provided in the relevant subsections that follow.

Three of these measures – the K10, PCL and AUDIT – are commonly used in mental health screening in the ADF. The ADF provides a continuum of mental health screening, which enables the provision of psycho-education, early identification and intervention, as well as surveillance to monitor trends in mental health over time (McFarlane et al., 2011). ADF screening practices generally include administration of screening instruments and, where required, a brief screening interview and/or preliminary assessment by a mental health professional.

Two sets of cut-offs on the K10, PCL and AUDIT were developed as part of the 2010 MHPWS (McFarlane et al., 2011): epidemiological and screening. The epidemiological cut-offs give the 'closest estimate of the true prevalence of 30-day ICD-10 disorder as measured by the CIDI' (McFarlane et al., 2011, p. 103). The screening cut-offs reflect a

broader spectrum of moderate to severe symptoms (including sub-syndromal symptoms) rather than diagnosable disorders, allowing for potential early intervention. These screening cut-offs maximise potential identification of true cases, but include a larger proportion of 'false positives' than the epidemiological cut-offs. To gain an indication of the rates of sub-syndromal symptomatology in this population, screening cut-offs are reported in this section.

In addition to comparing the self-reported mental health between Transitioned ADF, and the 2010 and 2015 Regular ADF, this chapter also provides the estimated rates of self-reported mental health problems by transition-related factors in the Transitioned ADF only:

- Transition status:
  - **Ex-Serving:** individuals who were full-time Regular ADF members before 2010, who transitioned from the Regular ADF between 2010 and 2014, and are not in the Reserves. These individuals are classified as discharged from the ADF. Discharge may have occurred for medical or administrative reasons, or they may have reached compulsory retirement age
  - **Active Reservists:** individuals who were Regular ADF members before 2010, and have transitioned into the Active Reserves. As Active Reservists, they must complete a minimum number of service days per year
  - **Inactive Reservists:** individuals who were Regular ADF members before 2010, and transitioned into an Inactive Reservist role. They represent a latent capability Service Chiefs can call upon as required to provide voluntary service or a specific task
- Years since transition: zero (less than one year), one, two, three, four and five years.

In this chapter, weighted estimates of self-reported mental health outcomes are reported for the Transitioned ADF and the 2015 Regular ADF. These rates are statistically compared and all tests of statistical significance (odds ratios) are adjusted for age, sex, Service and rank. The 2010 Regular ADF refers to the population included in the 2010 MHPWS, and results included in this chapter are reproduced directly from the MHPWS report. Weighted estimates of self-reported mental health outcomes for the 2015 Regular ADF are compared to these results, using simple mean or proportion comparisons.

Finally, this chapter further extends the findings in chapter 4, by providing valuable additional information on the severity and nature of current mental health symptomatology, above and beyond the dichotomous diagnoses provided by the CIDI.

## 5.1 Psychological distress – (K10)

- An estimated 33.1% of the Transitioned ADF were in the high to very high category for psychological distress compared to an estimated 18.7% of the 2015 Regular ADF and 12.9% of the 2010 Regular ADF.
- Members of the Transitioned ADF reported significantly higher psychological distress than members of the 2015 Regular ADF.
- The 2015 Regular ADF sample reported significantly higher psychological distress compared to the 2010 Regular ADF sample.
- Ex-Serving ADF members were significantly more likely to report psychological distress than Reservists.
- There was no significant difference between Transitioned ADF members who were Active Reservists and Inactive Reservists, in the proportion reporting psychological distress.
- ADF members who transitioned less than one year ago reported the lowest level of psychological distress, with the greatest increase in symptoms observed at one year post-transition.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

This section provides a detailed summary of the pattern of self-reported psychological distress reported by ADF members who transitioned from the Regular ADF between 2010 and 2014 (Transitioned ADF) compared to the ADF in 2010 (2010 Regular ADF) and 2015 (2015 Regular ADF).

The distribution of psychological distress in the Transitioned ADF compared to the 2010 and 2015 Regular ADF will be reported first. The comparisons between the 2010 and 2015 populations do not include any estimate of covariance between the two. Many respondents who participated in the 2010 survey also participated in the 2015 survey, and a longitudinal examination of change in mental health over time will be undertaken in a later Programme report.

The report will also examine the distribution of psychological distress in the Transitioned ADF population by the categories of transition status (Ex-Serving, Inactive Reservist, Active Reservist) and years since transition.

The K10 is a 10-item screening questionnaire for psychological distress that was developed for use in the United States National Health Interview Survey (US-NHIS)

(Kessler et al., 2002). Originally designed as a short, easily administered screen for psychological distress, the K10 is typically used to inform and complement clinical interviews, and to quantify levels of distress in those who need treatment. The ADF uses it for mental health screening.

Respondents were instructed to rate the amount of time they had experienced one of 10 emotional states during the last previous four weeks (for example, being tired for no good reason, feeling nervous, hopeless or depressed). The 10 questions are scored 1–5, and the respondent must indicate how often they have felt that way, using the following response options: ‘all of the time’ (5), ‘most of the time’ (4), ‘some of the time’ (3), ‘a little of the time’ (2) or ‘none of the time’ (1). Scores for the 10 questions are then added up to give a total score of 10–50.

The four scoring bands – low (10–15), moderate (16–21), high (22–29) and very high (30–50) – in this report are derived from the K10 cut-offs used in the NSMHW (Australian Bureau of Statistics, 2008; Slade et al., 2009). The bands were also used to identify levels of psychological distress in the 2010 MHPWS.

Finally, the ADF also used an optimal screening cut-off of 19. This cut-off was derived from the 2010 MHPWS and is the value that maximises the sum of the sensitivity and specificity (the proportion of those with and without an anxiety or an affective disorder who are correctly classified). This cut-off can be used to identify individuals who might need care, and is designed to be more inclusive than a more stringent epidemiological cut-off.

### **5.1.1 Psychological distress in Transitioned ADF compared to entire 2010 and 2015 Regular ADF**

Table 5.1 and Figure 5.1 show psychological distress as measured by the K10 scoring bands in Transitioned ADF and 2015 Regular ADF.

Overall, an estimated 19.6% of the Transitioned ADF scored in the very high range on the K10; 13.5% scored in the high range; and 17.8% scored in the moderate range.

The mean K10 score for the Transitioned ADF was 19.9 (SE 0.2) (95% CI 19.6, 20.4), with 40.6% (weighted n = 10,130, 95% CI 38.9, 42.4) scoring equal to or above the ADF screening cut-off of 19.

**Table 5.1 Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF in each of the four K10 scoring bands for psychological distress**

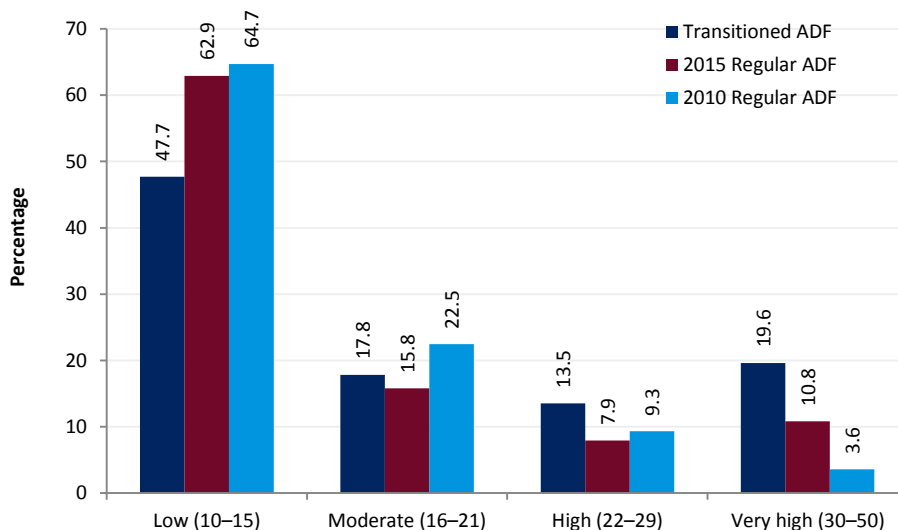
K10 scoring bands	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)			2010 Regular ADF* (n = 50,049)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Low (10–15)	11,904	47.7	45.9, 49.6	33,015	62.9	59.3, 66.4	32,380	64.7	64.1, 65.3
Moderate (16–21)	4438	17.8	16.4, 19.3	8278	15.8	13.5, 18.4	11,237	22.5	22.0, 22.9
High (22–29)	3371	13.5	12.3, 14.8	4179	7.9	6.4, 9.9	4655	9.3	9.0, 9.6
Very high (30–50)	4884	19.6	18.2, 21.1	5644	10.8	8.4, 13.7	1778	3.6	3.3, 3.8

\* From the 2010 ADF Mental Health Prevalence and Wellbeing Study  
 Note: 95% CI: 95% confidence interval

In 2015, the Transitioned ADF reported the highest levels of psychological distress, followed by the 2015 Regular ADF and the 2010 Regular ADF. Transitioned ADF members reported significantly greater levels of psychological distress (mean K10 (SE 19.9) (0.2)) compared to the entire 2015 Regular ADF (mean K10 (SE 17.0)) (mean difference 2.4, 95% CI 1.3, 3.4,  $p < 0.001$ ). For this report, a statistical comparison was also made between members serving in the 2010 and 2015 Regular ADF. Using the mean K10 scores from the 2010 MHPWS, the 2015 Regular ADF cohort (mean K10 (SE 17.0) (0.4)) reported significantly higher K10 total scores compared to the 2010 Regular ADF cohort (mean K10 (SE 15.4) (0.03)) (mean difference 1.6, 95% CI 0.9, 2.4,  $p < 0.001$ ), with the 2015 cohort having proportionally more very high scorers and fewer moderate scorers. However, it should be noted that this comparison does not include any estimate of covariance between the two populations.

A further detailed analysis of the change in levels of psychological distress from 2010 to 2015 will be addressed more formally in later reports.

**Figure 5.1** Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF in each of the four K10 scoring bands for psychological distress



### 5.1.2 Psychological distress in different transition population subgroups

#### *Psychological distress in Transitioned ADF, by transition status*

Table 5.2 and Figure 5.2 compares the K10 scoring bands in Ex-Serving, Inactive Reservists and Active Reservists who transitioned from the Regular ADF between 2010 and 2014.

Ex-Serving Transitioned ADF members are significantly more likely to score equal to or above the K10 screening cut-off of 19 (not shown) than Transitioned ADF members who were in the Inactive Reserves (OR 2.5, 95% CI 2.0, 3.0) or Active Reserves (OR 2.6, 95% CI 2.1, 3.2) in 2015. There was no significant difference between Transitioned ADF members who were Active Reservists and Inactive Reservists in the proportion of individuals scoring equal to or above the K10 screening cut-off of 19.

#### *Psychological distress in Transitioned ADF, by years since transition*

Table 5.3 and Figure 5.3 compare the K10 scoring bands for psychological distress in the Transitioned ADF, by years since transition.

Overall, psychological distress appears to increase with years since transition, with an average increase in scoring for psychological distress of 0.2 per year. However, this association is not completely linear, and so it is not statistically significant. ADF members who transitioned less than one year ago reported the lowest levels of psychological distress. Those who transitioned 1–5 years ago reported significantly



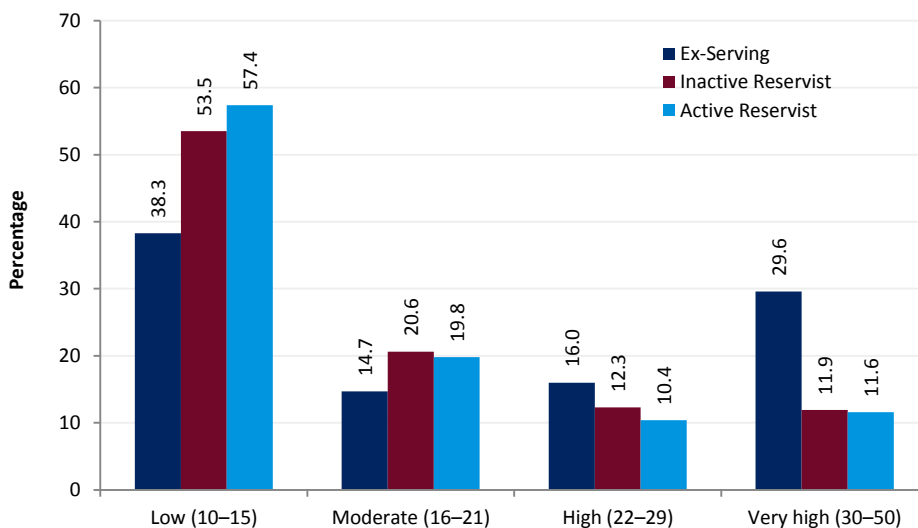
higher levels of psychological distress, with the greatest increase in symptoms observed at one year post-transition ( $p < 0.001$ ).

**Table 5.2** Estimated proportions of Transitioned ADF scoring in each of the K10 bands for psychological distress, by transition status

K10 scoring bands	Ex-Serving (n = 11,440)			Inactive Reservists (n = 6447)			Active Reservists (n = 6968)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Low (10–15)	4378	38.3	35.4, 41.2	3449	53.5	49.9, 57.1	4002	57.4	54.3, 60.5
Moderate (16–21)	1682	14.7	12.7, 16.9	1327	20.6	17.8, 23.7	1378	19.8	17.5, 22.3
High (22–29)	1834	16.0	14.1, 18.2	790	12.3	10.1, 14.8	727	10.4	8.5, 12.7
Very high (30–50)	3383	29.6	27.0, 32.2	768	11.9	9.8, 14.4	810	11.6	9.6, 13.9

Note: 95% CI: 95% confidence interval

**Figure 5.2** Estimated proportions of Transitioned ADF scoring in each of the K10 bands for psychological distress, by transition status



**Table 5.3** Estimated proportions of Transitioned ADF members in each year of transition, scoring in each of the four K10 bands for psychological distress

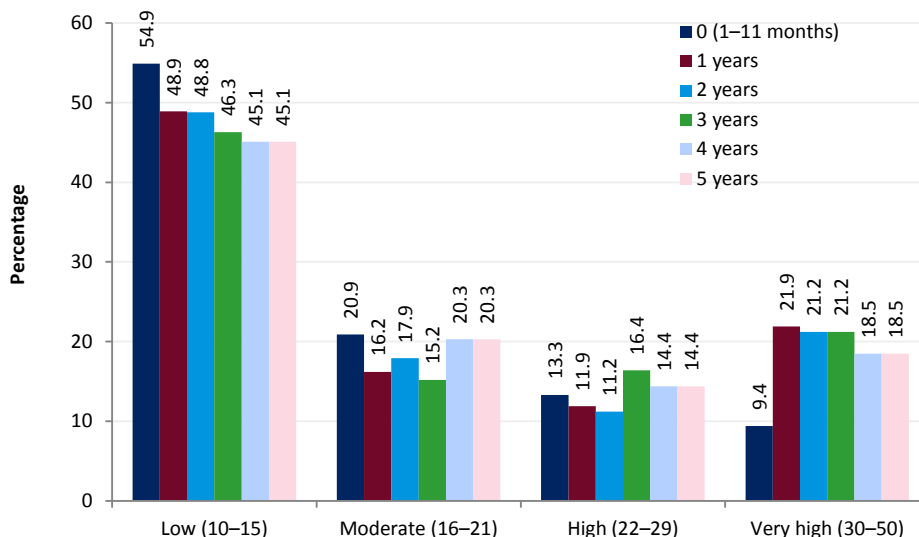
K10 scoring bands	0 (1–11 months) (n = 1945)			1 year (n = 4874)			2 years (n = 4944)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Low (10–15)	1069	54.9	48.7, 61.1	2381	48.9	44.7, 53.0	2414	48.8	44.5, 53.1
Moderate (16–21)	406	20.9	15.7, 27.2	791	16.2	13.4, 19.6	889	17.9	14.9, 21.6
High (22–29)	258	13.3	9.6, 18.0	579	11.9	9.5, 14.9	554	11.2	8.8, 14.1
Very high (30–50)	183	9.4	6.9, 12.6	1067	21.9	18.8, 25.4	1047	21.2	17.9, 24.8

K10 scoring bands	3 years (n = 5234)			4 years (n = 3582)			5+ years (n = 2785)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Low (10–15)	2423	46.3	42.3, 50.4	1617	45.1	40.6, 49.8	1617	45.1	40.6, 49.8
Moderate (16–21)	796	15.2	12.7, 18.1	727	20.3	16.8, 24.3	727	20.3	16.8, 24.3
High (22–29)	857	16.4	13.5, 19.8	515	14.4	11.4, 18.1	515	14.4	11.4, 18.1
Very high (30–50)	1111	21.2	17.9, 25.0	663	18.5	15.2, 22.4	663	18.5	15.2, 22.4

Note: 95% CI: 95% confidence interval

**Figure 5.3** Estimated proportions of Transitioned ADF members in each year of transition, scoring in each of the four K10 bands for psychological distress



## 5.2 Posttraumatic stress symptoms (PCL)

- An estimated 24.3% of the Transitioned ADF were in the high to very high risk category for posttraumatic stress compared to 8.7% of the 2015 Regular ADF and 6.7% of the 2010 Regular ADF.
- Members of the Transitioned ADF reported significantly higher posttraumatic stress symptom total scores than members of the 2015 Regular ADF.
- The 2015 Regular ADF cohort reported significantly higher posttraumatic stress symptom total scores compared to the 2010 Regular ADF cohort.
- In the Transitioned ADF:
  - Ex-Serving ADF members were significantly more likely to report posttraumatic stress symptoms than Active or Inactive Reservists.
  - Inactive Reservists were significantly more likely report posttraumatic stress symptoms compared to Active Reservists.
  - ADF members who transitioned up to two years ago reported the lowest level of posttraumatic stress, with the greatest increase in symptoms observed at three years post-transition.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

This section provides a detailed summary of the pattern of posttraumatic stress symptoms reported by members who transitioned from the Regular ADF between 2010 and 2014 (Transitioned ADF) compared to 2010 and 2015 Regular ADF members.

The distribution of posttraumatic stress symptoms in the Transitioned ADF compared to the 2010 and 2015 Regular ADF will be reported first. Next, the distribution of posttraumatic stress symptoms in the Transitioned ADF, by the categories of transition status (Ex-Serving, Active Reservist, Inactive Reservist) and years since transition, will be presented.

The 17 questions of the Posttraumatic Stress Disorder Checklist (PCL) are scored 1–5 and added up to give a total score from 17–85.

Respondents were instructed to indicate how much they were bothered by each symptom in the previous month, using one of the following response options: ‘not at all’ (1), ‘a little bit’ (2), ‘moderately’ (3), ‘quite a bit’ (4), ‘extremely’ (5). The 17-item PCL was used instead of the PCL-5 (from the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (PCL for DSM-5)), to allow comparisons with the 2010 Regular ADF cohort. Additional questions relating to DSM-5 PTSD were included in the survey, but will not be addressed in this section.

To allow comparison with the broader military literature, the PCL scores were grouped into four bands: low (17–29), moderate (30–39), high (40–49) and very high (50–85). These bands represent the risk for PTSD. The ADF uses these same risk groupings in post-operational screening surveillance reports (Weathers, 1993). The groupings were also used in the 2010 MHPWS.

Finally, the ADF’s optimal screening cut-off of 29 was used. This cut-off was derived from the 2010 MHPWS, and maximises the sum of sensitivity and specificity (the proportion of those with and without PTSD who are correctly classified). The cut-off can be used to identify individuals with possible posttraumatic stress symptoms.

### **5.2.1 Posttraumatic stress symptoms in Transitioned ADF members compared to the entire ADF in 2010 and 2015**

Table 5.4 and Figure 5.4 compares posttraumatic stress symptoms as measured by the PCL scoring bands in Transitioned ADF and the 2010 and 2015 Regular ADF.

Overall, an estimated 16.1% of the Transitioned ADF scored in the very high range for posttraumatic stress symptoms, 8.2% scored in the high range and 13.7% scored in the moderate range. The mean posttraumatic stress symptoms total score for the Transitioned ADF was 31.2 (SE 0.3) (95% CI 30.6, 31.8), with 39.9% (weighted n = 9944, 95% CI 38.1, 41.7) scoring equal to or above the ADF screening cut-off of 29.

The Transitioned ADF reported the highest levels of posttraumatic stress, followed by the 2015 Regular ADF and the 2010 Regular ADF. Transitioned ADF members reported significantly greater levels of posttraumatic stress (mean PCL (SE 31.2) (0.3)) compared to the 2015 Regular ADF (mean PCL (SE 24.2) (0.4) (mean difference 6.3, 95% CI 5.1, 7.5,  $p < 0.001$ ). For this report, a statistical comparison was also made between the 2010 and 2015 Regular ADF. Using the mean PCL values from the 2010 MHPWS, the 2015 Regular ADF cohort (mean PCL (SE 24.2) (0.4)) reported significantly higher PCL total scores compared to the 2010 Regular ADF cohort (mean PCL (SE 22.7) (0.1) (mean difference 1.5, 95% CI 0.7, 2.3,  $p < 0.001$ ). The 2015 cohort also had proportionally fewer low scorers and more moderate scorers. However, it should be noted that this comparison does not include any estimate of covariance between the two populations.

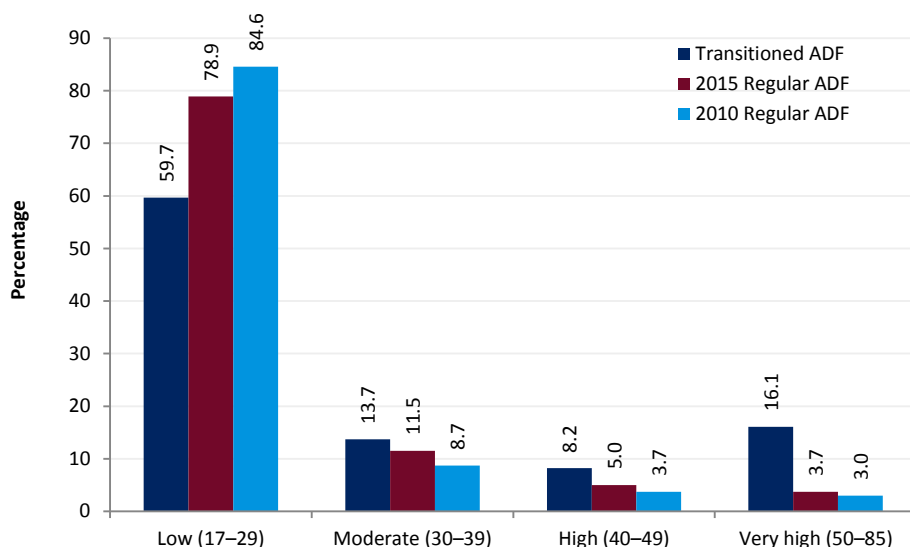
A further detailed analysis of the change in levels of posttraumatic stress symptoms from 2010 to 2015 will be addressed more formally in later reports.

**Table 5.4** Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF members in each of the four PCL bands for posttraumatic stress

	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)			2010 Regular ADF (n = 50,049)*		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Low (17–29)	14,879	59.7	57.9, 61.5	41,432	78.9	75.6, 81.9	42,363	84.6	84.3, 85.0
Moderate (30–39)	3426	13.7	12.5, 15.1	6013	11.5	9.3, 14.1	4360	8.7	8.4, 9.0
High (40–49)	2032	8.2	7.2, 9.2	2605	5.0	3.4, 7.3	1849	3.7	3.5, 3.9
Very high (50–85)	4003	16.1	14.8, 17.5	1957	3.7	2.6, 5.4	1477	3.0	2.8, 3.1

\* From the 2010 ADF Mental Health Prevalence and Wellbeing Study  
 Note: 95% CI: 95% confidence interval

**Figure 5.4** Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF members in each of the four PCL scoring bands for posttraumatic stress



## 5.2.2 Posttraumatic symptoms in different transition population subgroups

### *Posttraumatic symptoms in Transitioned ADF, by transition status*

Table 5.5 compares the PCL scoring bands in Ex-Serving, Inactive Reservists and Active Reservists who transitioned from the Regular ADF between 2010 and 2014.

A comparison of Transitioned Ex-Serving and Reservists showed Ex-Serving ADF members are significantly more likely to score equal to or above the PCL screening cut-off of 29 (not shown) than ADF members who were Inactive Reservists (OR 2.1, 95% CI 1.7, 2.6) or Active Reservists (OR 2.7, 95% CI 2.2, 3.3). Inactive Reservists were significantly more likely to score equal to or above the screening cut-off of 29 for posttraumatic stress compared to Active Reservists (OR 1.3, 95% CI 1.0, 1.6).

### *Posttraumatic stress symptoms in Transitioned ADF members, by years since transition*

Table 5.6 presents a comparison of the PCL scoring bands among Transitioned ADF members, by years since transition. Overall, posttraumatic stress symptoms increase with years since transition, with an average increase in PCL mean (not shown) of 0.6 per year ( $p < 0.007$ ). ADF members who transitioned up to two years ago reported the lowest levels of posttraumatic stress symptoms. Those who transitioned 3–5 years ago reported significantly higher levels of posttraumatic stress symptoms, with the greatest increase in symptoms observed at three years post-transition ( $p < 0.001$ ). Figure 5.6

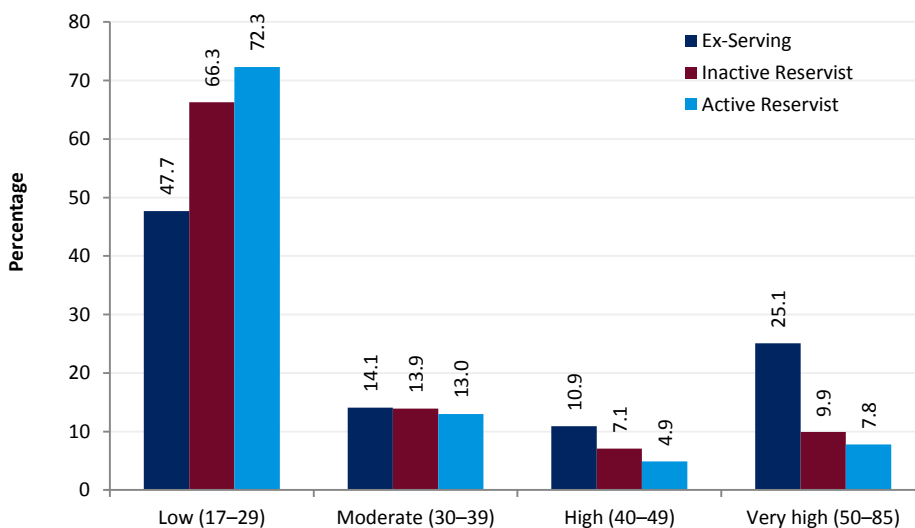
clearly illustrates this, showing a smaller proportion of low scorers among those who transitioned 3–5 years ago.

**Table 5.5** Estimated proportions of Transitioned ADF scoring in each of the PCL bands for posttraumatic stress, by transition status

	Ex-Serving (n = 11,440)			Inactive Reservist (n = 6447)			Active Reservist (n = 6968)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Low (17–29)	5451	47.7	44.7, 50.6	4270	66.3	62.7, 69.7	5039	72.3	69.3, 75.1
Moderate (30–39)	1611	14.1	12.1, 16.3	893	13.9	11.5, 16.7	906	13.0	10.9, 15.5
High (40–49)	1246	10.9	9.2, 12.8	456	7.1	5.4, 9.2	345	4.9	3.9, 6.4
Very high (50–85)	2869	25.1	22.7, 27.6	644	9.9	7.9, 12.4	541	7.8	6.1, 9.8

Note: 95% CI: 95% confidence interval

**Figure 5.5** Estimated proportions of Transitioned ADF scoring in each of the PCL bands for posttraumatic stress, by transition status



**Table 5.6** Estimated proportions of Transitioned ADF members scoring in each of the four PCL bands for posttraumatic stress, by years since transition

	0 (1–11months) (n = 1945)			1 year (n = 4874)			2 years (n = 4944)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Low (17–29)	1234	63.5	57.1, 69.4	3122	64.1	60.1, 67.8	3059	61.9	57.6, 65.9
Moderate (30–39)	350	17.9	13.2, 24.0	568	11.7	9.3, 14.5	570	11.5	8.9, 14.7
High (40–49)	112	5.8	3.5, 9.5	239	4.9	3.7, 6.6	454	9.2	6.9, 12.1
Very high (50–85)	212	10.9	7.9, 14.9	840	17.2	14.4, 20.5	790	15.9	13.2, 19.2

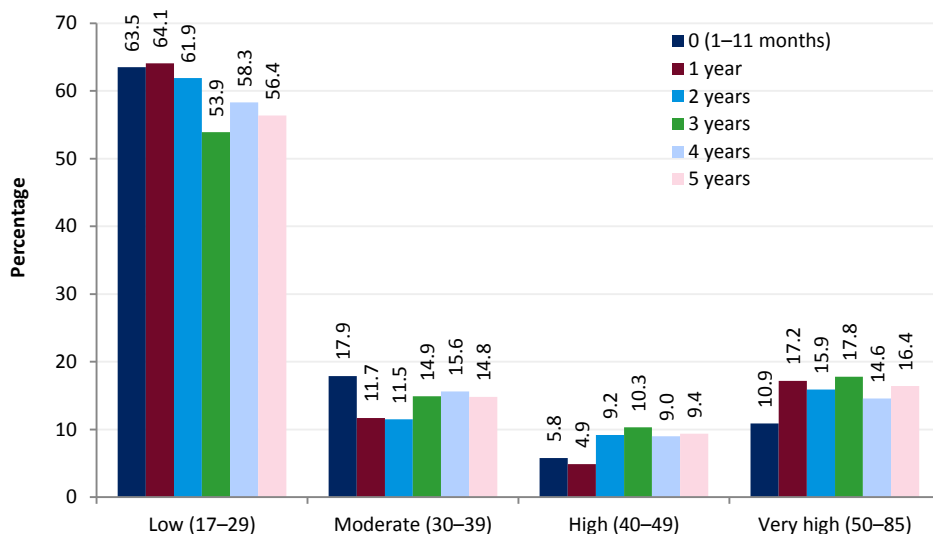
  

	3 years (n = 5234)			4 years (n = 3582)			5+ years (n = 2785)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Low (17–29)	2820	53.9	49.6, 58.1	2087	58.3	53.5, 62.8	1570	56.4	50.8, 61.8
Moderate (30–39)	778	14.9	11.9, 18.4	558	15.6	12.3, 19.5	413	14.8	11.3, 19.2
High (40–49)	537	10.3	7.9, 13.3	323	9.0	6.8, 11.9	263	9.4	6.8, 13.0
Very high (50–85)	934	17.8	14.8, 21.4	524	14.6	11.7, 18.2	456	16.4	12.6, 21.1

Note: 95% CI: 95% confidence interval



**Figure 5.6** Estimated proportions of Transitioned ADF members scoring in each of the four PCL bands for posttraumatic stress, by years since transition



### 5.3 Alcohol use and problem drinking (AUDIT)

- An estimated 6.5% of the Transitioned ADF were in the highest scoring band (Band 4) on the AUDIT compared to 1.4% of the 2015 Regular ADF and 1.4% of the 2010 Regular ADF. This suggests the need for diagnostic evaluation and treatment for Transitioned ADF members.
- Compared to members of the 2015 Regular ADF, Transitioned ADF members reported significantly higher AUDIT total scores; were significantly more likely to drink more frequently (that is, four or more times per week); drink more standard drinks on a typical day; report a problem with drinking (possible or definite drinking problem); and anticipate it would be fairly or very difficult to cut down or stop drinking in the next three months.
- Alcohol use significantly decreased in the Regular ADF from 2010 to 2015, in relation to AUDIT total scores, frequency of alcohol consumption, quantity of drinks consumed, and self-reported difficulties reducing alcohol consumption in the next three months.
- In the Transitioned ADF:
  - Almost 10.0% of members reported a possible or definite problem with drinking, and more than 8.0% thought they would have difficulty reducing their alcohol consumption.

- A comparison of Transitioned Ex-Serving with Transitioned Reservists showed the lowest rates of self-reported alcohol use in those who remained most engaged with Defence (Active Reservists).
- Overall, alcohol use and problem drinking showed no association with years since transition.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

This section provides a detailed summary of self-reported alcohol use and problem drinking among ADF members who transitioned from the Regular ADF between 2010 and 2014 (Transitioned ADF) compared to 2010 and 2015 Regular ADF members.

The distribution of alcohol use and problem drinking in the Transitioned ADF compared to the 2010 and 2015 Regular ADF will be reported first. Next, the distribution of alcohol use and problem drinking in the Transitioned ADF, by the categories of transition status (Ex-Serving, Active Reservist, Inactive Reservist) and years since transition, will be examined.

AUDIT (Saunders et al., 1993) is a brief self-report instrument widely used in epidemiological and clinical practice for defining at-risk patterns of drinking. The World Health Organization (WHO) developed AUDIT for primary care settings after conducting an extensive six-nation validation trial that included Australia (Babor et al., 2001).

AUDIT examines the quantity and frequency of alcohol consumption, possible symptoms of dependence, and reactions or problems related to alcohol. The first eight questions use a five-item continuous scale (scored 0–4), while the last two questions use a three-item scale (scored 0, 2 or 4). A final score is reached by adding up all 10 questions.

The ADF has used AUDIT as an educational, epidemiological and clinical tool since it launched the ADF Mental Health Strategy. AUDIT was officially recognised as a tool to ‘... identify people whose drinking may pose a risk to their health, or who are already experiencing alcohol-related problems, including dependence’ in ADF Health Bulletin Number 15/2003 (Defence Health Bulletin (15/03)). It has been part of the Post Operational Psychological Screen process since its introduction in 1999 (Steele & Goodman, 2006). In 2010, it was used in the ADF Mental Health Prevalence and Wellbeing Study to examine self-reported alcohol use and problems in the entire ADF.

Currently, the ADF uses the recommended WHO risk categories; therefore, it is also using the scoring categories in this study. This process identifies four bands of risk:

- **Band 1:** (scores of 0–7) would benefit from alcohol education
- **Band 2** (scores of 8–15) likely to require simple advice
- **Band 3** (scores of 16–9) 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).

Finally, the ADF optimal screening cut-offs of 8 was also used. This cut-off was derived from the 2010 MHPWS, and maximises the sum of the sensitivity and specificity (the proportion of those with and without an alcohol disorder who are correctly classified). This cut-off can be used to identify individuals who might need care, and is designed to be more inclusive.

In addition to AUDIT, four more questions were also asked, examining the frequency of alcohol consumption, number of standard drinks consumed on a typical day, self-reported problems with drinking and self-reported anticipated difficulties reducing alcohol intake over the next three months. Findings are summarised in this section.

### **5.3.1 Alcohol use and problem drinking in Transitioned ADF members compared to entire 2010 and 2015 Regular ADF**

Table 5.7 and Figure 5.7 compare alcohol use and problem drinking among members of the Transitioned ADF, and the 2010 and 2015 Regular ADF, as measured by AUDIT scoring bands.

Overall, Transitioned ADF members had the highest levels of self-reported alcohol use and problem drinking, followed by the 2010 Regular ADF and the 2015 Regular ADF. Overall, Transitioned ADF members (mean AUDIT (SE 7.2) (0.1)) reported significantly greater levels of alcohol use and problem drinking than the 2015 Regular ADF (mean AUDIT (SE 5.3) (0.2)) (mean difference = 1.9 (0.2),  $p < 0.001$ ). Alcohol use significantly decreased in the Regular ADF from 2010 to 2015 (mean difference = -0.7 (0.2),  $p < 0.001$ ). However, it should be noted that this comparison does not include any estimate of covariance between the two populations.

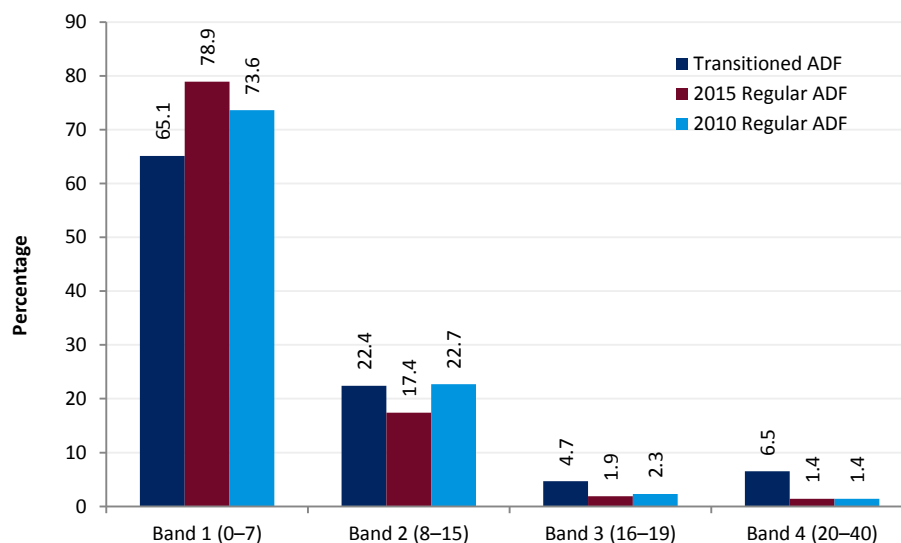
A further detailed analysis of the change in levels of self-reported alcohol use and problem drinking from 2010 to 2015 will be addressed more formally in later reports.

**Table 5.7** Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF members in each of the four AUDIT scoring bands for problem alcohol use

	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)			2010 Regular ADF* (n = 50,049)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Band 1 (0–7)	16,236	65.1	63.2, 66.9	41,430	78.9	75.6, 81.9	36,848	73.6	73.1, 74.2
Band 2 (8–15)	5,574	22.4	20.8, 24.1	9,151	17.4	14.7, 20.5	11,345	22.7	22.2, 23.2
Band 3 (16–19)	1,169	4.7	3.9, 5.6	988	1.9	1.1, 3.3	1,172	2.3	2.1, 2.5
Band 4 (20–40)	1,616	6.5	5.6, 7.5	726	1.4	0.6, 3.1	684	1.4	1.2, 1.5

\* From the 2010 ADF Mental Health Prevalence and Wellbeing Study  
 Note: 95% CI: 95% confidence interval

**Figure 5.7** Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF members in each of the four AUDIT scoring bands for problem alcohol use



### 5.3.2 Frequency of alcohol consumption

Table 5.8 and Figure 5.8 compare the frequency with which members of the Transitioned ADF and the 2010 and 2015 Regular ADF consume alcohol.

As can be seen in Table 5.8, 25.1% of Transitioned ADF members consume alcohol once a week or once a fortnight; 23.4% consume alcohol two to three times a week; and 22.5% consume alcohol on average monthly or less. One-fifth of the Transitioned ADF consume alcohol four or more times per week, and only a small proportion never consume alcohol (8.5%).

Frequency of alcohol consumption was relatively similar across the Transitioned ADF and the Regular ADF. Most members of the Transitioned ADF (25.1%), 2015 Regular ADF (28.77%) and 2010 Regular ADF (34.4%) consume alcohol on average two to four times a month. A slightly lower proportion of each group consumes alcohol two to three times a week (23.4% of the Transitioned ADF, 28.9% of the 2010 Regular ADF), or monthly or less (21.3% of the 2010 Regular ADF and 25.4% of the 2015 Regular ADF). The largest discrepancy between the groups was observed in those who consumed alcohol four or more times a week, with members of the Transitioned ADF (20.4%) significantly more likely than the 2015 Regular ADF (11.6%) to report drinking at this frequency. Compared to members of the 2010 Regular ADF, the 2015 Regular ADF were significantly less likely to drink two to four times a month (mean difference = -5.6 (1.7), 95% CI -9.0, -2.2) and significantly more likely to not drink at all (mean difference = 4.4 (1.3), 95% CI -1.9, 6.9). However, it should be noted that this comparison does not include any estimate of covariance between the two populations.

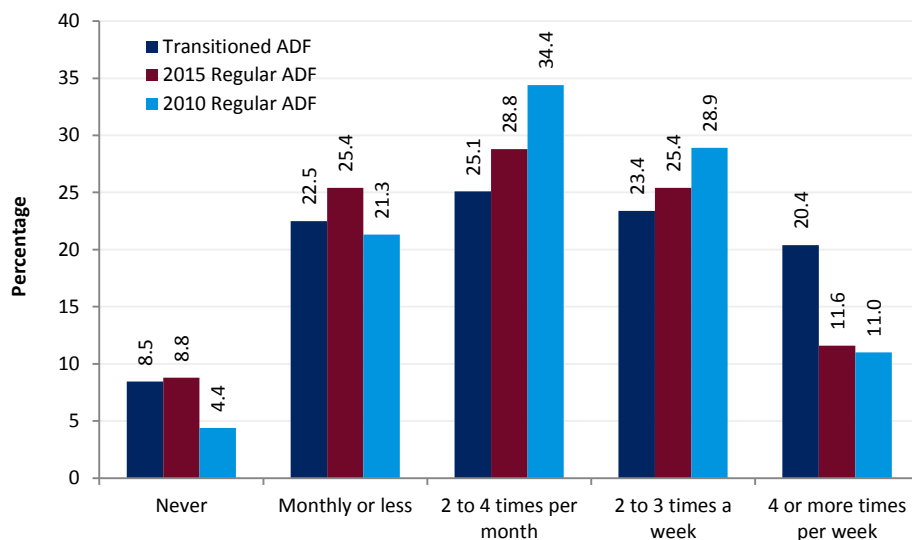
A further detailed analysis of the change in levels of self-reported alcohol use and problem drinking from 2010 to 2015 will be addressed more formally in later reports.

**Table 5.8 Estimated proportions of members of Transitioned ADF, and 2010 and 2015 Regular ADF, by AUDIT, for frequency of alcohol consumption**

Frequency of consumption	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)			2010 Regular ADF* (n = 50,049)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Never	2109	8.5	7.4, 9.6	4601	8.8	6.5, 11.6	2187	4.4	4.1, 4.6
Monthly or less	5604	22.5	20.9, 24.2	13,348	25.4	22.2, 28.9	10,648	21.3	20.8, 21.8
2 to 4 times per month	6259	25.1	23.4, 26.9	15,105	28.8	25.5, 32.2	17,208	34.4	33.8, 34.9
2 to 3 times a week	5833	23.4	21.8, 25.1	13,339	25.4	22.5, 28.5	14,477	28.9	28.4, 29.5
4 or more times per week	5097	20.4	19.0, 21.9	6094	11.6	9.6, 13.9	5529	11.0	10.7, 11.4

\* From the 2010 ADF Mental Health Prevalence and Wellbeing Study  
 Note: 95% CI: 95% confidence interval

**Figure 5.8** Estimated proportions of members of Transitioned ADF, and 2010 and 2015 Regular ADF, by AUDIT, for frequency of alcohol consumption



### 5.3.3 Quantity of alcohol consumed

Table 5.9 and Figure 5.9 compare the quantity of alcohol members of the Transitioned ADF and the 2010 and 2015 Regular ADF consume on a typical day.

The data refer to those who report monthly alcohol consumption. On a typical day, most Transitioned ADF members consume one or two standard alcoholic drinks, 29.5% consume three or four, 15.9% of the Transitioned ADF consume five or six standard drinks, and approximately 7% consume 7–10 or more standard drinks on a typical day.

Overall, the 2015 Regular ADF reported drinking fewer standard drinks on a typical day, with the majority of this population (71.5%) drinking 1–4 standard drinks compared to 65.2% of the 2010 Regular ADF and 60.7% of the Transitioned ADF. Overall, Transitioned ADF members were significantly more likely to have more standard drinks on a typical day than the 2015 Regular ADF (adjusted  $p < 0.001$ ). Of the Transitioned ADF, 14.5% reported consuming seven or more standard drinks on a typical day compared to 11.7% of the 2010 Regular ADF and 7.6% of the 2015 Regular ADF. There was a significant reduction in the proportion of Regular ADF members consuming 5–6 drinks (mean difference -5.2 (1.2), 95% CI -7.5, -2.9) and 10 or more drinks (mean difference -2.2 (0.7), 95% CI -3.7, -0.8) in 2015 compared to 2010. However, it should be noted that this comparison does not include any estimate of covariance between the two populations.

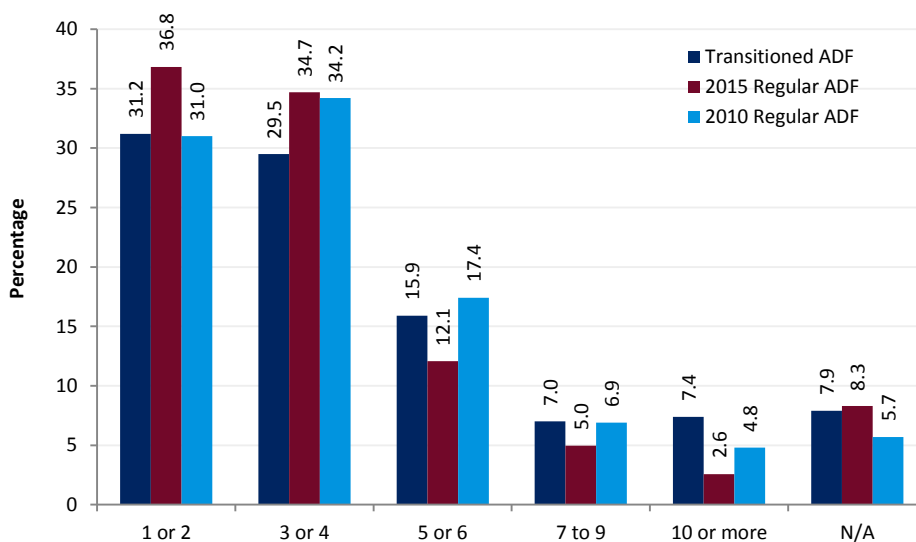
A further detailed analysis of the change in levels of self-reported alcohol use and problem drinking from 2010 to 2015 will be addressed more formally in later reports.

**Table 5.9 Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF, by number of standard alcoholic drinks consumed on a typical day**

Number of standard drinks in typical day	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)			2010 Regular ADF* (n = 50,049)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
1-2	7770	31.2	29.5, 32.9	19,337	36.8	33.6, 40.2	15,504	31.0	30.5, 31.5
3-4	7349	29.5	27.7, 31.3	18,214	34.7	31.2, 38.3	17,127	34.2	33.7, 34.8
5-6	3982	15.9	14.5, 17.5	6339	12.1	10.0, 14.5	8684	17.4	16.9, 17.8
7-9	1749	7.0	6.1, 8.1	2611	5.0	3.4, 7.2	3439	6.9	6.5, 7.2
10 or more	1853	7.4	6.4, 8.6	1356	2.6	1.5, 4.4	2419	4.8	4.5, 5.1
N/A	1958	7.9	6.8, 9.0	4355	8.3	6.1, 11.2	2877	5.7	5.5, 6.0

\* From the 2010 ADF Mental Health Prevalence and Wellbeing Study  
 Note: 95% CI: 95% confidence interval

**Figure 5.9 Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF, by number of standard alcoholic drinks consumed on a typical day**



### 5.3.4 Self-reported drinking problem

Table 5.10 and Figure 5.10 present a comparison and the percentage of members of the Transitioned ADF, and entire 2010 and 2015 Regular ADF with a self-reported drinking problem is presented in Tables 5.10 and Figure 5.10 below.

Almost 10% of Transitioned ADF reported a possible or definite problem with drinking. The majority of Transitioned ADF responded ‘no’ to presently having a problem.

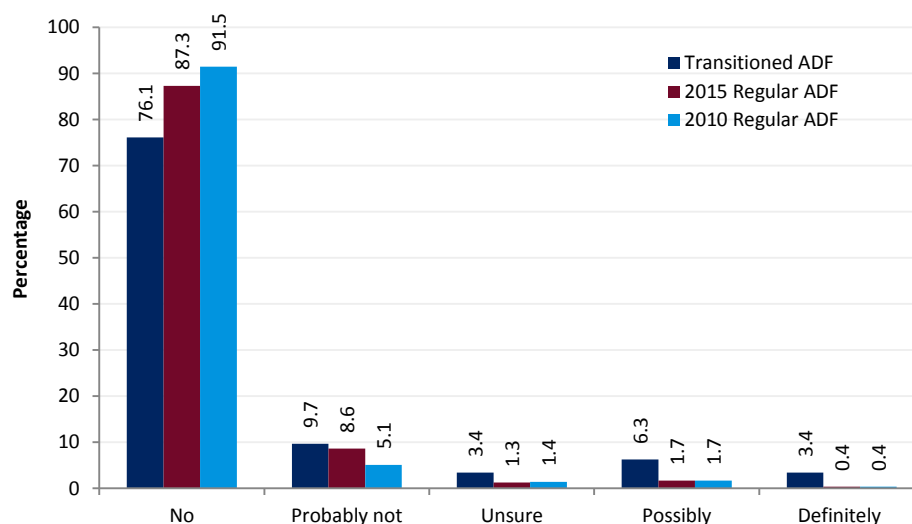
Self-reported drinking problems (defined as ‘possibly’ or ‘definitely’ having a problem) were significantly higher in the Transitioned ADF (9.7%) compared to the 2015 Regular ADF (2.1%) (OR 4.9, 95% CI 3.9, 6.3). There were no significant differences in self-reported drinking problems between the 2015 Regular ADF and the 2010 Regular ADF.

**Table 5.10 Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF with self-reported drinking problem**

Self-reported drinking problem	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)			2010 Regular ADF* (n = 50,049)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
No	18,968	76.1	74.4, 77.7	45,814	87.3	84.6, 89.5	45,776	91.5	91.1, 91.8
Probably not	2417	9.7	8.6, 10.9	4523	8.6	6.6, 11.1	2547	5.1	4.8, 5.4
Unsure	843	3.4	2.8, 4.1	684	1.3	0.9, 1.9	713	1.4	1.3, 1.6
Possibly	1561	6.3	5.5, 7.2	891	1.7	1.4, 2.1	827	1.7	1.5, 1.8
Definitely	841	3.4	2.7, 4.2	194	0.37	0.3, 0.5	186	0.4	0.3, 0.4

\* From the 2010 ADF Mental Health Prevalence and Wellbeing Study  
 Note: 95% CI: 95% confidence interval

**Figure 5.10 Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF with self-reported drinking problem**



### 5.3.5 Self-reported difficulties reducing alcohol consumption

Table 5.11 and Figure 5.11 compare the proportion of members of the Transitioned ADF, and the 2010 and 2015 Regular ADF who report anticipating difficulty reducing their alcohol intake.



Participants were asked to quantify how difficult they would find it to cut down or stop drinking in the next three months. More than 8% of Transitioned ADF members reported that they thought they would have difficulty reducing their alcohol consumption.

Members of the Transitioned ADF reported anticipating more difficulty than member of the 2015 Regular ADF. For example, Transitioned ADF were significantly more likely to report that they would find it fairly difficult or very difficult to reduce their alcohol consumption (8.4%) over the next three months (OR 4.9, 95% CI 3.9, 6.3) compared to the 2015 Regular ADF (2.7%). Additionally, members of the 2010 Regular ADF were significantly more likely than members of the 2015 Regular ADF to report that they would find it very difficult to cut down on their drinking. However, it should be noted that this comparison does not include any estimate of covariance between the two populations.

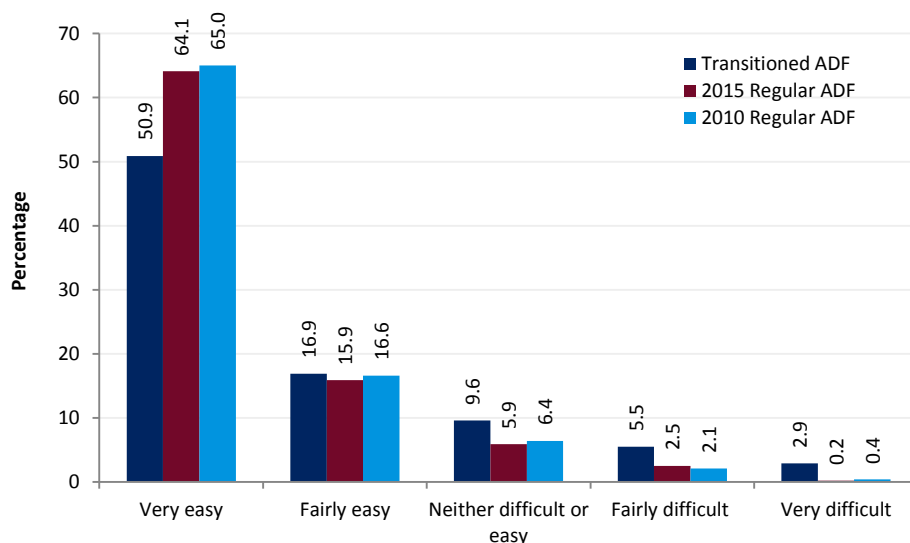
A further detailed analysis of the change in levels of self-reported alcohol use and problem drinking from 2010 to 2015 will be addressed more formally in later reports.

**Table 5.11 Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF who anticipate difficulty reducing their alcohol intake over the next three months**

Difficulty reducing alcohol consumption	Transitioned ADF 2 (n = 24,932)			2015 Regular ADF (n = 52,500)			2010 Regular ADF* (n = 50,049)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Very easy	12,712	50.9	49.0, 52.9	33,644	64.1	60.4, 67.6	32,543	65.0	64.5, 65.6
Fairly easy	4209	16.9	15.5, 18.4	8387	15.9	13.6, 18.7	8296	16.6	16.1, 17.0
Neither difficult or easy	2397	9.6	8.5, 10.9	3086	5.9	4.2, 8.2	3228	6.4	6.2, 6.8
Fairly difficult	1364	5.5	4.7, 6.4	1324	2.5	1.5, 4.2	1057	2.1	1.9, 2.3
Very difficult	746	2.9	2.4, 3.7	128	0.2	0.2, 0.4	213	0.4	0.3, 0.5

\* From the 2010 ADF Mental Health Prevalence and Wellbeing Study  
 Note: 95% CI: 95% confidence interval

**Figure 5.11** Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF who anticipate difficulty reducing their alcohol intake over the next three months



### 5.3.6 Alcohol use and problem drinking in different transition population subgroups

#### *Alcohol use and problem drinking in Transitioned ADF, by transition status*

Table 5.12 and Figure 5.12 compare the AUDIT scoring bands in Ex-Serving, Inactive and Active Reservists who transitioned from the Regular ADF between 2010 and 2015.

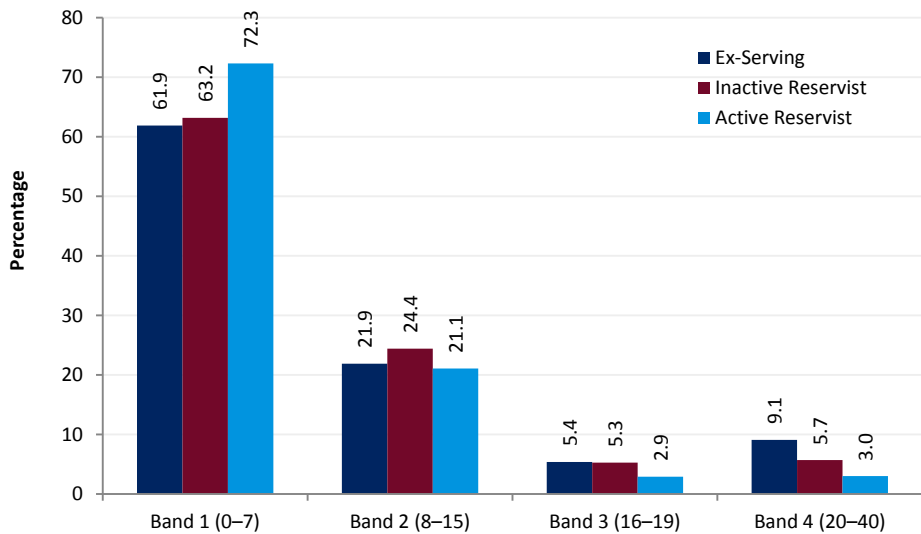
A comparison of transitioned Ex-Serving and Reservists showed Active Reservists had the lowest rates of self-reported alcohol use. Ex-Serving ADF and Inactive Reservists showed little difference. For example, Ex-Serving ADF members were significantly more likely to score above the AUDIT screening cut-off of eight than those who were in the Active Reserves (OR 2.58, 95% CI 2.11, 3.15) in 2015 but not the Inactive Reserves. Transitioned ADF members who were in the Inactive Reserves were also significantly more likely to score equal to or above the AUDIT screening cut-off of 8 than Active Reservists.

**Table 5.12** Estimated proportions of Transitioned ADF, using AUDIT scoring bands, for problem alcohol use, by transition status

	Ex-Serving (n = 11,440)			Inactive Reservist (n = 6447)			Active Reservist (n = 6968)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Band 1 (0–7)	7088	61.9	58.9, 64.9	4075	63.2	59.5, 66.8	5037	72.3	69.2, 75.2
Band 2 (8–15)	2511	21.9	19.5, 24.6	1573	24.4	21.3, 27.9	1468	21.1	18.4, 23.9
Band 3 (16–19)	620	5.4	4.2, 6.9	339	5.3	3.8, 7.3	200	2.9	1.9, 4.4
Band 4 (20–40)	1044	9.1	7.6, 10.9	369	5.7	4.2, 7.8	209	3.0	2.0, 4.4

Note: 95% CI: 95% confidence interval

**Figure 5.12** Estimated proportions of Transitioned ADF, using AUDIT scoring bands, for problem alcohol use, by transition status



***Alcohol use and problem drinking in Transitioned ADF, by years since transition***

Table 5.13 and Figure 5.13 compare the AUDIT scoring bands for members of the Transitioned ADF, by years since transition. Overall, time since transition did not have a significant effect on the AUDIT scoring bands.

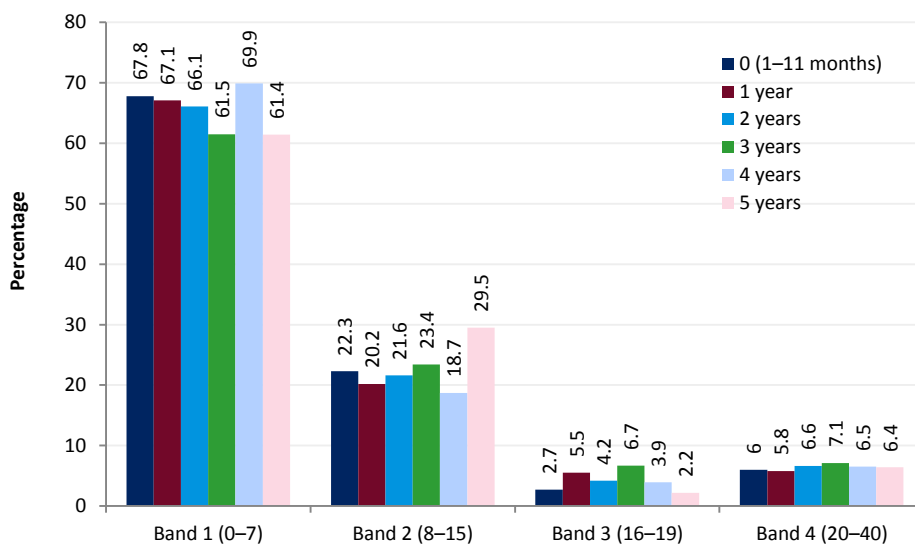
**Table 5.13** Estimated Proportion of Transitioned ADF members scoring in each of the four AUDIT scoring bands for problem alcohol use, by years since transition

	0 (1-11months) n=1945			1 year n=4874			2 years n=4944		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Band 1 (0-7)	1318	67.8	61.1, 73.8	3270	67.1	62.9, 71.1	3270	66.1	61.7, 70.3
Band 2 (8-15)	434	22.3	17.1, 28.6	986	20.2	16.9, 24.0	1068	21.6	18.1, 25.7
Band 3 (16-19)	53	2.7	1.6, 4.6	270	5.5	3.8, 7.9	208	4.2	2.7, 6.5
Band 4 (20-40)	117	6.0	3.4, 10.5	284	5.8	4.2, 8.0	328	6.6	4.8, 9.2

	3 years n=5234			4 years n=3582			5+ years n=2785		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Band 1 (0-7)	3220	61.5	57.2, 65.7	2506	69.9	65.4, 74.2	1709	61.4	55.7, 66.8
Band 2 (8-15)	1225	23.4	19.9, 27.3	671	18.7	15.3, 22.8	822	29.5	24.5, 35.1
Band 3 (16-19)	351	6.7	4.6, 9.7	139	3.9	2.5, 6.1	62	2.2	1.2, 4.2
Band 4 (20-40)	370	7.1	5.2, 9.6	233	6.5	4.5, 9.4	177	6.4	3.9, 10.1

Note: 95% CI: 95% confidence interval

**Figure 5.13** Estimated proportions of Transitioned ADF, scoring in each of the four AUDIT scoring bands, for problem alcohol use, by years since transition



## 5.4 Depressive symptoms (PHQ-9)

- An estimated 19.5% of the Transitioned ADF were in the moderately severe to severe category for depressive symptoms compared to an estimated 7.4% of the 2015 Regular ADF and 2.4% of the 2010 Regular ADF.
- Members of the Transitioned ADF reported significantly higher depressive symptoms than members of the 2015 Regular ADF.
- The 2015 Regular ADF sample reported significantly higher depressive symptoms than the 2010 Regular ADF sample.
- In the 2015 Transitioned ADF:
  - Ex-Serving ADF members were significantly more likely to report depressive symptoms than Active or Inactive Reservists.
  - There was no significant difference between Active Reservists and Inactive Reservists in the proportion reporting depressive symptoms.
  - Overall, time since transition did not have a significant effect on depressive symptoms; however, ADF members who transitioned less than a year ago, reported significantly lower symptoms than those who were one, three and five years post-transition.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

This section provides a detailed summary of the pattern of depressive symptoms reported by ADF members who have transitioned from the Regular ADF since 2010 (Transitioned ADF) compared to 2010 and 2015 Regular ADF members.

The distribution of depressive symptoms in the Transitioned ADF compared to the 2010 and 2015 Regular ADF will be reported first. Next, the section will examine the distribution of depressive symptoms in the Transitioned ADF, by categories of transition status (Ex-Serving, Active Reservist, Inactive Reservist) and years since transition.

The nine items forming the depression module of the Patient Health Questionnaire-9 (PHQ-9) were designed to correspond with the nine criteria used to form a diagnosis of DSM-IV depressive disorder (Kroenke et al., 2001). Participants rate the severity of each symptom item over the previous two weeks on a four-point (that is, 0–3) Likert scale. Items can be summed to generate a continuous measure of depressive symptoms (with possible scores ranging from 0–27). The PHQ-9 is widely used and has shown strong psychometric properties, including high diagnostic validity, internal consistency and test-retest reliability (Gilbody et al., 2007; Kroenke et al., 2001; Manea et al., 2012; Wittkamp et al., 2007).

This report used the categories of minimal (0–4), mild (5–9), moderate (10–14), moderately severe (15–19) and severe (20–27), which are derived from a study comparing the PHQ-9 with doctor-diagnosed depression in 580 primary care patients (Kroenke et al., 2001).

Finally, the ADF’s optimal specific screening cut-off of 6 was also used (Searle et al., 2015). This cut-off was derived from the 2010 MHPWS, and maximises the sum of the sensitivity and specificity (the proportion of those with and without a 30-day affective disorder who are correctly classified). This cut-off can be used to identify individuals who might need care and is designed to be more inclusive.

#### **5.4.1 Depressive symptoms in the Transitioned ADF**

##### ***Depressive symptoms in Transitioned ADF compared to the entire 2010 and 2015 Regular ADF***

Table 5.14 and Figure 5.14 compare PHQ-9 scoring bands in Transitioned ADF, 2015 Regular ADF and 2010 Regular ADF.

Overall, an estimated 10.5% of Transitioned ADF scored in the severe range for depressive symptoms, 9.0% scored in the moderately severe range and 11.1% scored in the moderate range.

The mean PHQ-9 score for the Transitioned ADF was 7.6 (SE 0.1) (95% CI 7.4, 7.9), with 48.6% (n = 12,120, 95% 46.8, 50.4) scoring equal to or above the ADF screening cut-off of 6, indicating the need for further diagnostic assessment of depressive disorder.

In 2015, the Transitioned ADF reported the highest levels of self-reported depressive symptoms, followed by the 2015 Regular ADF and the 2010 Regular ADF. Transitioned ADF members (mean PHQ-9 (SE 7.6) (0.1)) reported significantly greater levels of depressive symptoms than the 2015 Regular ADF (mean PHQ-9 (SE 5.1) (0.2)) (mean difference (SE 2.1) (0.3), 95% CI 1.5, 2.7 p < 0.001). Also, depressive symptoms overall significantly increased in the Regular ADF from 2010 to 2015, with the 2015 Regular ADF (mean PHQ-9 (SE 5.1) (0.2)) reporting significantly greater levels of depressive symptoms than the 2010 Regular ADF (mean PHQ-9 (SE 2.9) (0.0)) (mean difference 2.3, 95% CI 1.8, 2.7) p < 0.001). However, it should be noted that this comparison does not include any estimate of covariance between the two populations.

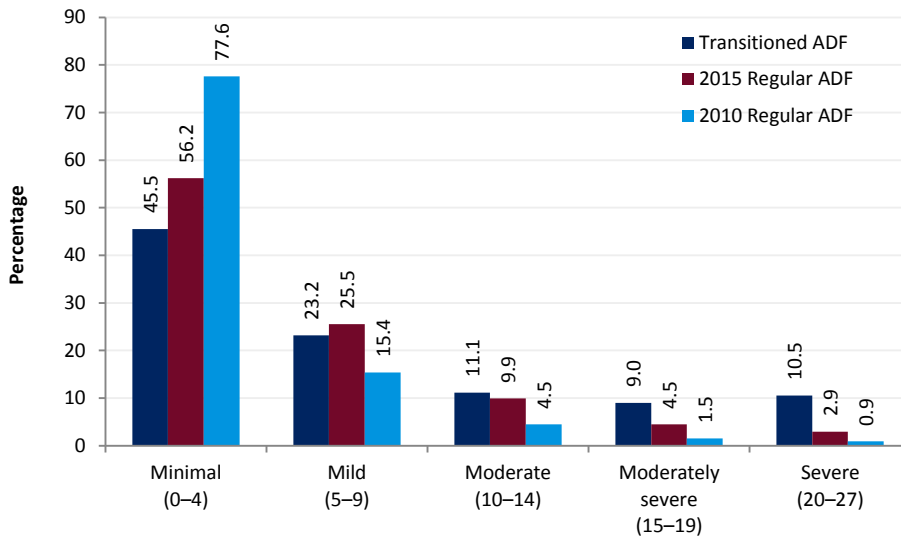
The issue of individual change in depressive symptoms and disorder over time in this group will be addressed in a later Programme report.

**Table 5.14 Estimated proportions of Transitioned ADF, 2010 and 2015 Regular ADF in each PHQ-9 scoring band for depressive symptoms**

	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)			2010 Regular ADF (n = 50,049)*		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Minimal (0–4)	11,342	45.5	43.7, 47.3	29,505	56.2	52.6, 59.7	38,821	77.6	77.1, 78.1
Mild (5–9)	5788	23.2	21.7, 24.8	13,391	25.5	22.4, 28.9	7710	15.4	15.0, 15.8
Moderate (10–14)	2764	11.1	9.9, 12.3	5228	9.9	7.9, 12.5	2259	4.5	4.3, 4.8
Moderately severe (15–19)	2250	9.0	8.0, 10.2	2374	4.5	3.1, 6.5	772	1.5	1.4, 1.7
Severe (20–27)	2622	10.5	9.5, 11.7	1562	2.9	1.7, 5.1	487	0.9	0.9, 1.1

\* From the 2010 ADF Mental Health Prevalence and Wellbeing Study  
Note: 95% CI: 95% confidence interval

**Figure 5.14** Estimated proportions of Transitioned ADF, and 2010 and 2015 Regular ADF in each PHQ-9 scoring band for depressive symptoms



***Depressive symptoms in Transitioned ADF members, by transition status***

Table 5.15 and Figure 5.15 compare the PHQ-9 scoring bands in Ex-Serving, Inactive and Active Reservists who transitioned from ADF service between 2010 and 2014.

Ex-Serving ADF members were significantly more likely to score above the PHQ-9 screening cut-off of 6 than Transitioned ADF members in the Inactive Reserves (OR 2.2, 95% CI 1.8, 2.7) or Active Reserves (OR 2.7, 95% CI 2.2, 3.2). There was no significant difference between Active and Inactive Reservists in the proportion scoring above the PHQ-9 screening cut-off.

***Depressive symptoms in Transitioned ADF, by years since transition***

Table 5.16 and Figure 5.16 compare the PHQ-9 scoring bands for Transitioned ADF members, by years since transition.

Overall, the time that passed since transition did not significantly affect the depressive symptoms scoring bands. However, ADF members who transitioned less than a year ago reported significantly lower PHQ-9 total scores than those who were one, three and five years post-transition, when the greatest increases in symptoms were observed.

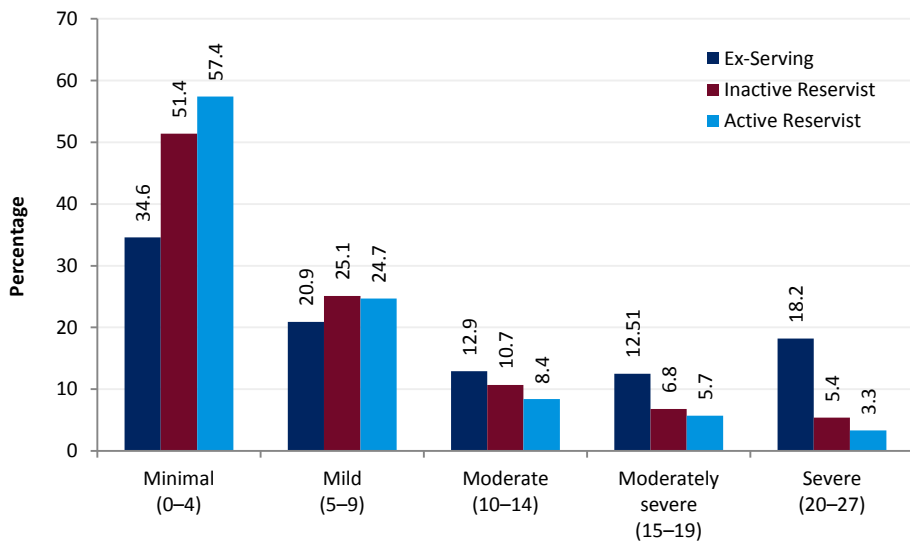


**Table 5.15** Estimated proportions of Transitioned ADF for PHQ-9 scoring bands for depressive symptoms by transition status

	Ex-Serving (n = 11,440)			Inactive Reservist (n = 6447)			Active Reservist (n = 6968)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Minimal (0–4)	3953	34.6	31.7, 37.5	3315	51.4	47.7, 55.1	3998	57.4	57.4, 57.4
Mild (5–9)	2400	20.9	18.6, 23.6	1612	25.1	22.1, 28.4	1719	24.7	24.7, 24.7
Moderate (10–14)	1484	12.9	11.2, 14.9	692	10.7	8.6, 13.3	588	8.4	8.4, 8.4
Moderately severe (15–19)	1431	12.5	10.7, 14.5	440	6.8	5.2, 8.9	399	5.7	5.7, 5.7
Severe (20–27)	2078	18.2	16.1, 20.4	346	5.4	3.9, 7.3	229	3.3	3.3, 3.3

Note: 95% CI: 95% confidence interval

**Figure 5.15** Estimated proportions of Transitioned ADF for PHQ-9 scoring bands for depressive symptoms by transition status



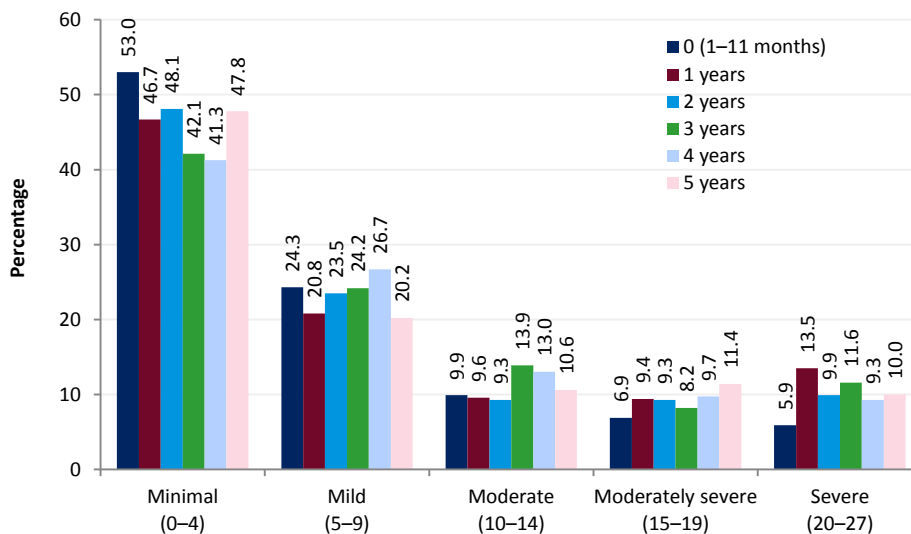
**Table 5.16** Estimated proportions of Transitioned ADF members in PHQ-9 scoring bands for depressive symptoms, by years since transition

	0 (1–11 months) (n = 1945)			1 year (n = 4874)			2 years (n = 4944)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Minimal (0–4)	1031	53.0	46.7, 59.2	2278	46.7	42.6, 50.9	2377	48.1	43.8, 52.4
Mild (5–9)	473	24.3	19.2, 30.3	1015	20.8	17.7, 24.3	1163	23.5	20.1, 27.4
Moderate (10–14)	192	9.9	6.6, 14.5	467	9.6	7.4, 12.4	458	9.3	7.1, 12.0
Moderately severe (15–19)	133	6.9	4.3, 10.7	457	9.4	7.3, 12.0	458	9.3	7.1, 12.1
Severe (20–27)	115	5.9	4.2, 8.4	656	13.5	10.9, 16.5	489	9.9	7.8, 12.5

	3 years (n = 5234)			4 years (n = 3582)			5+ years (n = 2785)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Minimal (0–4)	2205	42.1	38.2, 46.2	1478	41.3	36.8, 45.9	1331	47.8	42.4, 53.2
Mild (5–9)	1266	24.2	20.8, 27.9	956	26.7	22.7, 31.1	562	20.2	16.2, 24.8
Moderate (10–14)	726	13.9	11.3, 16.9	467	13.0	10.1, 16.6	296	10.6	7.9, 14.1
Moderately severe (15–19)	428	8.2	6.2, 10.7	349	9.7	7.2, 13.1	317	11.4	8.2, 15.6
Severe (20–27)	608	11.6	9.0, 14.8	332	9.3	7.0, 12.1	280	10.0	7.2, 13.9

Note: 95% CI: 95% confidence interval

**Figure 5.16** Estimated proportions of Transitioned ADF members in PHQ-9 scoring bands for depressive symptoms, by years since transition



## 5.5 Anger symptoms (DAR-5)

- Transitioned ADF members reported experiencing significantly greater levels of anger than members of the 2015 Regular ADF.
- There was a significant increase in anger frequency, intensity and duration; antagonism towards others and impacts of anger on social relations in the Regular ADF from 2010 to 2015.
- In the 2015 Transitioned ADF:
  - An estimated 30.2% reported levels of problematic anger.
  - Ex-Serving ADF members were significantly more likely to report problematic levels of anger than Active or Inactive Reservists.
  - There was no significant difference between Active Reservists and Inactive Reservists in levels of anger.
  - Overall, there was no significant effect of time since transition on anger. However, Transitioned ADF members who transitioned 1–5+ years ago were significantly more likely to report higher anger scores than those who were 1–11 months post-transition.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

This section provides a detailed summary of the anger symptoms reported by ADF members who transitioned from full-time Regular ADF service between 2010 and 2014 (Transitioned ADF) compared to 2010 and 2015 Regular ADF members.

The distribution of anger symptoms in the Transitioned ADF compared to the 2010 and 2015 Regular ADF will be reported first. Next, the distribution of anger symptoms in the Transitioned ADF, by categories of transition status (Ex-Serving, Active Reservist, Inactive Reservist), and years since transition will be examined.

The five-item Dimensions of Anger Reactions Scale (DAR-5) (Forbes et al., 2004) assesses anger frequency, intensity and duration, and anger's perceived negative impact on social relationships, as rated over the previous four weeks. Items are added up to create a total score (range 5–25), with higher scores indicating a higher frequency of anger. This scale has been used for Australian Vietnam veterans, and US Afghanistan and Iraq veterans. It shows strong unidimensionality and high levels of internal consistency and criterion validity (Forbes et al., 2004).

Respondents were instructed to rate the amount of time they had experienced each of the five symptoms of anger over the last four weeks on a five-point Likert scale, ranging from 1 'none of the time' to 5 'all of the time'. In addition to the total score, a mean score is presented for each anger item. A cut-off of 12 is used to indicate problematic anger.

### **5.5.1 Anger symptoms in Transitioned ADF compared to 2010 and 2015 Regular ADF**

Table 5.17 and Figure 5.17 compare anger symptoms as measured by the DAR-5 in the Transitioned ADF and the 2010 and 2015 Regular ADF.

Overall, in the Transitioned ADF, mean scores were highest for anger frequency (mean 2.4) and anger intensity (mean 2.0). The mean total anger symptom score was 9.8 (95% CI 9.6, 10.0), with an estimated 30.2% ( $n = 7533$ , 95% CI 28.6, 31.9) scoring equal to or above the cut-off of 12, indicating levels of problematic anger.

In 2015, the Transitioned ADF had the highest levels of self-reported anger, followed by the entire 2015 Regular ADF and the entire 2010 Regular ADF. Transitioned ADF members (mean DAR-5 (SE 9.8) (0.1) 95% CI 9.6, 10.0) reported significantly greater levels of anger than the 2015 Regular ADF (mean DAR-5 (SE 8.2) (0.5) 95% CI 7.9, 8.5) (Adjusted Regression Coefficient 1.3 (0.2),  $p < 0.001$ ). This result was consistent for each anger item, with the mean differences ranging from 0.2–1.5 for items 1–5. Additionally, each of the anger symptoms overall, as well as the anger symptom total, significantly increased in the Regular ADF from 2010 to 2015. However, it should be noted that this comparison does not include any estimate of covariance between the two populations.

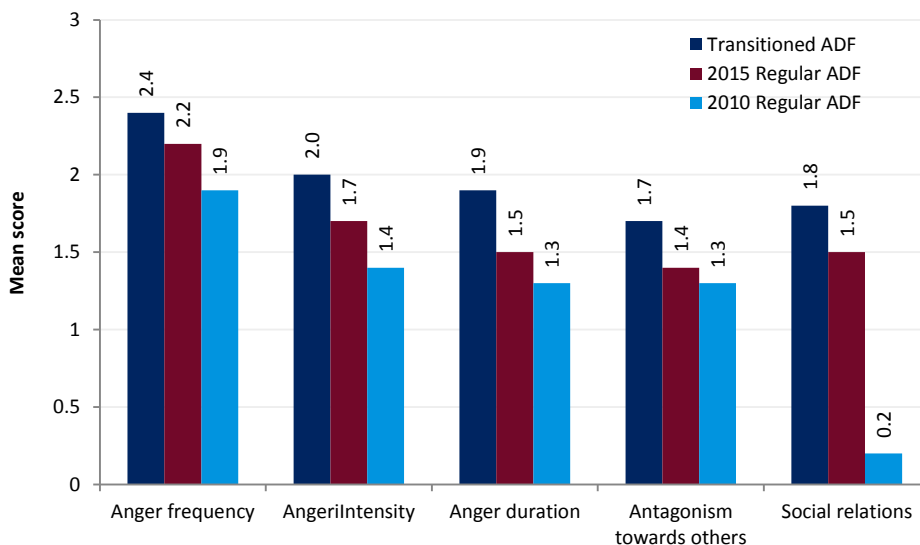
The issue of individual change in anger symptoms over time will be addressed in a later Programme report.

**Table 5.17** Estimated proportions of anger symptoms among Transitioned ADF, and 2010 and 2015 Regular ADF, by symptoms

	Transitioned ADF 2015 (n = 24,932)			2015 Regular ADF (n = 52,500)			2010 Regular ADF* (n = 50,049)		
	Mean	SE	95% CI	Mean	SE	95% CI	Mean	SE	95% CI
Anger frequency	2.4	0.02	2.4, 2.5	2.2	0.04	2.1, 2.2	1.9	0.01	1.9, 1.9
Anger intensity	2.0	0.02	1.9, 2.0	1.7	0.04	1.6, 1.7	1.4	0	1.4, 1.4
Anger duration	1.9	0.02	1.8, 1.9	1.5	0.04	1.5, 1.6	1.3	0	1.3, 1.3
Antagonism towards others	1.7	0.02	1.7, 1.8	1.4	0.04	1.3, 1.5	1.3	0	1.3, 1.3
Social relations	1.8	0.02	1.8, 1.8	1.5	0.04	1.4, 1.6	0.2	0	1.2, 1.2
DAR-5 total	9.8	0.1	9.6, 10.0	8.2	0.5	7.9, 8.5	7.1	0.02	7.1, 7.2

\* From the 2010 ADF Mental Health Prevalence and Wellbeing Study  
Note: 95% CI: 95% confidence interval

**Figure 5.17** Estimated proportions of anger symptoms among Transitioned ADF, and 2010 and 2015 Regular ADF, by symptoms



### 5.5.2 Anger symptoms in different transition population subgroups

#### *Anger symptoms among Transitioned ADF members, by transition status*

Table 5.18 and Figure 5.18 compare anger symptoms among Ex-Serving, Inactive and Active Reserves members who transitioned from the Regular ADF between 2010 and 2014.

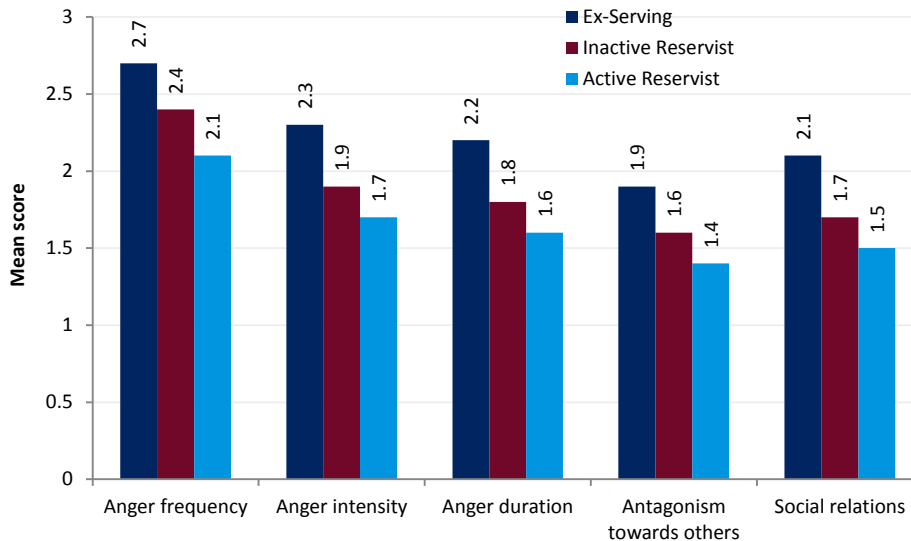
There were significantly higher mean DAR-5 total scores in Ex-Serving ADF members compared to Inactive Reservists ( $p < 0.001$ ) or Active Reservists ( $p < 0.001$ ). There was no significant difference between Transitioned ADF members who were Active Reservists and Inactive Reservists in the mean DAR-5 scores. This same pattern was also reflected in the proportion of each group scoring equal to or above the DAR-5 cut-off of 12, with Ex-Serving Transitioned ADF members being significantly more likely to score equal to or above this cut-off than Transitioned ADF members who remain in the Active Reserves (OR 2.6, 95% CI 2.1, 3.3,  $p < 0.001$ ) or Inactive Reserves (OR 2.0, 95% CI 1.6, 2.5,  $p < 0.001$ ).

**Table 5.18** Estimated proportions of anger symptoms in Transitioned ADF, by transition status

	Ex-Serving (n = 11,440)			Inactive Reservist (n = 6447)			Active Reservist (n = 6968)		
	Mean	SE	95% CI	Mean	SE	95% CI	Mean	SE	95% CI
Anger frequency	2.7	0.04	2.6, 2.8	2.4	0.04	2.3, 2.4	2.1	0.03	2.0, 2.1
Anger intensity	2.3	0.04	2.2, 2.4	1.9	0.04	1.8, 1.9	1.7	0.03	1.6, 1.8
Anger duration	2.2	0.04	2.1, 2.3	1.8	0.04	1.7, 1.8	1.6	0.03	1.5, 1.6
Antagonism towards others	1.9	0.04	1.9, 2.0	1.6	0.04	1.5, 1.7	1.4	0.03	1.3, 1.4
Social relations	2.1	0.04	2.0, 2.2	1.7	0.04	1.6, 1.8	1.5	0.03	1.4, 1.52
DAR-5 total	11.2	0.17	10.9, 11.6	9.2	0.18	8.9, 9.6	8.2	0.13	7.9, 8.4

Note: 95% CI: 95% confidence interval

**Figure 5.18** Estimated proportions of anger symptoms in Transitioned ADF, by transition status

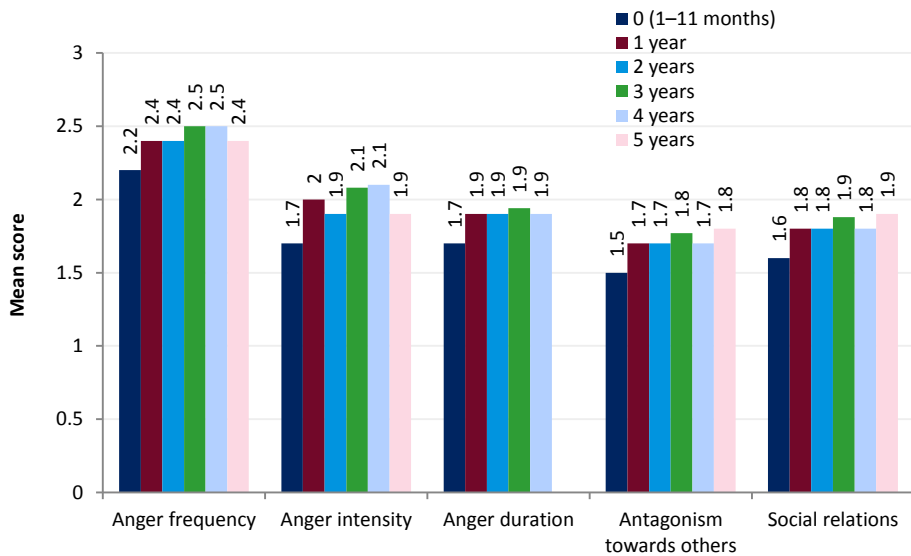


**Anger symptoms in Transitioned ADF, by years since transition**

Table 5.19 and Figure 5.19 compare anger symptoms in the Transitioned ADF, by years since transition.

Overall, the passing of time since transition did not have a significant effect on the anger symptoms total score. However, Transitioned ADF who transitioned 1–5 years ago were significantly more likely to report higher anger symptom total scores than those in the first year post-transition.

**Figure 5.19** Estimated proportions of anger symptoms in Transitioned ADF, by years since transition



**Table 5.19** Estimated proportions of anger symptoms in Transitioned ADF, by years since transition

	0 (1–11 months) (n = 1945)			1 year (n = 4874)			2 years (n = 4944)			3 years (n = 5234)			4 years (n = 3582)			5+ years (n = 2785)		
	Mean	SE	95% CI	Mean	SE	95% CI	Mean	SE	95% CI	Mean	SE	95% CI	Mean	SE	95% CI	Mean	SE	95% CI
Anger frequency	2.2	0.07	2.1, 2.4	2.4	0.05	2.3, 2.5	2.4	0.05	2.3, 2.5	2.5	0.05	2.4, 2.6	2.5	0.06	2.4, 2.6	2.4	0.06	2.3, 2.6
Anger intensity	1.7	0.06	1.6, 1.8	2.0	0.05	1.9, 2.10	1.9	0.05	1.9, 2.1	2.1	0.05	1.9, 2.2	2.1	0.06	1.9, 2.2	1.9	0.07	1.9, 2.1
Anger duration	1.7	0.07	1.5, 1.8	1.9	0.05	1.8, 1.9	1.9	0.05	1.8, 2.0	1.9	0.05	1.8, 2.0	1.9	0.06	1.8, 2.0	1.9	0.07	1.8, 2.0
Antagonism towards others	1.5	0.06	1.4, 1.6	1.7	0.05	1.60, 1.8	1.7	0.05	1.6, 1.8	1.8	0.05	1.7, 1.9	1.7	0.05	1.6, 1.8	1.9	0.07	1.6, 1.90
Social relations	1.6	0.06	1.5, 1.7	1.8	0.05	1.7, 1.9	1.8	0.05	1.7, 1.9	1.9	0.05	1.8, 1.9	1.8	0.05	1.7, 1.9	1.9	0.07	1.7, 1.9
DAR-5 total	8.6	0.27	8.1, 9.2	9.9	0.22	9.4, 10.3	9.8	0.23	9.3, 10.2	10.2	0.23	9.7, 10.6	9.9	0.25	9.4, 10.4	9.9	0.3	9.3, 10.5

Note: 95% CI: 95% confidence interval



## 5.6 Suicidal ideation, plans and attempts

- Members of the Transitioned ADF were significantly more likely to report suicidal ideation, plans or attempts than members of the 2015 Regular ADF.
- The 2015 Regular ADF sample were significantly more likely than the 2010 Regular ADF cohort to report suicidal ideation, but not plans and attempts.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

This section provides a detailed summary of the suicidal ideation, plans and attempts (suicidality) reported by ADF members who transitioned from the Regular ADF between 2010 and 2014 (Transitioned ADF) compared to 2010 and 2015 Regular ADF members. Chapter 4 examined self-reported suicidal ideation, plans and attempts among Transitioned ADF members according to demographic (sex, age), transition (Ex-Serving, Inactive, Active Reservists, years since transition, type of discharge and DVA status) and Service (Service, rank, years of service, deployment status) factors. Chapter 5 extends these results by examining the distribution of suicidal ideation, plans and attempts (suicidality) in the Transitioned ADF compared to the 2010 and 2015 Regular ADF.

As reported in chapter 4, 12-month self-reported suicidal ideation and behaviour in the ADF was examined using four questions:

- *Suicidal ideation Q1:* In the last 12 months, have you ever felt that your life was not worth living?
- *Suicidal ideation Q2:* In the last 12 months, have you ever felt so low that you thought about committing suicide?
- *Suicide plan:* In the last 12 months, have you made a suicide plan?
- *Suicide attempt:* In the last 12 months, have you attempted suicide?

The responses to these questions were limited to 'yes' or 'no'.

### 5.6.1 Suicidality in Transitioned ADF compared to the 2010 and 2015 Regular ADF

Table 5.20 and Figure 5.20 presents a comparison of the suicidality in the Transitioned ADF, and in the 2010 and 2015 Regular ADF.

Overall, the Transitioned ADF reported the highest levels of suicidality followed by the 2015 Regular ADF and the 2010 Regular ADF. Suicidal ideation, plans and attempts were all significantly more prevalent in the Transitioned ADF compared to the 2015 Regular ADF (see Annex B for a more detailed table of results). Suicidal ideation, but not plans and attempts, was also significantly more prevalent in the 2015 Regular ADF

compared to the 2010 Regular ADF (see Annex B). However, it should be noted that this comparison does not include any estimate of covariance between the two populations.

The issue of individual change in symptoms over time will be addressed in a later Programme report.

**Table 5.20 Estimated proportions of suicidality in Transitioned ADF and entire 2010 and 2015 Regular ADF**

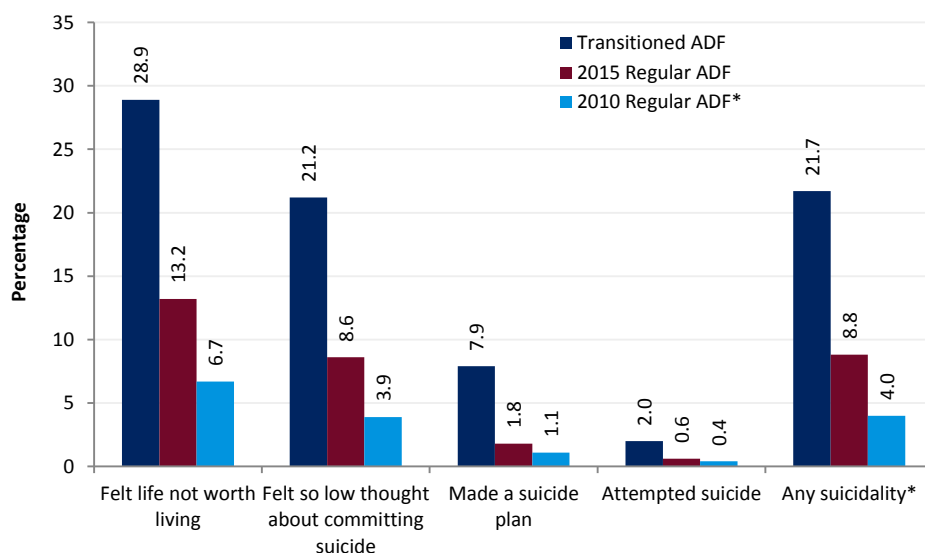
	Transitioned ADF 2015 (n = 24,932)			2015 Regular ADF (n = 52,500)			2010 Regular ADF* (n = 50,049)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Felt life not worth living	7208	28.9	27.3, 30.6	6927	13.2	10.7, 16.2	3358	6.7	6.4, 7.0
Felt so low thought about committing suicide	5294	21.2	19.8, 22.8	4493	8.6	6.4, 11.3	1943	3.9	3.7, 4.1
Made a suicide plan	1965	7.9	6.9, 8.9	950	1.8	1.0, 3.3	546	1.1	1.0, 1.2
Attempted suicide	505	2.0	1.6, 2.6	311	0.6	0.2, 1.6	212	0.4	0.3, 0.5
Any suicidality†	5342	21.7	20.2, 23.3	4533	8.8	6.7, 11.6	1985	4.0	3.7, 4.2

\* From the 2010 ADF Mental Health Prevalence and Wellbeing Study

† 'Any suicidality' includes those who endorsed 'felt so low thought about committing suicide', 'made a suicide plan', 'attempted suicide'

Note: 95% CI: 95% confidence interval

**Figure 5.20 Estimated proportions of suicidality in Transitioned ADF, and 2010 and 2015 Regular ADF**



## 5.7 Drug use (illicit and the use of prescription drugs for non-medical purposes) in Transitioned ADF

- An estimated 39.3% of Ex-Serving ADF members have used illicit drugs in their lifetime, with 16.4% reporting illicit drug use in the last 12 months.
- An estimated 11.3% of Ex-Serving ADF members have reported using prescription drugs for non-medical purposes in their lifetime, with more than half (6.7%) reporting using them in the last 12 months.
- Ex-Serving ADF members and Inactive Reservists reported similar patterns of lifetime and 12-month drug use and were significantly more likely to report 12-month and lifetime illicit drug use, as well as 12-month and lifetime use of prescription drugs for non-medical purposes than those who remained in the Active Reserves.
- Both types of drug use (illicit and non-medical use of prescription drugs) increased gradually over the first few years after transition, reaching a peak at three years post-transition.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

Lifetime and 12-month drug use in Transitioned ADF only was measured using modified items from the 2013 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2011).

Transitioned ADF were asked questions about two categories of drugs:

- Illicit drugs:
  - Includes methamphetamines, marijuana, heroin, methadone, buprenorphine, cocaine, hallucinogens, ecstasy, ketamine, GHB, inhalants, opiates and opioids
- Prescription drugs for non-medical purposes:
  - Includes painkillers/analgesics and tranquilisers/sleeping pills.

For this study, the phrase ‘non-medical purposes’ was defined as either alone or with other drugs to induce or enhance a drug experience.

Participants were asked if they had ever used these drugs in their lifetime or the last 12 months, and the age at which they first used them. This section will only report 12-month and lifetime drug use.

Due to the ADF’s ‘zero-tolerance policy’ on full-time and Active Reserve ADF members using illicit drugs (members found to be using illicit drugs are required to ‘show cause’ as to why they should be permitted to remain in the ADF), 2010 and 2015 Regular ADF members were not asked about illicit or prescription drug use. As such, limited analysis of lifetime and 12-month drug use was examined in the Transitioned ADF, using

transition status (Ex-Serving, Active Reservist, Inactive Reservist) and years since transition.

### 5.7.1 Drug use in different transition population subgroups

#### *Drug use in Transitioned ADF members, by transition status*

Almost 40% of the Transitioned ADF reported using illicit drugs in their lifetime, with 11.3% reporting ever using prescription drugs for non-medical purposes. In the last 12 months, 16.4% (95% CI 14.2, 19.0) of the Transitioned ADF reported using illicit drugs, and 6.73% (95% CI 5.31, 8.50) reported using prescription drugs for non-medical purposes.

Table 5.21 and Figure 5.23 compare drug use in Ex-Serving, Inactive and Active Reservists who have transitioned from the Regular ADF since 2010.

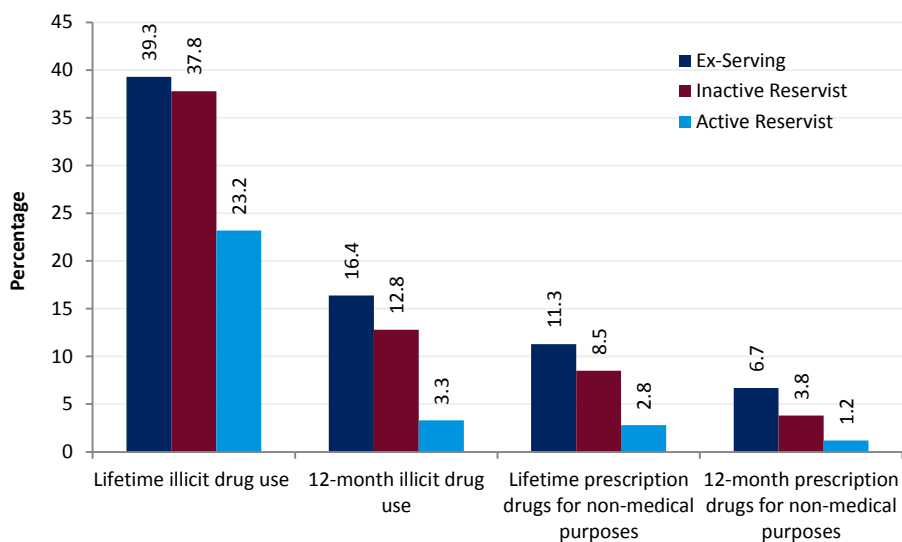
Self-reported drug use was highest among Ex-Serving ADF members and lowest among Active Reservists. Both Ex-Serving ADF members and Inactive Reservists were significantly more likely than Active Reservists to report 12-month and lifetime illicit drug use. They were also more likely to report 12-month and lifetime use of prescription drugs for non-medical purposes. In contrast, there was little difference between drug use patterns among Transitioned ADF members who were Ex-Serving and members of the Inactive Reserves (see Annex B for odds ratios comparing 12-month and lifetime drug use among Transitioned ADF members who were Ex-Serving, Inactive or Active Reservists).

**Table 5.21 Estimated proportions of Transitioned ADF who have used drugs, by transition status**

Drug use	Ex-serving (n = 11,440)			Inactive Reservist (n = 6447)			Active Reservist (n = 6968)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Lifetime illicit drug use	4496	39.3	36.3, 42.4	2439	37.8	34.1, 41.7	1619	23.2	20.4, 26.4
12-month illicit drug use	1877	16.4	14.2, 19.0	828	12.8	10.2, 16.0	226	3.3	2.0, 5.2
Lifetime prescription drug use for non-medical purposes	1297	11.3	9.5, 13.4	550	8.5	6.5, 11.2	193	2.8	1.8, 4.1
12-month prescription drug use for non-medical purposes	770	6.7	5.3, 8.5	244	3.8	2.5, 5.7	82	1.2	0.6, 2.3

Note: 95% CI: 95% confidence interval

**Figure 5.21** Estimated proportions of Transitioned ADF who have used drugs, by transition status



***Drug use among Transitioned ADF members, by years since transition***

Table 5.22 compares 12-month drug use among Transitioned ADF members, by years since transition.

Overall, both types of drug use (illicit and non-medical use of prescription drugs) showed a gradual increase over the first few years after transition, reaching a peak at three years post-transition. From this point, rates of 12-month drug use declined. Years since transition did not significantly impact 12-month rates of illicit or non-medical use of prescription drugs.

**Table 5.22** Estimated proportions of Transitioned ADF reporting 12-month drug use, by years since transition

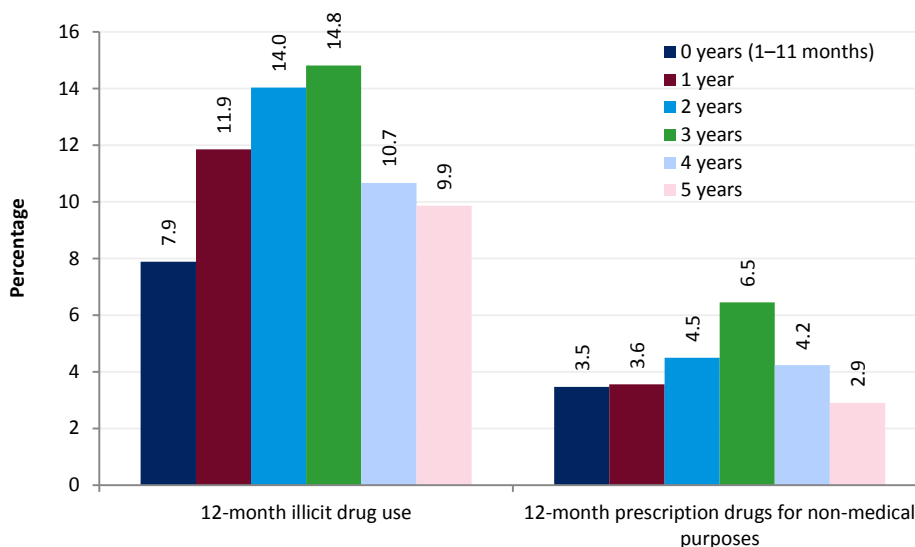
Drug use	0 (1–11months) (n = 1945)			1 year (n = 4874)			2 years (n = 4944)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
12-month illicit drug use	153	7.9	4.8, 12.8	578	11.9	9.0, 15.4	694	14.0	10.9, 17.9
12-month prescription drug use for non-medical purposes	67	3.5	1.7, 7.1	173	3.6	2.2, 5.7	222	4.5	2.9, 6.7

Drug use	3 years (n = 5234)			4 years (n = 3582)			5+ years (n = 2785)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
12-month illicit drug use	775	14.8	11.6, 18.7	382	10.7	7.8, 14.5	275	9.9	6.6, 14.4
12-month prescription drug use for non-medical purposes	337	6.5	4.4, 9.5	152	4.2	2.6, 6.9	81	2.9	1.5, 5.7

Note: 95% CI: 95% confidence interval

**Figure 5.22** Estimated proportions of Transitioned ADF reporting 12-month drug use, by years since transition



## 5.8 Generalised anxiety (GAD-7)

- An estimated 22.3% of the Transitioned ADF were in the moderate to severe category for general anxiety disorder (GAD) symptoms compared to an estimated 9.6% of the 2015 Regular ADF.
- The Transitioned ADF reported a significantly higher mean generalised anxiety total score than the 2015 Regular ADF.
- In the Transitioned ADF:
  - Ex-Serving ADF members were significantly more likely to experience symptoms of generalised anxiety than Active or Inactive Reservists.
  - There was no significant difference in the proportion of Transitioned ADF who were Active and Inactive Reservists reporting generalised anxiety symptoms.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

This section provides a detailed summary of the pattern of self-reported GAD symptoms reported by ADF members who transitioned from the Regular ADF between 2010 and 2014 (Transitioned ADF) compared to 2015 Regular ADF members.

The distribution of GAD symptoms in the Transitioned ADF compared to the 2015 Regular ADF will be reported first. The Generalised Anxiety Disorder 7-item Scale

(GAD-7) was not included in the 2010 ADF Mental Health Prevalence and Wellbeing Study; therefore, this section will not comment on changes in generalised anxiety in the Regular ADF since 2010. The section then reports on the distribution of GAD symptoms in the Transitioned ADF, transition status (Ex-Serving, Active Reservist, Inactive Reservist) and years since transition.

The GAD-7 (Spitzer, 2006) is a brief 7-item screening measure based on the Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition (DSM-IV) criteria for GAD. Originally validated for use in primary care, the GAD-7 performs well in detecting probable cases of GAD, with a sensitivity of 89% and a specificity of 82%. It is also moderately good at screening three other common anxiety disorders – panic disorder (sensitivity 74%, specificity 81%), social anxiety disorder (sensitivity 72%, specificity 80%) and PTSD (sensitivity 66%, specificity 81%) – in primary care settings [3]. Furthermore, increasing scores of generalised anxiety symptoms are associated with multiple types of functional impairment and self-reported disability days; therefore, high scores are strongly indicative of anxiety severity.

Respondents were instructed to rate the amount of time they experienced each of the seven symptoms the last 2 weeks, and questions were scored 1–3. Respondents used one of the following response options: ‘not at all (0)’ ‘several days’ (1), ‘more than half the days’ (2) and ‘nearly every day’ (3). Scores for the seven questions were then added up to give a total score of 0–21.

The categories of minimal (0–4), mild (5–9), moderate (10–14) and severe (15–21) used in this report are derived from 2740 primary care patients in the United States. When used as a screening tool, further evaluation is recommended if the score is 10 or greater.

### **5.8.1 Generalised anxiety symptoms in Transitioned ADF and 2015 Regular ADF**

Table 5.23 compares generalised anxiety symptoms as measured by the GAD-7 scoring bands in the Transitioned ADF and the 2015 Regular ADF.

The Transitioned ADF had significantly higher levels of self-reported symptoms of generalised anxiety than the 2015 Regular ADF, ( $p < 0.001$ ), and members were significantly more likely to score above the recommended screening cut-off of 10 (OR 2.4, 95% CI 1.8, 3.4).

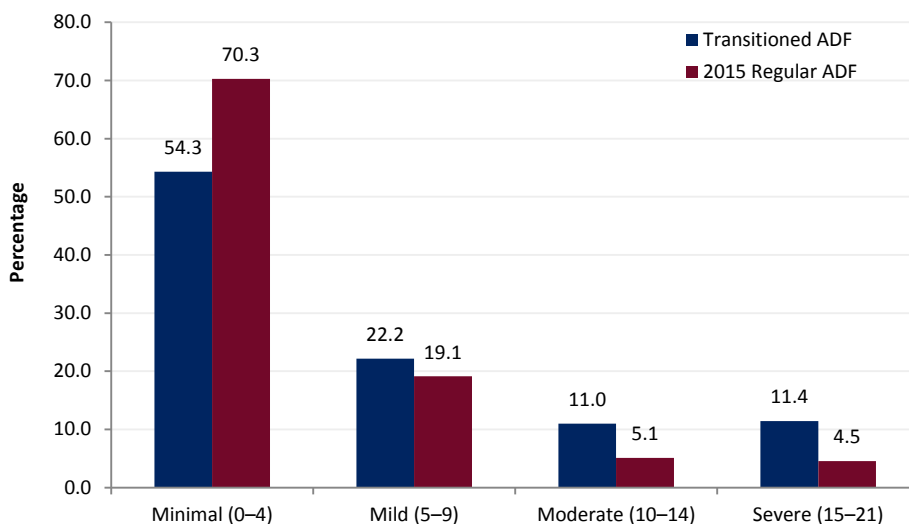


**Table 5.23 Estimated proportions of Transitioned ADF and entire 2015 Regular ADF for GAD-7 scoring bands for generalised anxiety disorder symptoms**

GAD-7 scoring bands	Transitioned ADF 2015 (n = 24,932)			2015 Regular ADF (n = 52,500)		
	Weighted n	%	95% CI	Weighted n	%	95% CI
Minimal (0–4)	13,545	54.3	52.5, 56.1	36,907	70.3	66.8, 73.6
Mild (5–9)	5523	22.2	20.7, 23.7	10,049	19.1	16.4, 22.2
Moderate (10–14)	2734	11.0	9.9, 12.2	2671	5.1	3.7, 6.9
Severe (15–21)	2850	11.4	10.3, 12.6	2384	4.5	2.9, 6.9
GAD-7 total score (M 95% CI)		16.8	12.6, 21.0		12.8	5.8, 19.9

Note: 95% CI: 95% confidence interval

**Figure 5.23 Estimated proportions of Transitioned ADF and entire 2015 Regular ADF for GAD-7 scoring bands for generalised anxiety disorder symptoms**



## 5.8.2 Generalised anxiety symptoms in different transition population subgroups

### *Generalised anxiety symptoms in Transitioned ADF members, by transition status*

Table 5.24 and Figure 5.26 compare generalised anxiety symptoms in Ex-Serving, Inactive and Active Reservists who transitioned from the Regular ADF between 2010 and 2014.

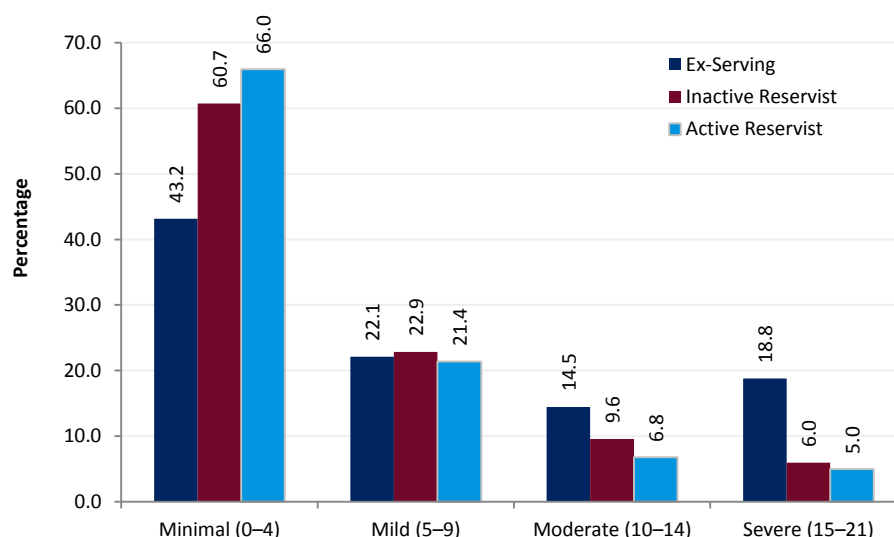
In 2015, Ex-Serving ADF members were significantly more likely to score above the GAD-7 screening cut-off of 10 compared to Inactive Reservists (OR 2.7, 95% CI 2.1, 3.5) or Active Reservists (OR 3.6, 95% CI 2.8, 4.7). There was no significant difference between Active Reservists and Inactive Reservists in the proportion scoring above the GAD-7 screening cut-off.

**Table 5.24** Estimated proportions of Transitioned ADF for GAD-7 scoring bands, by transition status

GAD-7 scoring bands	Ex-Serving (n = 11,440)			Inactive Reservist (n = 6447)			Active Reservist (n = 6968)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Minimal (0–4)	4936	43.2	40.3, 46.1	3915	60.7	57.2, 64.2	4596	66.0	62.9, 68.9
Mild (5–9)	2531	22.1	19.8, 24.6	1474	22.9	19.9, 26.0	1491	21.4	19.0, 24.0
Moderate (10–14)	1657	14.5	12.7, 16.5	618	9.6	7.6, 12.0	475	6.8	5.3, 8.8
Severe (15–21)	2150	18.8	16.7, 21.1	385	6.0	4.5, 7.9	346	5.0	3.7, 6.7
GAD-7 total score M 95% CI		7.4	7.1, 7.8		4.6	4.2, 4.9		3.9	3.6, 4.2

Note: 95% CI: 95% confidence interval

**Figure 5.24** Estimated proportions of Transitioned ADF for GAD-7 scoring bands, by transition status



**Generalised anxiety symptoms in Transitioned ADF members, by years since transition**

Table 5.25 compares the GAD-7 scoring bands for Transitioned ADF members, by years since transition.

Although overall the passing of time since transition did not significantly affect the scoring bands for generalised anxiety symptoms, ADF members who transitioned less than a year ago had significantly lower total scores for generalised anxiety symptoms than those who were three years post-transition, when the greatest increase in symptoms was observed.

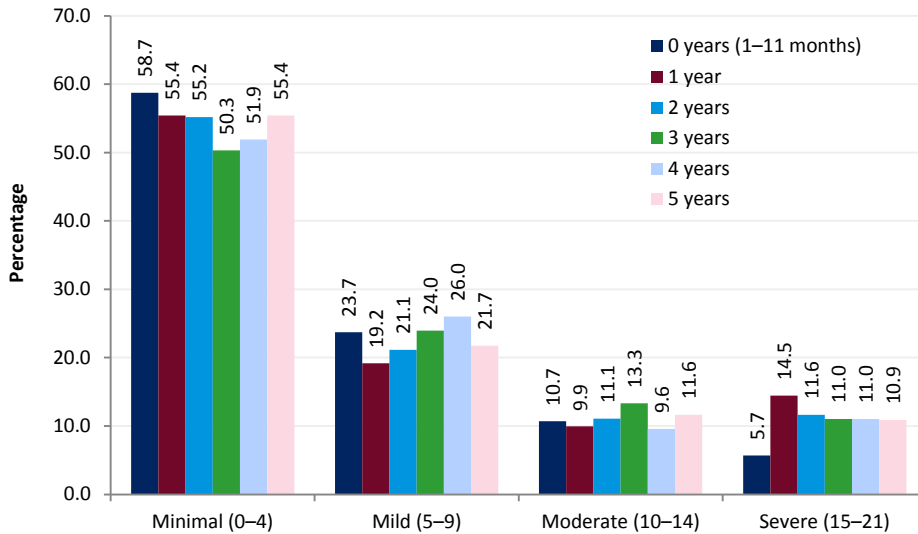
**Table 5.25 Proportion of Transitioned ADF in each of the GAD-7 scoring bands for GAD symptoms, by years since transition**

GAD-7 scoring bands	0 (1–11months) (n = 1945)			1 year (n = 4874)			2 years (n = 4944)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Minimal (0–4)	1142	58.7	52.4, 64.8	2702	55.4	51.4, 59.5	2729	55.2	50.9, 59.4
Mild (5–9)	462	23.7	18.6, 29.8	935	19.2	16.3, 22.5	1045	21.1	17.9, 24.7
Moderate (10–14)	208	10.7	7.2, 15.6	484	9.9	7.9, 12.5	547	11.1	8.6, 14.1
Severe (15–21)	111	5.7	4.0, 8.1	704	14.5	11.8, 17.7	574	11.6	9.2, 14.6
GAD-7 total score (M 95% CI)		15.8	5.2, 26.4		15.7	7.1, 24.2		15.2	6.4, 24.1

GAD-7 scoring bands	3 years (n = 5234)			4 years (n = 3582)			5+ years (n = 2785)		
	Weighted n	%	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Minimal (0–4)	2632	50.3	46.2, 54.4	1860	51.9	47.2, 56.6	1543	55.4	50.0, 60.7
Mild (5–9)	1254	24.0	20.6, 27.7	932	26.0	22.1, 30.4	605	21.7	17.6, 26.5
Moderate (10–14)	698	13.3	10.7, 16.5	343	9.6	7.2, 12.6	324	11.6	8.6, 15.5
Severe (15–21)	578	11.0	8.6, 14.1	395	11.0	8.5, 14.1	303	10.9	7.9, 14.7
GAD-7 total score (M 95% CI)		19.4	7.5, 31.4		20.5	7.0, 32.9		9.1	4.6, 13.6

Note: 95% CI: 95% confidence interval

**Figure 5.25 Proportion of Transitioned ADF in each of the GAD-7 scoring bands for GAD symptoms, by years since transition**



## 5.9 Deployment exposures

- An estimated 85% or more of the entire Transitioned ADF and 2015 Regular ADF have experienced a potentially adverse deployment exposure.
- Exposure to toxins was the most common exposure type, with more than 50% of Transitioned ADF and 2015 Regular ADF members reporting exposure to smoke, fumes, chemicals, and local food or water.
- Transitioned ADF members were significantly more likely to report the most deployment exposure types, except for potentially toxic/environmental exposures (smoke, fumes, chemicals, and local food or water), fear of encountering an improvised explosive device (IED) and coming under fire.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

This section provides a detailed summary of the estimated prevalence of self-reported lifetime deployment exposures among ADF members who transitioned from the Regular ADF between 2010 and 2014 (Transitioned ADF) compared to 2015 Regular ADF members. These potentially adverse events may or may not have had an impact on the physical or mental health of the deployed ADF member. However, they are included in this report to provide details of the background morbidity (in terms of risk and protective factors) in the Transitioned ADF and the 2015 Regular ADF.

Deployment exposure items in this section were drawn directly from the Middle East Area of Operations Census Study (Dobson et al., 2012). Participants were given a list of potential adverse exposures likely to be experienced on deployment and asked to indicate how many times they had experienced each one during their military career. Response categories ranged from 'never' to '10+ times'. Examples of events included exposure to 'hazardous materials', 'discharge of weapon in direct combat' and 'handled or saw dead bodies'. For this section, deployment exposures were included if the participant indicated they had been exposed once, 2–4 times, 5–9 times or 10+ times.

### **5.9.1 Deployment exposures in Transitioned ADF and 2015 Regular ADF**

Table 5.26 presents the distribution of deployment exposures in the Transitioned ADF and the 2015 Regular ADF.

Overall, more than 85% of both the Transitioned ADF and the 2015 Regular ADF reported experiencing a deployment exposure in their lifetime. Toxic exposures in particular (i.e. smoke, fumes, noise, chemicals, and local food and water) were the most common exposure type with 50% or more of both groups reporting exposure to these toxins.

The next most common exposure types in both the Transitioned ADF and the 2015 Regular ADF were being in danger of being killed or injured (46.8% and 39.4% respectively) and being concerned about self or others having an unauthorised discharge of a weapon (40.3% and 34.2% respectively).

Interestingly, Transitioned ADF members were significantly more likely to report the most deployment exposure types, except for toxic exposures (smoke, fumes, noise, chemicals, and local food or water), fear of encountering an improvised explosive device (IED) and coming under fire. (Significant differences are highlighted in bold in Table 5.26. See Annex B for detailed results.)

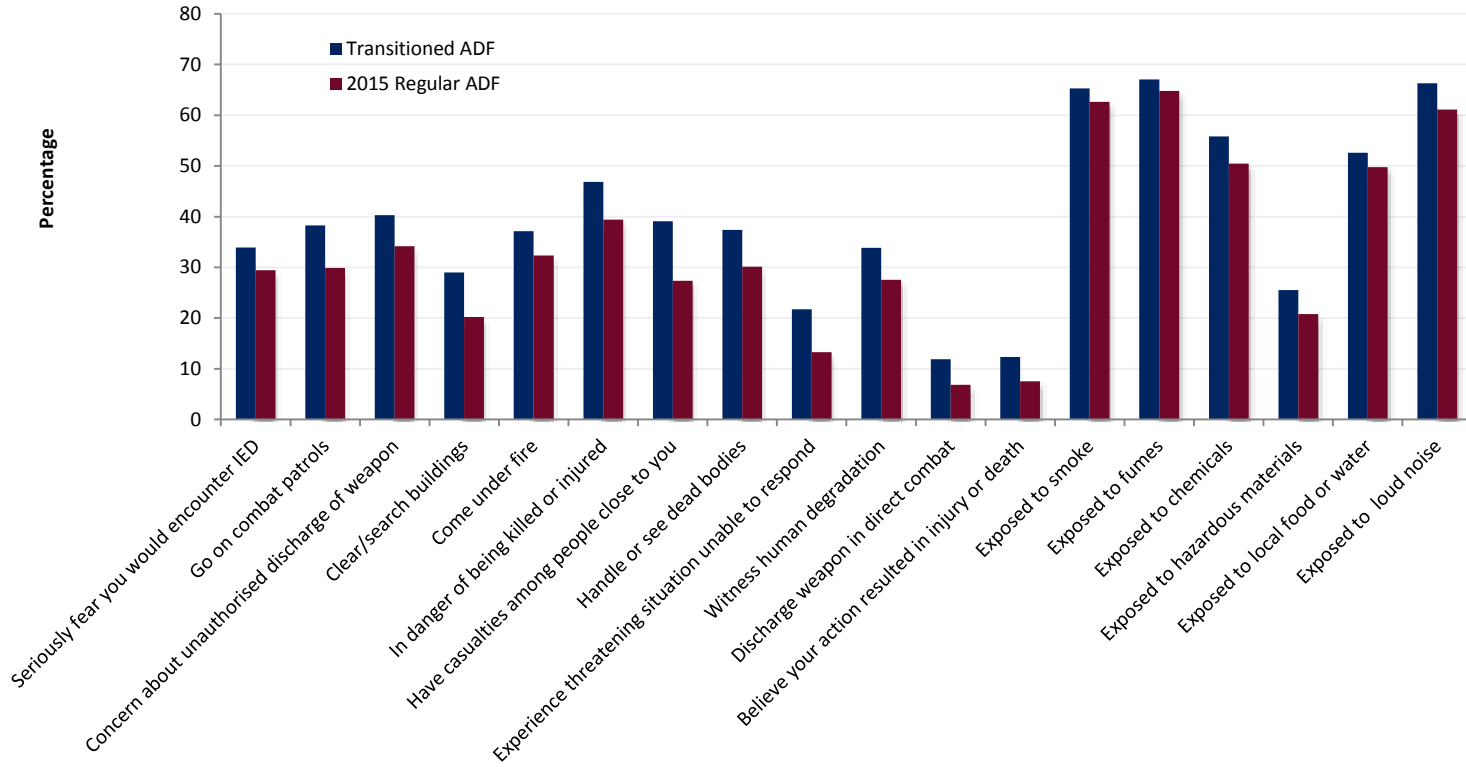
**Table 5.26 Estimated prevalence of deployment exposures in Transitioned ADF and 2015 Regular ADF**

	Transitioned ADF 2015 (n = 24,932)			2015 Regular ADF (n = 52,500)		
	Weighted n	%	95% CI	Weighted n	%	(95% CI)
Seriously fear you would encounter IED	8209	33.9	32.4, 35.5	15,187	29.5	26.5, 32.6
Go on combat patrols	9233	38.3	36.6, 39.9	15,375	29.9	26.9, 33.1
Concern about unauthorised discharge of weapon	9743	40.3	38.6, 42.1	17,574	34.2	30.9, 37.5
Clear/search buildings	6981	28.9	27.3, 30.7	10,383	20.2	17.5, 23.2
Come under fire	8950	37.1	35.5, 38.8	16,650	32.4	29.4, 35.1
In danger of being killed or injured	11,258	46.8	45.1, 48.6	20,217	39.4	36.1, 42.9
Have casualties among people close to you	9449	39.1	37.4, 40.8	14,017	27.3	24.4, 30.5
Handle or see dead bodies	9005	37.4	35.7, 39.1	15,434	30.2	27.2, 33.3
Experience threatening situation and unable to respond	5224	21.7	20.3, 23.2	6811	13.2	11.2, 15.6
Witness human degradation	8140	33.8	32.2, 35.6	14,150	27.5	24.9, 30.4
Discharge weapon in direct combat	2863	11.9	10.7, 13.1	3528	6.9	5.1, 9.1
Believe your action resulted in injury or death	2962	12.3	11.2, 13.5	3871	7.5	6.2, 9.1
Exposed to smoke	15,833	65.3	63.5, 67.0	32,162	62.7	59.0, 66.2
Exposed to fumes	16,314	67.0	65.3, 68.8	33,506	64.8	61.2, 68.3
Exposed to chemicals	13,466	55.8	53.9, 57.6	25,974	50.5	46.9, 54.0
Exposed to hazardous materials	6151	25.5	23.9, 27.2	10,634	20.8	18.2, 23.6
Exposed to local food or water	12,658	52.6	50.8, 54.4	25,748	49.8	46.3, 53.3
Exposed to close loud noise	16,129	66.3	64.5, 67.9	31,664	61.1	57.5, 64.7
Any lifetime deployment	18,146	89.8	88.4, 91.0	37,353	86.0	82.6, 88.8

\* See Annex B for odds ratios

Note: 95% CI: 95% confidence interval

Figure 5.26 Estimated prevalence of deployment exposures in Transitioned ADF, and 2015 Regular ADF



## 5.10 Self-reported lifetime trauma

- Overall, Transitioned ADF members reported significantly higher rates of lifetime trauma than 2015 Regular ADF members.
- The most common lifetime events were similar across both groups: seeing someone badly injured or killed or unexpectedly seeing a dead body; having someone close die unexpectedly; being in combat or being a peacekeeper; and being exposed to a toxic chemical that could cause harm.
- Overall, Transitioned ADF members reported significantly higher rates of most individual event types compared to 2015 Regular ADF members, with the largest differences observed for purposely injured/tortured/killed someone, being kidnapped or held captive, and being stalked.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

This section provides a detailed summary of the estimated prevalence of self-reported lifetime trauma among ADF members who transitioned from the Regular ADF between 2010 and 2014 (Transitioned ADF) compared to 2015 Regular ADF members. Estimates provided in this chapter may differ slightly from those reported in chapter 4 because they are drawn from the self-report survey and not from the clinical interview. This variation in rates between self-reported and interview-based methods of data collection are well known and readily acknowledged in the scientific literature (Bowling, 2005). The primary purpose of including self-reported trauma exposure in this section is to provide details of background morbidity, and to compare the rates of trauma exposure in the Transitioned ADF and the 2015 Regular ADF to provide valuable insight into the possible risk factors for poor mental health in these two populations.

The self-reported lifetime trauma exposure questions used in this section were drawn from the PTSD module of the CIDI (Haro et al., 2006). Participants were given a list of traumatic events and asked to indicate whether they had experienced each event. For each applicable event, participants had to provide further information, including 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 related to their ADF service. Participants then had to indicate the worst event.

This section reports only the prevalence of each trauma type.

### 5.10.1 Lifetime trauma exposure in Transitioned ADF and the 2015 Regular ADF

Table 5.27 presents the distribution of lifetime trauma in the Transitioned ADF and the 2015 Regular ADF.



Overall, Transitioned ADF reported significantly higher rates of lifetime trauma compared to the 2015 Regular ADF (OR 1.5, 95% CI 1.1, 1.9), with 77.0% (95% CI 75.3, 78.6) of the Transitioned ADF and 69.3% (95% CI 65.5, 72.7) of the 2015 Regular ADF reporting being exposed to a traumatic event in their lifetime.

Transitioned ADF members (mean (SE 2.9) (0.1)) also reported being exposed to a greater number of different lifetime traumatic events (mean (SE 2.2) (0.09)) than 2015 Regular ADF members.

The five most commonly reported events in both groups were seeing someone badly injured or killed or unexpectedly seeing a dead body (37.8% Transitioned ADF, 28.8% 2015 Regular ADF), having someone close die unexpectedly (29.1% vs 24.4%), combat (26.8% vs 18.4%), being a peacekeeper (25.8% vs 19.0%) and being exposed to a toxic chemical that could cause harm (25.6% vs 18.8%).

Overall, Transitioned ADF members reported significantly higher rates of most individual event types compared to 2015 Regular ADF members, with the largest differences observed for purposely injured/tortured/killed someone (OR 2.4, 95% CI 1.2, 4.8), being kidnapped or held captive (OR 2.0, 95% CI 1.3, 3.3) and being stalked (OR 2.0, 95% CI 1.6, 2.4). (Significant differences are highlighted in bold in Table 5.29. See Annex B for detailed results, including odds ratios.)

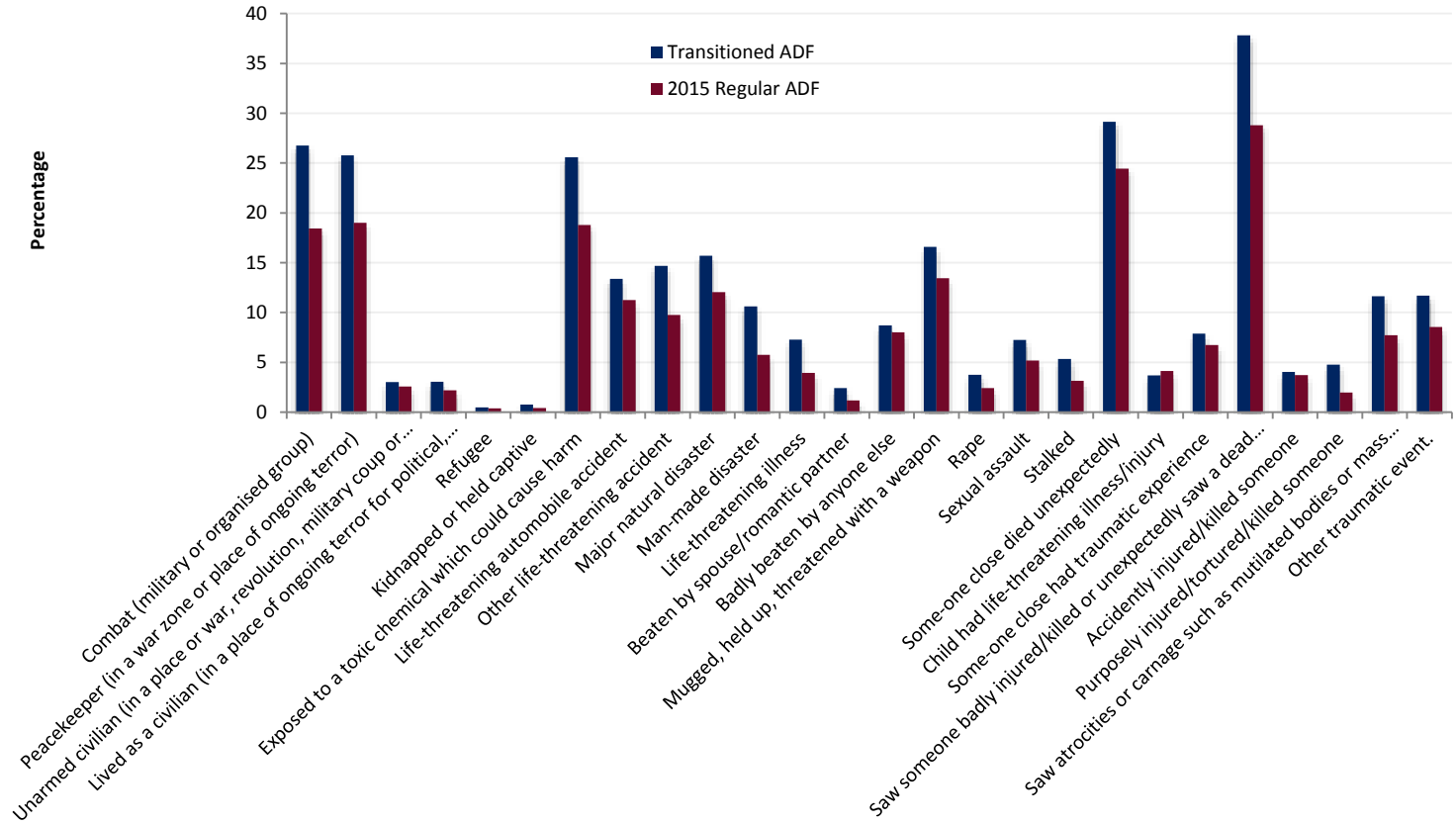
**Table 5.27 Estimated proportions of Transitioned ADF and 2015 Regular ADF who have experienced lifetime trauma**

	Transitioned ADF 2015 (N = 24,932)			2015 Regular ADF (N = 52,500)		
	Weighted n	%	95% CI	Weighted n	%	(95% CI)
Combat (military or organised group)	6597	26.8	25.2, 28.4	9626	18.4	15.9, 21.3
Peacekeeper (in a war zone or place of ongoing terror)	6332	25.8	24.3, 27.3	9877	19.0	17.1, 21.1
Unarmed civilian (in a place of war, revolution, military coup or invasion)	746	3.0	2.5, 3.8	1349	2.6	1.5, 4.4
Lived as a civilian (in a place of ongoing terror for political, ethnic, religious or other reason)	754	3.1	2.5, 3.7	1146	2.2	1.8, 2.7
Refugee	117	0.5	0.3, 0.8	200	0.4	0.2, 0.8
Kidnapped or held captive	190	0.8	0.5, 1.1	211	0.4	0.3, 0.6
Exposed to a toxic chemical that could cause harm	6203	25.6	24.0, 27.2	9663	18.8	16.3, 21.5
Life-threatening automobile accident	3266	13.4	12.2, 14.7	5832	11.3	9.3, 13.5
Other life-threatening accident	3569	14.7	13.4, 16.1	5051	9.8	7.8, 12.2
Major natural disaster	3833	15.7	14.4, 17.1	6269	12.1	10.1, 14.4
Man-made disaster	2589	10.6	9.5, 11.9	2980	5.8	4.4, 7.6
Life-threatening illness	1777	7.3	6.5, 8.2	2054	3.9	3.5, 4.5
Beaten by spouse/romantic partner	590	2.4	1.9, 3.1	606	1.2	0.9, 1.5
Badly beaten by anyone else	2124	8.7	7.7, 9.9	4121	8.0	6.1, 10.4
Mugged, held up, threatened with a weapon	4065	16.6	15.2, 18.1	7014	13.5	11.1, 16.2
Raped	916	3.8	3.2, 4.5	1254	2.4	1.6, 3.6
Sexually assaulted	1773	7.3	6.5, 8.2	2703	5.2	4.1, 6.6
Stalked	1302	5.3	4.6, 6.2	1644	3.2	2.3, 4.4
Someone close died unexpectedly	7127	29.1	27.5, 30.9	12,729	24.4	21.6, 27.5
Child had life-threatening illness/injury	900	3.7	3.2, 4.3	2149	4.1	3.1, 5.5
Someone close had traumatic experience	1928	7.9	6.9, 9.0	3493	6.7	5.1, 8.9
Saw someone badly injured/killed or unexpectedly saw a dead body	9226	37.8	36.0, 39.7	14,895	28.8	25.7, 32.1
Accidentally injured/killed someone	981	4.0	3.4, 4.8	1905	3.7	2.5, 5.4
Purposely injured/tortured/killed someone	1157	4.8	3.9, 5.7	1021	1.9	1.2, 3.4
Saw atrocities or carnage such as mutilated bodies or mass killings	2837	11.6	10.5, 12.8	4006	7.7	6.2, 9.7
Other traumatic event	2820	11.7	10.6, 12.9	4409	8.6	6.8, 10.8

\*See Annex B for odds ratios

Note: 95% CI: 95% confidence interval

Figure 5.27 Estimated proportion of Transitioned ADF and 2015 Regular ADF who have experienced lifetime trauma





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## 6 Comparison of the mental health of Transitioned ADF with the Australian Community in 2015

- National and International research has demonstrated that military service – both nationally and internationally – places high demands on those who serve.
- The 2010 ADF Mental Health Prevalence and Wellbeing Study (MHPWS) showed that ADF members experienced a significantly higher prevalence of lifetime trauma (both deployment-related and pre-enlistment trauma) compared to a socio-demographically matched Australian Community (using Australian Bureau of Statistics (ABS) data).
- The 2010 MHPWS study showed that the 2010 Regular ADF had a significantly higher prevalence of 12-month depressive episodes and posttraumatic stress compared to the Australian Community.
- The increased risk of lifetime trauma exposure and mental disorder in ADF members, combined with transition related stressors places Transitioned ADF members at particular risk as they assimilate back into civilian society which has clear implications for service provision and support.
- In this chapter, key measures of mental health are compared between Transitioned ADF members and a stratified sample of the Australian Community, placing the mental health of Transitioned ADF members within the civilian context.
- Comparisons between the Transitioned ADF and the Australian Community were made using contemporaneous data obtained from the ABS 2014–2015 ABS National Health Survey (NHS) – in particular, data on the Kessler Psychological Distress Scale (K10) and a number of ‘alcohol use’ questions.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

Very little systematic research has been conducted into the mental health and wellbeing of Transitioned ADF members after they leave the Regular ADF. This is despite widespread concern among Ex-Serving ADF and the broader community, and acknowledgment that transition from regular military service and reintegration into civilian life is a significant stressor (Ashcroft, 2014; Pease et al., 2016).

National and international research has demonstrated that military service – both nationally and internationally – places high demands on those who serve. It can include exposure to extreme physical, psychological and mental stressors above and beyond

what is experienced by those in the community (Dobson et al., 2012; Thompson et al., 2015).

The 2010 MHPWS, for example, showed that ADF members experienced a significantly higher prevalence of lifetime trauma compared to a socio-demographically matched Australian Community (ABS). The largest prevalence differences reported between the 2010 ADF and the Australian Community were for traumas loosely categorised as ‘deployment-related’. They include combat (as a member of a military or organised non-military group), serving as a peacekeeper or relief worker in a war zone, and witnessing atrocities or carnage such as mutilated bodies or mass killings. In all categories, members of the 2010 Regular ADF reported significantly higher rates compared to the Australian Community, which is not unanticipated given the role that deployment plays in the careers of ADF members (Van Hooff et al., 2012).

Interestingly, the increased rates of trauma exposure were not limited to deployments, but included a significantly greater prevalence of pre-enlistment trauma. The lifetime rates of sexual trauma, such as experiencing rape and sexual assault, and some interpersonal traumas, such as witnessing domestic violence, were also significantly more prevalent in the 2010 Regular ADF than in the Australian Community, with the majority of these events first occurring before enlistment (Van Hooff et al., 2012).

Importantly, compared to the Australian Community, members of the 2010 Regular ADF also reported a significantly higher prevalence of affective disorders as classified by the International Statistical Classification of Diseases and Related Health Problems – 10th Revision (ICD-10). Specifically, they experience more 12-month depressive episodes and posttraumatic stress disorder (PTSD) (McFarlane et al., 2011). This increased risk of lifetime trauma exposure and mental disorder before transition, combined with transition-related changes to identity, roles, social networks, employment, finances and community, places Transitioned ADF members at higher risk as they assimilate back into civilian society.

Whether the impacts of military service emerge before transition or in the months or years following transition, there are clear implications for the delivery of services and provision of appropriate support in the community. Therefore, this chapter compares key measures of mental health between Transitioned ADF members, and a stratified sample of the Australian Community, placing the mental health of Transitioned ADF members within the civilian context.

The 2010 MHPWS directly compared the prevalence of ICD-10 mental disorder in the 2010 Regular ADF with the Australian Community in 2007. However, it is not possible to do so in this report because the most recent estimates of mental disorder in the Australian Community are more than seven years old. Instead, contemporaneous data from the 2014–2015 NHS (Australian Bureau of Statistics, 2015) was used, but was

limited to comparable data – the K10 and a number of ‘alcohol use’ questions were taken from the NHS (see section 7.2 for details of questions used).

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 NHS 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 (consistent with the Transitioned ADF). The NHS 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 reporting estimated rates in each of the populations, this chapter also compares rates according to two key demographic factors: sex (male, female) and age: 18–27, 28–37, 38–47, 48–57 and 58+.

Significant differences were determined by calculating the confidence intervals on the difference in proportions, and if these included unity, they were not significant.

Further details about how each of the measures was scored are provided in the relevant subsections that follow.

## 6.1 Psychological distress (K10) in Transitioned ADF compared to the Australian Community in 2015

- Levels of psychological distress in the Transitioned ADF were significantly higher than in the Australian Community.
- Almost three times more Transitioned ADF members scored in the high to very high psychological distress bands (33.1%) compared to the Australian Community (12.8%).
- The largest difference between the Transitioned ADF and the Australian Community was in the very high scoring band on the K10 for psychological distress where nearly one in five Transitioned ADF scored in this band compared with just under 5% of the Australian Community.
- Patterns of psychological distress were similar in both populations for males and females.
- Transitioned ADF members across all age bands were significantly more likely to fall in the high to very high scoring band, and were significantly less likely to score in the low band for psychological distress compared to the Australian Community.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

This section provides a detailed summary of the pattern of psychological distress reported by Regular ADF members who transitioned between 2010 and 2014 (Transitioned ADF) compared to a matched sample of the Australian Community, by the key demographic variables of sex and age.

First, the section will report on the distribution of K10 symptoms of psychological distress for the Transitioned ADF compared to the Australian Community. It will then compare the distribution of K10 symptoms by the categories of sex and age.

The K10 is a 10-item screening questionnaire for psychological distress that was developed for use in the United States National Health Interview Survey (US-NHIS) (Kessler et al., 2002). Originally designed as a short, easily administered screen for psychological distress, the K10 is typically used to inform and complement clinical interviews and quantify levels of distress in those needing treatment. The ADF commonly uses it for mental health screening.

Respondents were instructed to rate the amount of time they had experienced one of 10 emotional states during the last four weeks (for example, 'tired for no good reason' or 'felt nervous, hopeless or depressed'). The 10 questions were scored 1–5, with the respondent indicating how often they felt that way, using one of the following response options: 'all of the time' (5), 'most of the time' (4), 'some of the time' (3), 'a little of the time' (2) or 'none of the time' (1). Scores for the 10 questions were then added up to give a total score from 10–50. The four scoring bands (low (10–15), moderate (16–21), high (22–29) and very high (30–50)) in this report are derived from the K10 cut-offs in the National Survey of Mental Health and Wellbeing (Australian Bureau of Statistics, 2008; Slade et al., 2009), and were also used to identify levels of psychological distress in the 2010 ADF MHPWS.

### **6.1.1 Psychological distress in the Transitioned ADF compared to the Australian Community**

Table 6.1 and Figure 6.1 present the distribution of psychological distress, according to the K10 scoring bands, for the entire Transitioned ADF.

Levels of psychological distress in the Transitioned ADF were significantly higher than in the Australian Community (as evidenced by the confidence intervals around the mean difference in proportions in Table 6.1 below not crossing unity). The proportion of Transitioned ADF scoring in the low band on the K10 (47.7%, 95% CI 45.9, 49.6) was significantly lower than in the Australian Community (66.3%, 95% CI 64.5, 68.2). In contrast, the proportion scoring in the high to very high band was significantly higher, at just over 33% in the Transitioned ADF compared to approximately 13% of the Australian Community. The largest difference between the Transitioned ADF and the Australian Community was in the very high scoring band, where nearly one in five



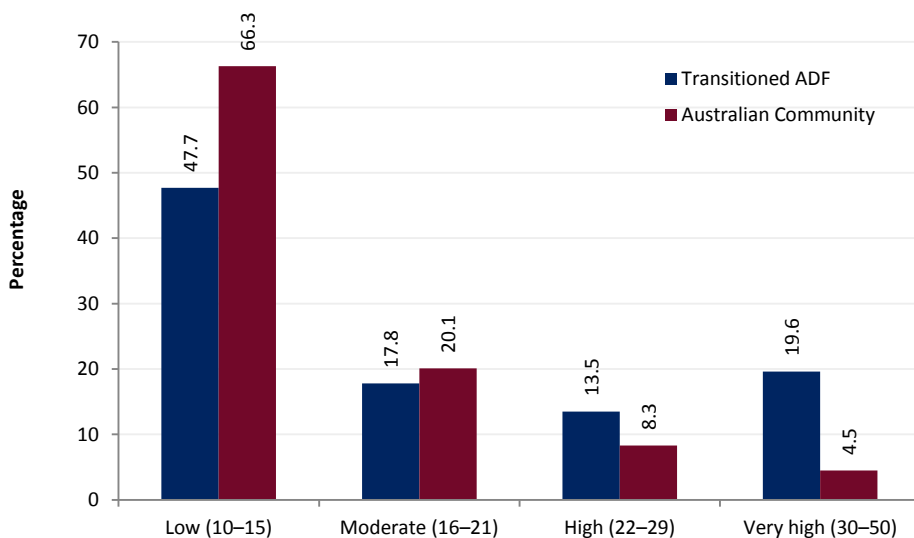
Transitioned ADF scored (19.6%, 95% CI 18.2, 21.1) compared to just under 5% of the Australian Community (4.5%, 95% CI 3.5, 5.5).

**Table 6.1** Estimated prevalence of psychological distress in the Transitioned ADF compared to the Australian Community using K10 scoring bands

	Transitioned ADF (n = 24,932)			Australian Community			Difference		
	%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
Low (10–15)	47.7	0.9	45.9, 49.6	66.3	0.9	64.5, 68.2	-18.6	1.3	-21.2, -15.9
Moderate (16–21)	17.8	0.7	16.4, 19.3	20.1	0.8	18.6, 21.6	-2.3	1.0	-4.3, -0.2
High (22–29)	13.5	0.7	12.3, 14.8	8.3	0.6	7.1, 9.4	5.3	0.9	3.5, 6.9
Very high (30–50)	19.6	0.7	18.2, 21.1	4.5	0.5	3.5, 5.5	15.1	0.9	13.3, 16.9

Note: 95% CI: 95% confidence interval

**Figure 6.1** Estimated prevalence of psychological distress in the Transitioned ADF compared to the Australian Community using K10 scoring bands

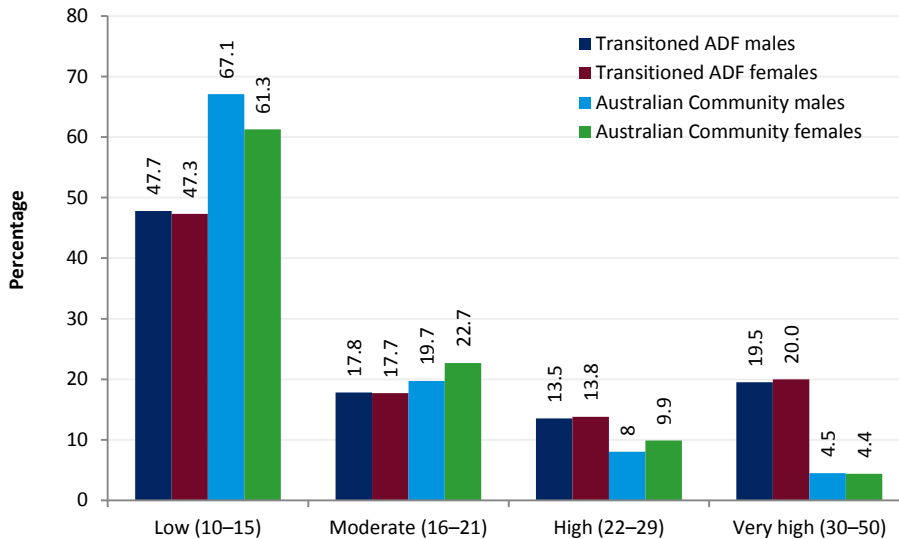


### 6.1.2 Psychological distress, by sex

Table 6.2 shows the distribution of psychological distress for males and females in the Transitioned ADF compared to the Australian Community. Patterns of psychological distress were similar in both populations for males and females. Similar to the overall pattern of results observed in the entire populations (Table 6.1 above), Transitioned ADF males were significantly more likely to score in the high to very high bands on the K10 compared to the Australian Community, and were significantly less likely to score

in the low band. The same pattern was apparent for females, with Transitioned ADF females also significantly less likely to score in the moderate band.

**Figure 6.2** Estimated proportions of Transitioned ADF compared to the Australian Community in the K10 scoring bands for psychological distress, by sex



### 6.1.3 Psychological distress, by age

Table 6.3 and Figure 6.3 summarise levels of psychological distress in the Transitioned ADF and the Australian Community, by age band. As can be seen in Table 6.3, the Transitioned ADF in all age bands (except those aged 18–27) were significantly more likely to score in the high to very high scoring band. In contrast, they were significantly less likely to score in the low band for psychological distress compared to the Australian Community (Transitioned ADF members in the 18–27 age band were significantly more likely to score in the very high-scoring band only). Approximately 20% of each age group in the Transitioned ADF scored in the very high band on the K10 compared to just under 5% of the Australian Community sample. The only exception was those aged over 58. Around 13% of the Transitioned ADF aged over 58 scored in the very high band of the K10 compared to just under 3% of the Australian Community. Overall, the proportion of Transitioned ADF scoring in the high to very high K10 bands for psychological distress decreased after age 47, but remained relatively stable in the Australian Community.

**Table 6.2** Estimated proportions of Transitioned ADF compared to the Australian Community in the K10 scoring bands for psychological distress, by sex

		Transitioned ADF (n = 24,932)			Australian Community			Difference		
		%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
Male	Low (10–15)	47.8	1.0	45.8, 49.8	67.1	1.1	64.9, 69.2	-19.3	1.5	-22.1, -16.4
	Moderate (16–21)	17.8	0.8	16.3, 19.4	19.7	0.9	16.3, 19.4	-1.9	1.2	-4.2, 0.4
	High (22–29)	13.5	0.7	12.2, 14.9	8.0	0.7	6.7, 9.3	5.5	0.9	3.6, 7.4
	Very high (30–50)	19.5	0.8	17.9, 21.2	4.5	0.6	3.3, 5.7	15.0	1.0	13.1, 16.9
Female	Low (10–15)	47.3	2.2	43.1, 51.6	61.3	1.0	59.4, 63.2	-14.0	2.4	-18.6, -9.4
	Moderate (16–21)	17.7	1.7	14.6, 21.3	22.7	0.8	21.0, 24.3	-4.9	1.9	-8.7, -1.2
	High (22–29)	13.8	1.6	10.9, 17.2	9.9	0.5	8.9, 11.1	3.8	1.7	0.5, 7.1
	Very high (30–50)	20.0	1.7	16.9, 23.6	4.4	0.4	3.6, 5.2	15.6	1.8	12.1, 19.1

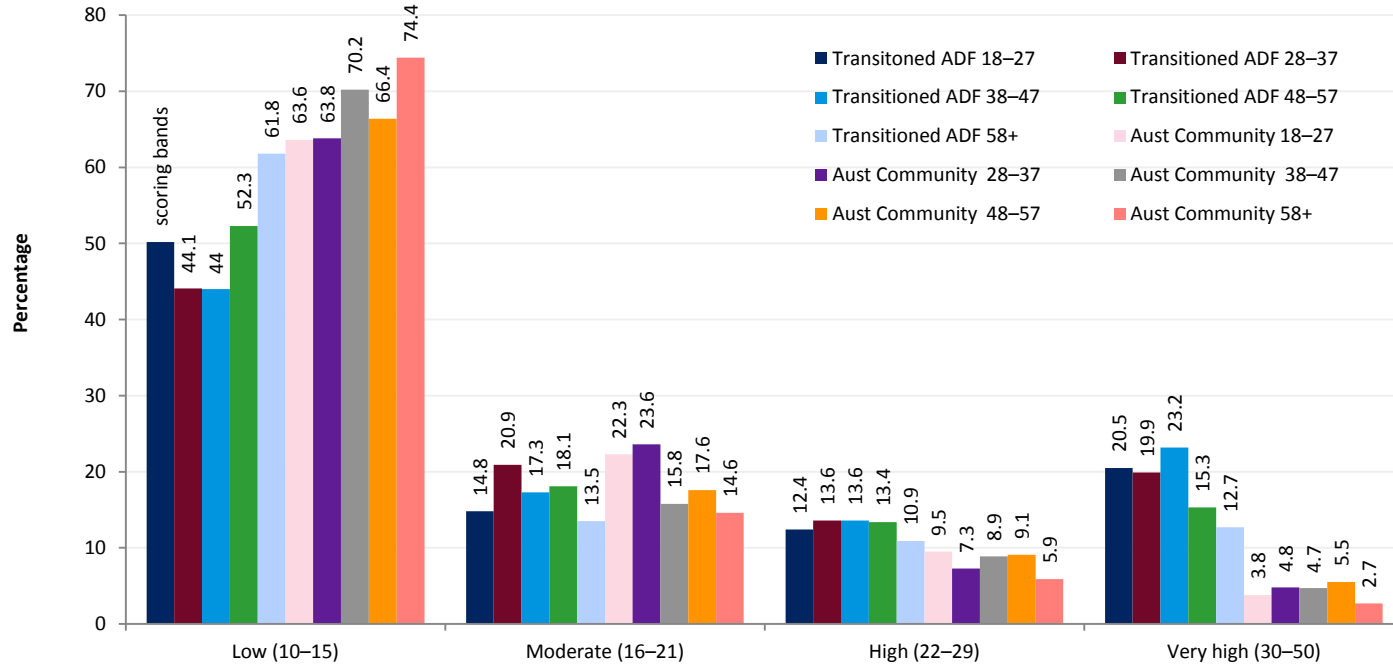
Note: 95% CI: 95% confidence interval

**Table 6.3 Estimated prevalence of Transitioned ADF compared to the Australian Community in the K10 scoring bands for psychological distress, by age**

		Transitioned ADF (n = 24,932)			Australian Community			Difference		
		%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
18–27	Low (10–15)	50.2	2.6	45.1, 55.2	63.6	2.3	59.0, 68.1	-13.4	3.5	-20.2, -6.7
	Moderate (16–21)	14.8	1.8	11.6, 18.7	22.3	1.8	18.7, 25.8	-7.5	2.6	-12.5, -2.4
	High (22–29)	12.4	1.7	9.5, 16.1	9.5	1.2	7.2, 11.7	2.9	2.0	-1.1, 6.9
	Very high (30–50)	20.5	2.0	16.8, 24.7	3.8	0.7	2.5, 5.2	16.6	2.1	12.4, 20.7
28–37	Low (10–15)	44.1	1.7	40.8, 47.4	63.8	1.9	60.2, 67.5	-19.7	2.5	-24.7, -14.7
	Moderate (16–21)	20.9	1.5	18.2, 24.0	23.6	1.6	20.5, 26.6	-2.6	2.1	-6.8, 1.6
	High (22–29)	13.6	1.2	11.4, 16.1	7.3	61.1	5.1, 9.6	6.3	1.7	3.0, 9.5
	Very high (30–50)	19.9	1.4	17.4, 22.7	4.8	1.1	2.5, 7.0	15.2	1.8	11.7, 18.6
38–47	Low (10–15)	44.0	1.7	40.7, 47.4	70.2	1.7	66.9, 73.5	-26.2	2.4	-30.9, -21.5
	Moderate (16–21)	17.3	1.2	13.4, 18.2	15.8	1.2	13.4, 18.2	1.5	1.7	-1.9, 4.9
	High (22–29)	13.6	1.2	44.4, 16.1	8.9	1.5	5.9, 11.8	6.0	1.9	2.2, 9.8
	Very high (30–50)	23.2	1.5	20.4, 26.3	4.7	1.1	2.5, 7.0	183.5	1.9	14.8, 22.2
48–57	Low (10–15)	52.3	1.8	48.8, 55.8	66.4	1.5	63.4, 69.4	-14.1	2.4	-18.7, -9.5
	Moderate (16–21)	18.1	1.2	15.2, 20.0	17.6	1.2	15.2, 19.9	-0.5	1.8	-3.0, 4.1
	High (22–29)	13.4	1.2	11.2, 16.1	9.1	1.1	7.0, 11.2	4.3	1.6	1.1, 7.5
	Very high (30–50)	15.3	1.2	13.0, 17.9	5.5	1.0	3.5, 7.5	9.8	1.6	6.7, 12.9
58+	Low (10–15)	61.8	2.0	57.7, 65.6	74.4	1.4	71.7, 77.1	-12.7	2.4	-17.4, -7.9
	Moderate (16–21)	13.5	1.3	11.2, 16.2	14.6	1.3	12.0, 17.2	-1.1	1.8	-4.6, 2.5
	High (22–29)	10.9	1.2	8.9, 13.4	5.9	0.7	4.6, 7.2	5.0	1.3	2.4, 7.6
	Very high (30–50)	12.7	1.6	9.8, 16.2	2.7	0.6	1.5, 4.0	9.9	1.7	6.5, 13.3

Note: 95% CI: 95% confidence interval

**Figure 6.3** Estimated prevalence of psychological distress in Transitioned ADF compared to the Australian Community using the K10 scoring bands, by age



## 6.2 Alcohol use and problem drinking in the Transitioned ADF compared to the Australian Community in 2015

### Frequency of alcohol consumption in the last 12 months

- Overall, alcohol was most often consumed weekly in the Transitioned ADF and the Australian Community (Transitioned ADF: 47.6%; Australian Community: 45.4%), with a smaller proportion consuming alcohol monthly (Transitioned ADF: 26.1%; Australian Community: 20.1%) and less than monthly (Transitioned ADF: 14.1%; Australian Community: 13.0%).
- Only a small proportion of the Australian Community (5.1%) and the Transitioned ADF (4.3%) reported drinking daily.
- Compared to the Australian Community, a significantly higher proportion of the Transitioned ADF reported drinking monthly, with this pattern mostly explained by Transitioned ADF males.
- In contrast, a significantly higher proportion of Transitioned ADF females reported drinking daily, weekly and monthly compared to Australian Community females.
- Transitioned ADF members aged 28–57 were significantly more likely to drink weekly or monthly compared to their Australian Community counterparts, whereas Transitioned ADF members aged over 58 were significantly less likely to drink daily, and significantly more likely to drink weekly or monthly.
- There were no differences between the Transitioned ADF and the Australian Community in the frequency of alcohol consumed in the last 12 months in the 18–27 age group.

### Maximum number of standard alcoholic drinks consumed on a single occasion in the last 12 months

- Overall, members of the Australian Community drank more standard drinks on a single occasion in the last 12 months than members of the Transitioned ADF. Additionally, a significantly higher proportion of the Australian Community (48.3%) drank seven or more standard drinks on a single occasion compared to the Transitioned ADF (33.2%). This pattern was particularly salient among Australian Community males.
- Compared to Transitioned ADF males, Australian Community males were also significantly more likely to report drinking only one or two standard drinks on a single occasion.
- For females, the only significant differences between the two groups were for those who drank 11 or more standard drinks in one day – Australian Community females were significantly more likely to do this than Transitioned ADF females.
- Australian Community members in all age groups were significantly more likely to report drinking 11 or more drinks on a single occasion in the last 12 months compared to the Transitioned ADF.

**Glossary:** refer to the Glossary of terms for definitions of key terms in this section.

This section provides a detailed summary of the pattern of alcohol consumption reported by ADF members who transitioned from the Regular ADF between 2010 and 2014 (Transitioned ADF) compared to a matched sample of the Australian Community, by the key demographic variables of sex and age.

The 'alcohol use' questions in this section are derived from the 2014–15 NHS (Australian Bureau of Statistics, 2015) and addressed the following:

*Frequency of alcohol consumption in the last 12 months:*

Defined as the estimated proportion of the Transitioned ADF and the Australian Community that reported consuming an alcoholic drink:

- a. daily
- b. weekly
- c. monthly
- d. less than monthly.

*Maximum amount of standard alcoholic drinks consumed on a single occasion in the last 12 months:*

Defined as the estimated proportion of the Transitioned ADF and the Australian Community that reported their maximum number of drinks to be:

- a. 11 or more standard drinks in one day
- b. between seven and 10 standard drinks in one day
- c. five or six standard drinks in one day
- d. three or four standard drinks in one day
- e. one or two standard drinks in one day.

The pattern of alcohol consumption (frequency and maximum number of drinks) in the Transitioned ADF compared to the Australian Community will be reported first. Next, the pattern of alcohol consumption in the Transitioned ADF population and the Australian Community, by the categories of sex and age, will be presented.

### 6.2.1 Frequency of alcohol consumption in the last 12 months in the Transitioned ADF compared to the Australian Community

Table 6.4 and Figure 6.4 compare the frequency of alcohol consumption in the Transitioned ADF and Australian Community.

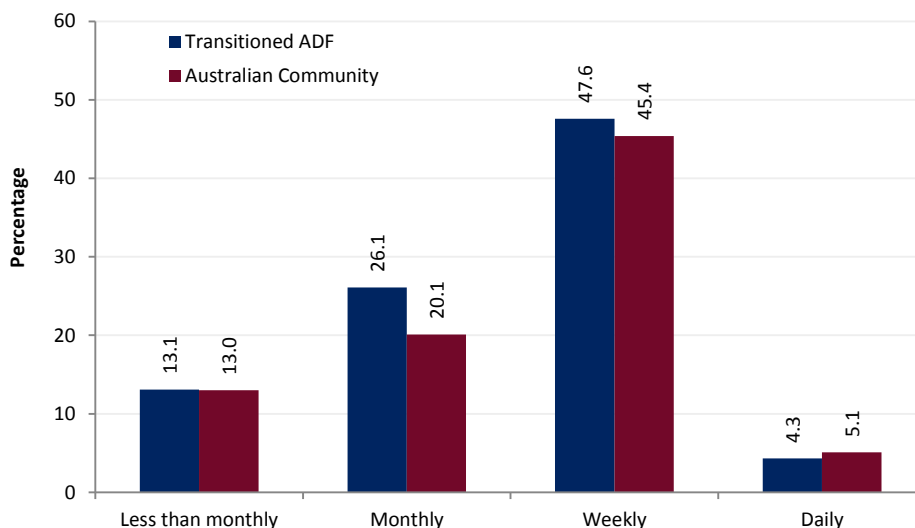
**Table 6.4** Estimated proportions for frequency of alcohol consumption in Transitioned ADF compared to the Australian Community in the last 12 months

	Transitioned ADF (n = 24,932)			Australian Community			Difference		
	%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
Daily	4.3	0.4	3.6, 5.0	5.1	0.4	4.4, 5.8	-0.8	0.5	-1.8, 0.2
Weekly	47.6	0.1	45.6, 49.5	45.4	1.0	43.5, 47.3	2.2	1.4	-0.5, 4.8
Monthly	26.1	0.9	24.4, 27.9	20.1	0.9	18.4, 21.8	6.0	1.3	3.5, 8.5
Less than monthly	14.1	0.7	12.8, 15.6	13.0	0.6	11.8, 14.3	1.1	0.9	-0.8, 2.9

Note: 95% CI: 95% confidence interval

Overall, most individuals in both groups reported drinking weekly (approximately 45–48%), followed by monthly and less than monthly. Only 5.1% of the Australian Community and 4.3% of the Transitioned ADF reported drinking daily. A significantly higher proportion of the Transitioned ADF than the Australian Community reported drinking monthly. There were no significant differences in the proportion of each group who reported drinking daily, weekly or less than monthly.

**Figure 6.4** Estimated proportions for frequency of alcohol consumption in Transitioned ADF compared to the Australian Community in the last 12 months





### 6.2.2 Maximum number of standard alcoholic drinks consumed on a single occasion in the last 12 months in the Transitioned ADF compared to the Australian Community

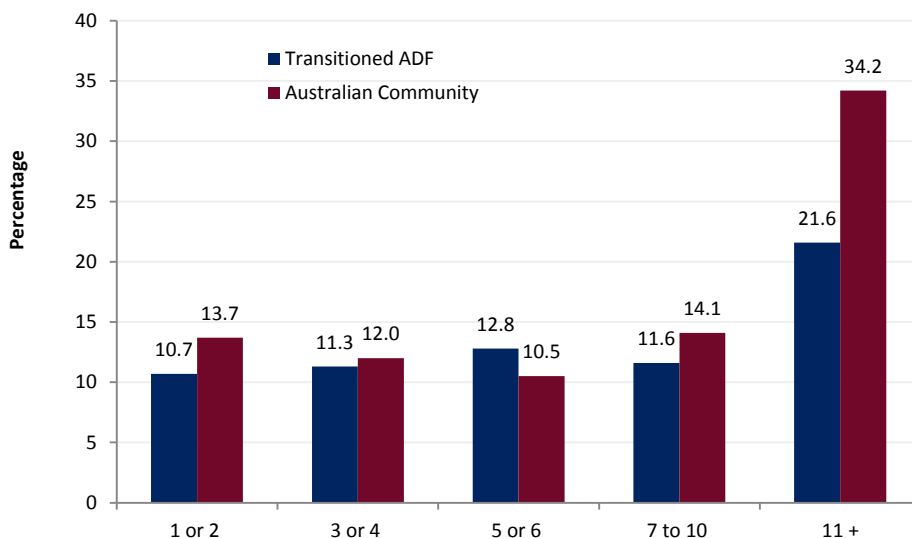
Table 6.5 and Figure 6.5 examine the maximum number of standard drinks consumed on a single occasion in the past 12 months in the Transitioned ADF and the Australian Community. Overall, members of the Australian Community drank more standard drinks on a single occasion in the previous 12 months than members of the Transitioned ADF. Additionally, a significantly higher proportion of the Australian Community (48.3%) drank seven or more standard drinks on a single occasion than the Transitioned ADF (33.2%). Members of the Australian Community were significantly less likely than members of the Transitioned ADF to drink five or six standard drinks per day.

**Table 6.5** Estimated proportions for maximum number of standard drinks consumed on a single occasion in the last 12 months in Transitioned ADF compared to Australian Community

	Transitioned ADF (n = 24,932)			Australian Community			Difference		
	%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
11 +	21.6	0.9	19.9, 23.3	34.2	1.0	32.3, 36.1	-12.6	1.3	-15.2, 10.1
7-10	11.6	0.6	10.4, 12.9	14.1	0.7	12.7, 15.4	-2.4	0.9	-4.3, -0.6
5-6	12.8	0.6	11.6, 14.7	10.5	0.6	9.4, 11.6	2.3	0.8	0.6, 3.9
3-4	11.3	0.6	10.2, 12.5	12.0	0.7	10.6, 12.5	-0.7	0.9	-2.6, 1.1
1-2	10.7	0.6	9.7, 11.8	13.7	0.6	12.5, 14.9	-3.0	0.8	-4.7, -1.4

Note: 95% CI: 95% confidence interval

**Figure 6.5** Estimated proportions for maximum number of standard drinks consumed on a single occasion in the last 12 months in Transitioned ADF compared to Australian Community



### 6.2.3 Frequency of alcohol consumption in last 12 months in the Transitioned ADF compared to the Australian Community, by sex

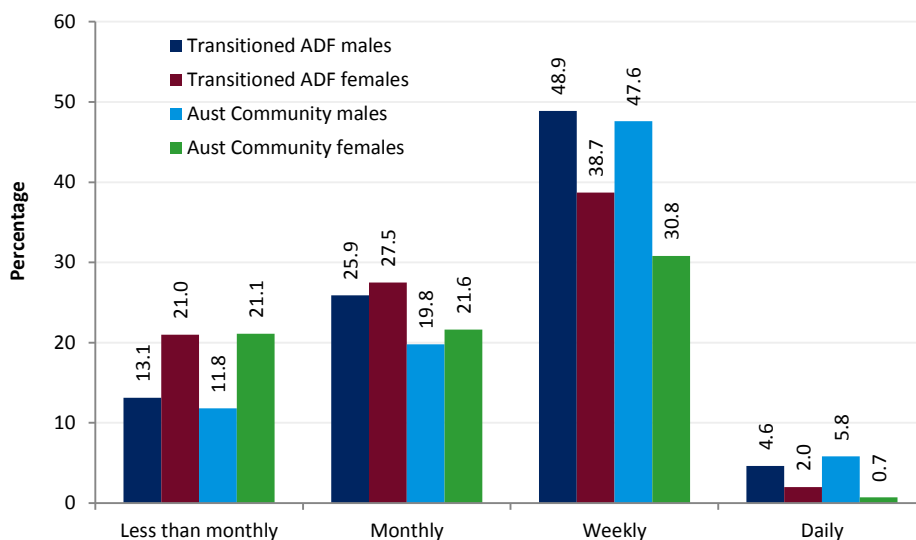
Table 6.6 and Figure 6.6 show the frequency of alcohol consumption in the previous 12 months. When frequency of alcohol consumption in the last 12 months is broken down by sex (Table 6.6, Figure 6.6), males in the Transitioned ADF (25.9% 95% CI 23.9, 27.8) are significantly more likely to drink monthly than males in the Australian Community (19.8, 95% CI 17.9, 21.8). In contrast, Transitioned ADF females are significantly more likely to drink daily (2.0% 95% CI 1.3, 2.9, Australian Community 0.7 95% CI 0.5, 0.9), weekly (38.7% 95% CI 34.5, 43.0, Australian Community 30.8% 95% CI 29.1, 32.6) and monthly (27.5% 95% CI 23.6, 31.9, Australian Community 21.6% 95% 19.9, 23.3) than their community counterparts.

**Table 6.6 Estimated proportions for frequency of alcohol consumption in Transitioned ADF compared to the Australian Community in the last 12 months, by sex**

		Transitioned ADF (n = 24,932)			Australian Community			Difference		
		%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
Male	Daily	4.6	0.4	3.9, 5.5	5.8	0.4	4.9, 6.5	-0.8	0.5	-1.8, 0.2
	Weekly	48.9	1.1	46.8, 51.0	47.6	1.1	45.5, 49.7	1.3	1.5	-1.7, 4.3
	Monthly	25.9	0.9	23.9, 27.8	19.8	1.0	17.9, 21.8	6.0	1.4	3.3, 8.8
	Less than monthly	13.1	0.8	11.6, 14.7	11.8	0.7	10.4, 13.2	1.3	1.1	-0.8, 3.3
Female	Daily	2.0	0.4	1.3, 2.9	0.7	0.1	0.5, 0.9	1.3	0.4	0.4, 2.1
	Weekly	38.7	2.2	34.5, 43.0	30.8	0.9	29.1, 32.6	7.8	2.4	3.2, 12.4
	Monthly	27.5	2.1	23.6, 31.9	21.6	0.9	19.9, 23.3	5.9	2.3	1.4, 10.4
	Less than monthly	21.0	1.9	17.5, 25.0	21.1	0.8	19.4, 22.7	-0.1	2.1	-4.2, 4.0

Note: 95% CI: 95% confidence interval

**Figure 6.6 Estimated proportions for frequency of alcohol consumption in Transitioned ADF compared to Australian Community in the last 12 months, by sex**



#### 6.2.4 Maximum number of standard alcoholic drinks consumed on a single occasion in the last 12 months in Transitioned ADF compared to Australian Community, by sex

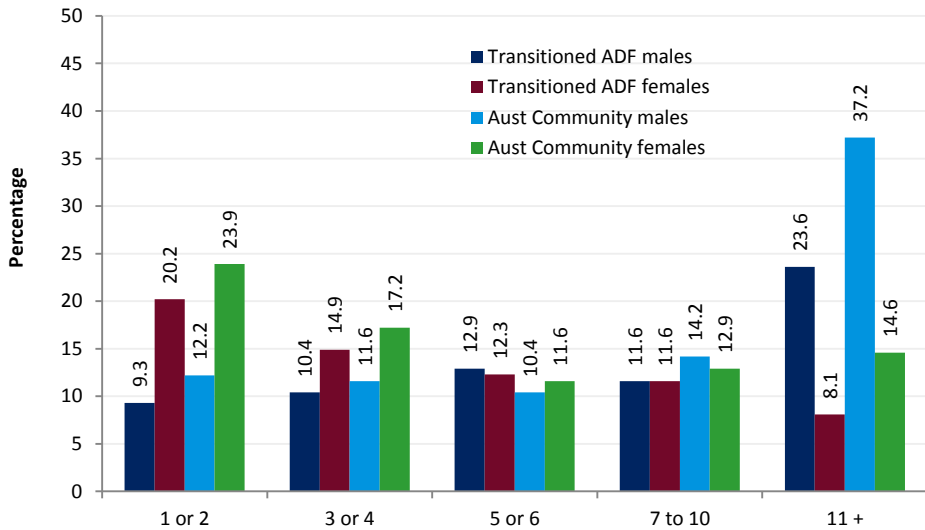
Table 6.7 and Figure 6.7 examine the maximum number of standard drinks consumed on a single occasion in the previous 12 months in the Transitioned ADF and the Australian Community, by sex. Overall, Australian Community males drank more standard drinks on a single occasion in the last 12 months than males in the Transitioned ADF. Additionally, a significantly higher proportion of Australian Community males (51.4%) drank seven or more standard drinks on a single occasion compared to Transitioned ADF males (35.2%). Compared to Transitioned ADF males, Australian Community males were also significantly more likely to report drinking only one or two standard drinks on a single occasion. For females, the only significant difference between the two groups was for those who drank 11 or more standard drinks in one day, with Australian Community females significantly more likely (14.6%, 95% CI 13.4, 15.9) than Transitioned ADF females (8.1%, 95% CI 5.9, 10.9) to do so.

**Table 6.7** Estimated proportions for maximum number of standard drinks on a single occasion in the last 12 months in Transitioned ADF compared to the Australian Community, by sex

		Transitioned ADF (n = 24,932)			Australian Community			Difference		
		%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
Male	11 +	23.6	0.9	21.8, 25.5	37.2	1.1	35.9, 39.3	13.6	1.5	-16.4, -10.7
	7-10	11.6	0.7	10.3, 13.0	14.2	0.8	12.7, 15.8	-2.6	1.0	-4.6, -0.6
	5-6	12.9	0.7	11.6, 14.3	10.4	0.6	9.1, 11.6	2.5	0.9	0.7, 4.3
	3-4	10.4	0.6	9.2, 11.7	11.6	0.8	9.9, 13.2	-1.2	1.0	-3.2, 0.9
	1-2	9.3	0.6	8.2, 10.5	12.2	0.7	10.8, 13.6	-2.9	0.9	-4.8, -1.1
Female	11 +	8.1	1.3	5.9, 10.9	14.6	0.6	13.4, 15.9	-6.5	1.4	-9.3, -3.8
	7-10	11.6	1.6	8.8, 15.1	12.9	0.6	11.7, 14.1	-1.4	1.7	-4.7, 1.9
	5-6	12.3	1.5	9.8, 15.5	11.6	0.6	10.4, 12.8	0.7	1.6	-2.3, 3.8
	3-4	14.9	0.7	13.6, 16.3	17.2	1.7	14.1, 20.9	2.2	1.9	-1.4, 5.9
	1-2	20.2	1.8	16.9, 23.9	23.9	0.8	22.3, 25.4	-3.7	1.9	-7.5, 0.1

Note: 95% CI: 95% confidence interval

**Figure 6.7** Estimated proportions for maximum number of standard drinks on a single occasion in the last 12 months in Transitioned ADF compared to the Australian Community, by sex



### **6.2.5 Frequency of alcohol consumption in the last 12 months in the Transitioned ADF compared to the Australian Community, by age**

Table 6.8 and Figure 6.8 show a breakdown of frequency for alcohol consumption in the last 12 months in the Transitioned ADF compared to the Australian Community, by age groups. Significant differences were found between members of the Transitioned ADF and the Australian Community: in the 28–37 age group, members of the Transitioned ADF were more likely than members of the Australian Community to drink monthly (28.8%, 95% CI 25.6, 32.3; Australian Community 19.7%, 95% CI 16.2, 23.2); in the 38–47 age group, they were more likely to drink weekly (51.3%, 95% CI 47.7, 54.8; Australian Community 45.5%, 95% CI 41.9, 49.1); in the 48–57 age group, they were more likely to drink weekly (51.3%, 95% CI 50.0, 57.3; Australian Community 48.4%, 95% CI 44.8, 52.0) and monthly (Transitioned ADF 20.9%, 95% CI 19.6, 25.8; Australian Community 14.9%, 95% CI 12.3, 17.7). Finally, in the 58+ age group, members of the Transitioned ADF were less likely to drink daily (8.5%, 95% CI 6.1, 11.7) than members of the Australian Community (14.5%, 95% CI 12.5, 16.5). However, the Transitioned ADF in this age group were significantly more likely to drink weekly (55.6%) or monthly (18.3%) compared to the Australian Community (weekly 45.3%; monthly 13.4%).

### **6.2.6 Maximum number of standard alcoholic drinks consumed on a single occasion in the last 12 months in the Transitioned ADF compared to the Australian Community, by age**

Table 6.9 and Figure 6.9 examine the maximum number of standard drinks consumed on a single occasion in the previous 12 months in the Transitioned ADF and the Australian Community, by age. In the 18–27 age group, members of the Australian Community were significantly more likely than members of the Transitioned ADF to have 11 or more drinks in one day (Australian Community: 43.2%; Transitioned ADF: 25.8%). They were also more likely to have one or two standard drinks in one day (Australian Community: 10.8%; Transitioned ADF: 7.2%). This pattern was the same for the 28–37 and 38–47 age groups.

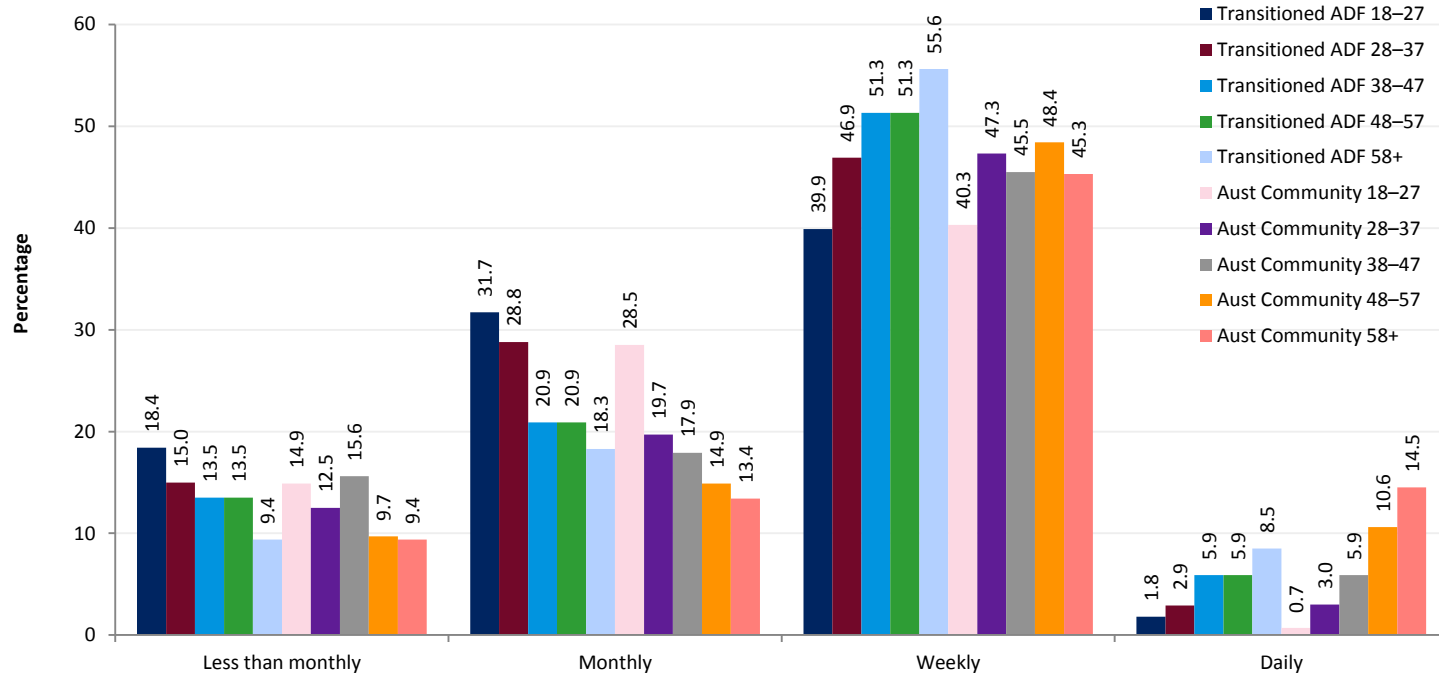
In the older age group (48–57), members of the Australian Community were also significantly more likely to have 11 or more drinks in one day (Australian Community: 25.3%; Transitioned ADF: 13.6%), or between seven and 10 drinks in one day (Australian Community: 18.2%; Transitioned ADF: 10.1%). However, they were less likely to have 5–6 drinks in one day (Australian Community: 11.9%; Transitioned ADF: 17.3%). Finally, those aged 58+ in the Australian Community were more likely to have 11 or more drinks in one day (Australian Community: 13.4%; Transitioned ADF: 5.9%).

**Table 6.8** Estimated proportions for frequency of alcohol consumption in Transitioned ADF compared to the Australian Community in the last 12 months, by age

		Transitioned ADF (n = 24,932)			Australian Community			Difference		
		%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
18–27	Daily	1.8	0.6	0.9, 3.5	0.7	0.3	0.2, 1.3	1.1	0.7	-0.2, 2.4
	Weekly	39.9	2.7	34.8, 45.2	40.3	1.9	36.4, 44.1	-0.4	3.3	-6.9, 6.1
	Monthly	31.7	2.6	26.9, 36.9	28.5	2.1	24.4, 32.5	3.2	3.3	-3.2, 9.7
	Less than monthly	18.4	2.2	14.6, 23.1	14.9	1.2	12.4, 17.3	3.6	2.5	-1.3, 8.5
28–37	Daily	2.9	0.7	1.9, 4.5	3.0	0.5	1.9, 4.1	-0.1	0.8	-1.7, 1.6
	Weekly	46.9	1.8	43.3, 50.5	47.3	1.9	43.4, 51.2	-0.4	2.7	-5.7, 4.9
	Monthly	28.8	1.7	25.6, 32.3	19.7	1.8	16.2, 23.2	9.1	2.5	4.3, 13.9
	Less than monthly	15.0	1.3	12.6, 1.8	12.5	1.2	10.1, 14.9	2.5	1.8	-1.1, 6.0
38–47	Daily	5.9	0.9	4.5, 7.9	5.9	1.0	3.9, 7.9	0.1	1.3	-2.5, 2.7
	Weekly	51.3	1.8	47.7, 54.8	45.5	1.8	41.9, 49.1	5.8	2.6	0.7, 10.9
	Monthly	20.9	1.5	18.2, 23.9	17.9	1.6	14.9, 21.0	2.9	2.1	-1.2, 7.1
	Less than monthly	13.5	1.3	11.1, 16.2	15.6	1.6	12.5, 18.6	-2.1	2.0	-6.1, 1.9
48–57	Daily	5.9	0.8	5.4, 8.3	10.6	1.3	8.0, 13.2	-3.9	1.5	-6.9, -0.9
	Weekly	51.3	1.9	50.0, 57.3	48.4	1.9	44.8, 52.0	5.3	2.6	0.1, 10.4
	Monthly	20.9	1.6	19.6, 25.8	14.9	1.4	12.3, 17.7	7.5	2.1	3.4, 11.7
	Less than monthly	13.5	1.0	6.22, 10.3	9.7	0.9	7.9, 11.5	-1.6	1.4	-4.4, 1.1
58+	Daily	8.5	1.4	6.1, 11.7	14.5	1.0	12.5, 16.5	-6.0	1.7	-9.4, -2.6
	Weekly	55.6	2.1	51.3, 59.7	45.3	1.5	42.5, 48.2	10.2	2.6	5.2, 15.3
	Monthly	18.3	1.6	15.4, 21.6	13.4	1.1	11.2, 15.6	4.9	1.9	14.1, 8.7
	Less than monthly	9.4	1.1	7.4, 11.9	9.4	0.9	7.7, 11.1	-0.0	1.4	-2.8, 2.8

Note: 95% CI: 95% confidence interval

**Figure 6.8** Estimated proportions for frequency of alcohol consumption in Transitioned ADF compared to the Australian Community in the last 12 months, by age



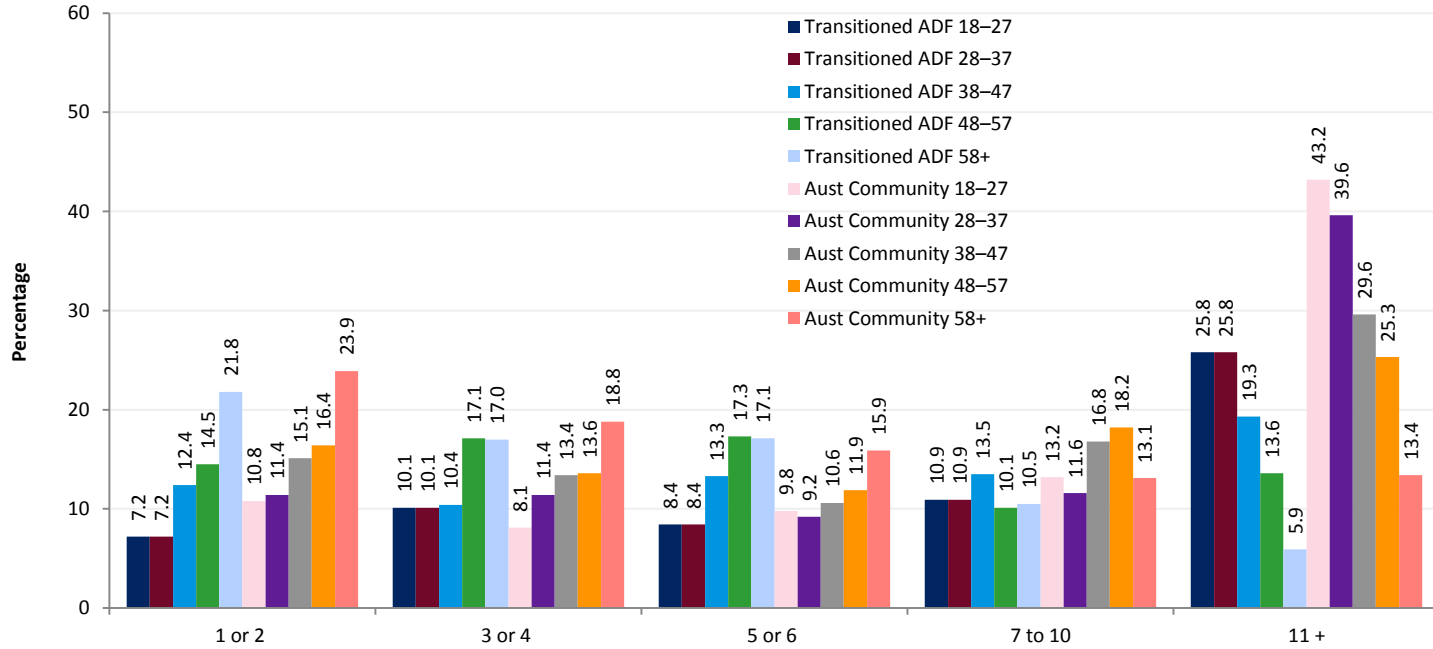


**Table 6.9 Estimated proportions for maximum number of standard drinks consumed on a single occasion in the last 12 months in Transitioned ADF compared to the Australian Community, by age**

		Transitioned ADF (n = 24,932)			Australian Community			Difference		
		%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
18–27	11 +	25.8	2.4	21.4, 30.7	43.2	1.9	39.6, 46.9	-17.4	3.0	-23.4, -11.5
	7–10	10.9	1.7	7.9, 14.7	13.2	1.2	10.9, 15.5	-2.3	2.1	-6.4, 1.7
	5–6	8.4	1.5	5.9, 11.9	9.8	1.3	7.3, 12.3	-1.4	1.9	-5.3, 2.5
	3–4	10.1	1.6	7.6, 13.7	8.1	1.2	5.7, 10.4	1.9	2.0	-1.9, 5.9
	1–2	7.2	1.4	4.5, 10.6	10.8	1.2	8.6, 13.1	-3.6	1.8	-7.2, -0.0
28–37	11 +	25.8	1.7	24.2, 30.7	39.6	2.1	35.4, 43.7	-12.2	2.7	-17.5, -6.9
	7–10	10.9	1.2	9.9, 14.7	11.6	1.3	8.9, 14.2	0.5	1.8	-3.0, 4.1
	5–6	8.4	1.2	10.2, 14.9	9.2	1.1	7.0, 11.4	3.1	1.6	-0.1, 6.4
	3–4	10.1	1.0	6.9, 10.9	11.4	1.5	8.4, 14.4	-2.6	1.9	-6.2, 0.9
	1–2	7.2	0.9	6.1, 9.7	11.4	1.2	8.9, 13.8	-3.7	1.5	-6.8, -0.7
38–47	11 +	19.3	1.5	16.5, 22.4	29.6	1.8	25.9, 33.2	-10.3	2.3	-14.9, -5.6
	7–10	13.5	1.3	11.2, 16.1	16.8	1.7	13.5, 20.1	-3.3	2.1	-7.4, 0.8
	5–6	13.3	1.1	10.2, 15.6	10.6	1.0	8.7, 12.6	2.6	1.5	-0.4, 5.6
	3–4	10.4	1.1	8.5, 12.7	13.4	1.5	10.5, 16.4	-3.0	1.8	-6.6, 0.5
	1–2	12.4	1.2	10.3, 14.9	15.1	1.5	12.1, 18.1	-2.7	1.9	-6.5, -0.7
48–57	11 +	13.6	1.2	11.4, 16.2	25.3	1.6	22.3, 28.4	-11.7	1.9	-15.6, -7.8
	7–10	10.1	1.0	8.2, 12.3	18.2	1.5	15.3, 21.1	-8.1	1.8	-11.6, -4.5
	5–6	17.3	1.3	14.9, 19.9	11.9	1.2	9.6, 14.2	5.4	1.8	1.9, 8.8
	3–4	17.1	1.5	14.4, 20.1	13.6	1.1	11.5, 15.7	3.5	1.8	-0.1, 7.1
	1–2	14.5	1.2	12.2, 16.9	16.4	1.3	13.8, 19.0	-1.9	1.8	-5.5, 1.5
58+	11 +	5.9	0.9	4.4, 7.9	13.4	1.1	11.2, 15.5	-7.4	1.4	-10.2, -4.7
	7–10	10.5	1.1	8.5, 12.9	13.1	1.0	11.1, 15.1	-2.6	1.5	-5.6, 0.4
	5–6	17.1	1.4	14.4, 20.1	15.9	1.0	13.9, 17.9	1.1	1.8	-2.4, 4.6
	3–4	17.0	1.7	13.9, 20.6	18.8	1.3	16.2, 21.4	-1.75	2.1	-5.9, 2.5
	1–2	21.8	1.9	18.2, 25.8	23.9	1.4	21.3, 26.6	-2.2	2.4	-6.8, 2.5

Note: 95% CI: 95% confidence interval

Figure 6.9 Estimated proportions for maximum number of standard drinks consumed on a single occasion in the last 12 months in Transitioned ADF compared to the Australian Community by age



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## 7 Discussion

The key objective of this report was to document the mental health and wellbeing of 24,932 ADF members who transitioned from the Regular ADF between 2010 and 2014. This evidence base is a fundamental component of the work underway at DVA and Defence to enhance transition processes. It also builds on the ground-breaking work of the Military Health Outcomes Program (Commonwealth of Australia, 2017). This report describes the characteristics of the population, provides population-level estimates of diagnosable mental disorders and maps potential risk and protective factors associated with mental disorders in the Transitioned ADF population. The report also compares the self-reported mental health and wellbeing outcomes of this population with a contemporary sample of 2015 Regular ADF members and the Australian Community. A secondary aim was to map the mental health and wellbeing outcomes of 2015 Regular ADF members against findings from the 2010 ADF Mental Health Prevalence and Wellbeing Study (MHPWS), to provide an indication of change in mental health in the Regular ADF since 2010.

Section 7.1 describes the Transitioned ADF and discusses the rates of diagnosable mental disorders, including comorbidity and suicidality, broken down by key demographic, service-related and transition-specific factors. The section ends with a brief discussion of the differences between the rates of International Statistical Classification of Diseases and Related Health Problems – 10th Revision (ICD-10) disorders in the Transitioned ADF in 2015 and the 2010 Regular ADF, to contextualise the Transitioned ADF results. Section 7.2 summarises rates of self-reported mental health and wellbeing outcomes for the Transitioned ADF, then compares rates to those for the 2015 Regular ADF. The mental health and wellbeing of the 2015 Regular ADF is also compared to that of the 2010 Regular ADF. In section 7.3, rates of self-reported psychological distress and alcohol use in the Transitioned ADF are compared to a matched sample from the Australian Community. Because the 2014–2015 Australian Bureau of Statistics (ABS) National Health Survey (NHS) is an independent study, the data has not been socio-demographically matched to the Transitioned ADF population. Finally, the study findings are considered in the context of previous Australian research into the health and wellbeing of ADF members, and against comparable international studies. Implications for service and treatment provision, government policy, and future research directions are discussed.

## 7.1 The Transitioned ADF

### 7.1.1 Socio-demographic characteristics

The majority of ADF members who transitioned from the Regular ADF between 2010 and 2014 (Transitioned ADF) were aged 28–47 (56.2%), male (86.9%), in a significant relationship (74.7%) and in the lower ranks (52.2%). Consistent with the greater number of Army members in the ADF, the majority of those who transitioned were also Army members. Just over one-third of Transitioned ADF had served 4–7.9 years in the Regular ADF (36.2%), followed by 23.2% who had served for 20+ years.

Just under half (43.3%) of the Transitioned ADF were Ex-Serving (discharged) at the time of completing the survey, and were no longer engaged with Defence in a Reservist role. A quarter of the Transitioned ADF had remained as Active Reservists (25.7%) and were engaged with Defence for a specified number of days per year; 30.1% were Inactive Reservists and their contact with Defence was variable – for some, there was no ongoing contact.

The most common type of discharge/resignation reported was ‘own request’ (53.7%), with more than 60% being voluntarily discharged, or discharged due to a fixed period of service ending. Just over 20% of the Transitioned ADF were estimated to have been medically discharged, with their employment terminated 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. The most commonly reported reason for leaving the ADF related to family and lifestyle, including the impact of military service on family, and on mental and physical health, and to improve career prospects in the civilian domain. The impact of mental disorders on the children and partners of Serving and Ex-Serving ADF members was also an important issue that will be addressed in the Family Wellbeing Study.

In relation to civilian employment, almost two-thirds of the Transitioned ADF reported being employed at the time of completing the survey, with most employed in government administration (including Defence), mining, construction, transport and storage occupations. An estimated 5.5% were retired. When the spectrum of roles, including studying, were taken into account, approximately 84% of the Transitioned ADF were either working or engaged in some purposeful activity. Thus, overall it would appear that, despite the prevalence of psychiatric morbidity in this population (as will be discussed later in this Discussion), the majority of Transitioned ADF members are in the civilian workforce.

There are known risk factors for social disadvantage in the literature that can contribute to mental health issues (Australian Bureau of Statistics, 2010). Key factors captured in this Programme include unemployment, incarceration, housing instability –

including homelessness – and receiving disability payments. Those in the Transitioned ADF who were potentially at greatest 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 a period of three months or more after transitioning from the Regular ADF. There was also a very small proportion who reported being arrested or incarcerated since transition (an estimated 5.1%), and approximately 3.4% who reported that they had not been living in stable housing in the two months before completing the survey.

Particularly for Ex-Serving members, employment is an important domain of social engagement. However, there is evidence from longitudinal research that those in poor-quality jobs have little gain in their social advantage compared to the unemployed. Equally, these individuals may struggle to move into better-quality work (Leach et al., 2010). In part, this is a consequence of having psychological disorders and, even when treated, remaining at a significant disadvantage in terms of workplace performance (Adler et al., 2006).

Employment has the capacity to increase one's sense of purpose and social engagement, but it can also pose a risk to the individual's mental health if the employment is characterised by little control of the work environment and low job security, particularly for unskilled workers (Strazdins et al., 2011). The importance of Transitioned ADF members gaining quality employment is critical to their long-term physical and mental health outcomes (Butterworth et al., 2013; Butterworth et al., 2011).

In contrast to many other environments, there are unique opportunities for DVA and Defence to assist in transition and provide structured programs that address these aspects of employment, particularly for those who are having difficulties with their mental health. This issue requires further focused analysis.

The 2016 Prime Minister's Veterans' Employment Program (VEP), for example, aims to raise awareness of the unique skills and experience that ex-serving ADF members can bring to the civilian workplace. It also aims to promote greater employment opportunities in the private sector for these individuals. The program includes several initiatives involving the public and private sectors and ex-service organisations. The Industry Advisory Committee is also looking at opportunities to enhance employment for the spouses and partners of ex-serving members. Focused analysis of the Transition and Wellbeing Research Programme data will further inform implementation of these types of initiatives (Commonwealth of Australia, 2017).

One group of particular interest, and who may be at significant risk, are the 9.8% on some form of disability support pension, as well as those discharged from the ADF on a medical discharge but who have not yet engaged with DVA. The number of

Transitioned ADF identified as currently receiving treatment support is relatively high (43.6%) with more than one-third reporting the receipt of white card support and further four per cent holding a DVA gold card. However, it is possible that a small proportion of those who were medically discharged continue to remain disengaged with DVA and may therefore be at particular risk.

Taken together, these socio-demographic characteristics suggest that while the majority of the Transitioned ADF may be healthy and functioning well, a proportion left service unwell, and a smaller subset carry significant risk factors for disadvantage. Interestingly, the socio-demographic profile of the Transitioned ADF presented in this report mirrors that of other international military populations during the transition phase, particularly the Canadian military (MacLean et al., 2014).

### **7.1.2 The prevalence of ICD-10 mental disorder**

Consistent with the 2010 MHPWS report, this study examined three classes of common mental disorder: anxiety, affective and alcohol. Almost three-quarters of the Transitioned ADF were estimated to have met ICD-10 criteria for any lifetime mental disorder, with the most common being alcohol disorders (47.5%). Of the Transitioned ADF, 46% were estimated to have met criteria for a lifetime anxiety disorder, and one-quarter to have met criteria for posttraumatic stress disorder (PTSD) in their lifetime. Just under 40% were estimated to have met criteria for a lifetime affective disorder.

In the past 12 months, it is estimated that nearly half (46.4%) of Transitioned ADF met criteria for an ICD-10 mental disorder. The most common class of 12-month mental disorder among the Transitioned ADF was anxiety, with more than one in three estimated to have met criteria for an anxiety disorder in the past 12 months. PTSD, panic attacks, agoraphobia and social phobia were the most common individual disorders, with 17.7% of the Transitioned ADF estimated to have met criteria for PTSD in the previous 12 months. One in five Transitioned ADF members were estimated to have experienced an affective disorder in the previous 12 months, with the most common type being depressive episodes (11.2%). Alcohol disorders were the least prevalent 12-month mental disorders among the Transitioned ADF, with an estimated 12.9% meeting ICD-10 criteria for a 12-month diagnosis.

Mental disorder comorbidity among the Transitioned ADF was high. Of the 46.4% of the Transitioned ADF estimated to have a 12-month mental disorder, more than half had at least one mental disorder comorbidity. Overall, 25% of the Transitioned ADF were estimated to meet 12-month criteria for two or more disorder classes. Alcohol disorders were the most common comorbid condition, with approximately 95% of those meeting 12-month criteria for an alcohol disorder also having another mental disorder. In relation to PTSD, over 80% who met 12-month criteria had another comorbid mental disorder.

Detailed consideration of specific mental disorders is discussed below.

### **7.1.3 Anxiety disorders**

Consistent with findings from the 2010 MHPWS (McFarlane et al., 2011), the most common 12-month mental disorder class among the Transitioned ADF was anxiety disorders, with a 12-month prevalence of 37.0%. The anxiety disorders with the highest prevalence were PTSD (17.7%) and panic attacks (17.0%), followed by agoraphobia (11.9%), social phobia (11.0%) and specific phobia (7.8%). The anxiety disorders with the lowest prevalence were panic disorder (5.4%), obsessive-compulsive disorder (OCD) (4.1%) and generalised anxiety disorder (GAD) (3.7%). This section summarises the categories of anxiety disorder in relation to demographic, service and transition-specific factors that need to be addressed in the relation to transition from the Regular ADF.

Regarding anxiety disorders more generally – other than PTSD, which is now a separate stress-related category in DSM-5 and ICD-10 (Maercker et al., 2013) – the most prevalent anxiety disorder diagnosis was panic attacks, which are experienced by an estimated 17% of the Transitioned ADF. Panic attacks involve a pattern of reactivity to environmental triggers that have the capacity to increase in frequency and severity by the process of sensitisation (McFarlane, 2010). These do not represent full-blown panic disorder, experienced by a much smaller 5.4%, but are important antecedents, and occur in a significant percentage of sub-syndromal PTSD cases (Goodwin et al., 2004; Marshall-Berenz et al., 2011).

Agoraphobia was reported in 11.9% of the Transitioned ADF, with 11.0% also reporting social phobia. Interestingly, agoraphobia is closely related to panic disorder as it represents the avoidance behaviour associated with panic attacks that occur in public environments, as is social phobia, which represents the fear or avoidance behaviour associated with panic attacks in situations of public attention. As such, both of these disorders are a measure of substantial impairment associated with increasing social restriction in the lives of those diagnosed with these disorders. Taken together, the high rates of agoraphobia and social phobia highlight the number of transitioning individuals who are likely to struggle in their social relationships and are restricted in their capacity to freely move through their environment. Importantly, phobic disorders were found to be a significant predictor of PTSD in a longitudinal study of Australian Vietnam veterans (O’Toole & Catts, 2017). Given the possible relationship between panic attacks, agoraphobia and other phobic disorders with PTSD, the progression of these disorders in ADF members is an important consideration. Further investigation of this issue will be undertaken in the *Mental Health Changes Over Time: a Longitudinal Perspective Report*, which will use data from the 2010 MHPWS and the 2015 Transition and Wellbeing Transition Study, and examine the course of mental health symptoms and disorders over time.

The least prevalent 12-month disorders in the Transitioned ADF were OCD (4.1%) and GAD (3.7%). However, the symptoms for these disorders are likely to be experienced by a substantially greater number of individuals, who are not diagnosed because of exclusion criterion relating to other disorders. In other words, if an individual has a major depressive disorder, and has the symptoms of GAD, it is possible that they will only be diagnosed with a major depressive disorder. The fact that one in four of the transition cohort had one or more anxiety disorders, including PTSD, highlights the extent of comorbidity and possible subsequent minimisation of GAD diagnoses.

In relation to the status of Transitioned ADF members, the estimated 12-month prevalence of 'any anxiety disorder' was highest among the Ex-Serving, with Inactive and Active Reservists having lower rates. This pattern was more pronounced for agoraphobia, social phobia, specific phobia and GAD. For example, the estimated prevalence of agoraphobia was nearly three times higher among Ex-Serving members than either Reservist group, highlighting the role of these phobic disorders in the impairment of the Ex-Serving Transitioned ADF. While there were no significant differences in rates of anxiety disorders between men and women, they tended to be slightly higher among females.

When the impact of age on the prevalence of the different anxiety disorders was examined, there were no clear trends. Overall, the 48–57 age group had the lowest reported prevalence of anxiety disorders (34.3%), with the 38–47 age group reporting the highest prevalence. The only disorder that showed a significant difference in prevalence by age was OCD, with rates among those aged 28–37 (0.8%) being significantly lower than among those aged 18–27 (10.8%).

In relation to rank, Officers had lower rates of anxiety disorders than Non-Commissioned Officers, and a trend to have lower rates than the Other Ranks, with these patterns particularly noted for agoraphobia and social phobia. These are important sources of impairment that may affect the capacity to engage in civilian employment, and should be addressed in transition strategies that aim to link members of the military with civilian employment opportunities.

Overall, the estimated 12-month rates of any anxiety disorder were 51.3% for those who were medically discharged. This was in contrast to those reporting another reason for discharge, where 30.3% were diagnosed with an anxiety disorder. This points to the importance of the discharge medical assessment communicating information about ongoing risk of emerging distress over time. The fact that one in three Transitioned ADF members who were not medically discharged met criteria for a diagnosable disorder in the 12 months before completing the survey highlights the importance of having a more general surveillance program in the five years after discharge from the Regular ADF.



Almost one in two Transitioned ADF members who were DVA clients (45.3%) were estimated to have a 12-month anxiety disorder. This is not unexpected because most of these individuals will have an entitlement for a service-related physical or mental health condition (Thompson et al., 2011b). Similarly high rates of anxiety disorders (40.0%) have been reported in studies of veterans' affairs clients internationally (Dedert et al., 2009). The extent to which these individuals have been assessed, accurately diagnosed and provided with effective treatment is an issue for further examination, and is discussed in the *Pathways to Care Report*. However, the fact that an estimated 22.3% of the population who *were not* DVA clients met criteria for a 12-month anxiety disorder indicates the extent to which Transitioned ADF members are not using DVA-funded health services for symptoms and disorders that may have arisen from military service. This raises important questions about the adequacy of assessment and referral and recognition of these mental disorders in the civilian health sector.

To date, the most comparable estimate of anxiety in a transitioned military population internationally is 10.0% in Canada. However, this rate referred to current PTSD diagnosed by a health professional and should be interpreted in this context (Thompson et al., 2011a).

#### **7.1.4 Posttraumatic stress disorder**

The estimated rate of PTSD in the Transitioned ADF attracts particular community concern. As such, it is discussed in detail. As summarised previously, the 12-month prevalence of PTSD in the Transitioned ADF was 17.7%, with just over one in five of the fully discharged (Ex-Serving) Transitioned ADF estimated to meet 12-month ICD-10 criteria. There was a non-significant trend for both Active and Inactive Reservists to have slightly lower rates (13.6% and 15.6% respectively). Despite being lower, the estimated rates of 12-month PTSD, and PTSD symptoms in Reservist groups, especially the Active Reserves, represent significant morbidity and are important.

Consistent with previous research (Ramchand et al., 2015; Richardson et al., 2010; Sundin et al., 2014), there were inter-Service differences in the prevalence of PTSD; however, the pattern was unexpected. Those who transitioned from the Army (20.1%) and Air Force (20.2%) had equally higher rates of 12-month PTSD than those who transitioned from the Navy (9.4%). Findings from the 2010 MHPWS showed that in the Regular ADF, rates of mental disorder tended to be lower among the Air Force compared to the other two Services (McFarlane et al., 2011). The fact that rates of PTSD are similarly high for the Air Force here suggests that the previously observed lower rates may have reflected a health worker effect in the Regular ADF, with those who have mental disorder or symptoms transitioning out.

Of note, there were significantly higher rates of 12-month PTSD in those who have deployed (20.1%) compared to those who had never deployed (3.5%), and an estimated PTSD rate of 27.8% in combat-exposed Transitioned ADF. Again, this is different to findings from the 2010 MHPWS, where no differences were found in terms of PTSD among those who had deployed and who had never deployed, also possibly indicative of a healthy worker effect. However, consistent with previous studies of active serving military populations, rates of PTSD tended to be higher among those of lower ranks (Iversen et al., 2009).

In relation to years of service in the Regular ADF, rates tended to be highest among those with 4–7.9 years of military service, with 21.2% of this group estimated to meet 12-month ICD-10 diagnostic criteria for PTSD. Matched members' data from Defence indicates that the average length of service in the ADF is 11.1 years; however, this varies by Service and rank. Army members tend to have a slightly shorter length of service, with this reduced further in lower ranks. It is possible that the higher rates of PTSD in this shorter-service group corresponds to a larger proportion of lower ranks from the Army, a group who potentially have experienced higher rates of deployment exposures in combat roles.

When the rates of PTSD were examined by years since transition, 23.9% of those who had been discharged from full-time service for five years met diagnostic criteria, in contrast to 11.4% who were within the first year of discharge. Interestingly, there was also a slight increase in rates of PTSD at two years post-transition (20.7%).

Finally, rates of PTSD were also higher among those who were medically discharged, as well as DVA clients, with rates of PTSD amongst those who were not DVA clients less than half the rate of those who were DVA clients (8.5% vs 22.6%). Once again, the most comparable estimate of PTSD in transitioned military populations internationally is 11.0% for the Canadian military (Thompson et al., 2011a; Thompson et al., 2015). However, this rate referred to current PTSD diagnosed by a health professional, and should be interpreted in this context.

### **7.1.5 Affective disorders**

The most common 12-month affective disorder was depressive episodes, with an estimated 11.2% meeting ICD-10 criteria, followed by bipolar disorder (9.8%) and dysthymia (4.6%). Similar to anxiety disorders, the 12-month prevalence of affective disorders was highest among Ex-Serving Transitioned ADF, with an estimated 12-month prevalence of 32.9%. This compares to significantly lower estimated rates among the Inactive and Active Reservists (17.0% and 12.5% respectively).

While the overall estimated rates for affective disorders were not significantly different for males and females, rates of bipolar affective disorder were slightly higher among

males, while rates of depressive episodes were higher among females. This difference may reflect gender-differentiated patterns of adaptation and reactivity (Altemus et al., 2014). The extent to which men and women access services also needs to be considered when comparing these rates. For affective disorders, there was a pattern of decreasing prevalence with increasing age and rank. This effect of rank was particularly relevant to bipolar disorder, with Transitioned ADF members in Other Ranks over three times more likely to meet criteria for bipolar disorder than Officers and Non-Commissioned Officers.

When examining disorder by years of Regular Service, there was a trend for affective disorders overall to be lower among those who served 12 or more years. Bipolar disorder particularly appeared to aggregate among those with 4–7.9 and 8–11.9 years of service, with the shorter-service group having a rate of 14.6%.

Among those who reported being medically discharged, an estimated 39.5% met criteria for a 12-month affective disorder. Considering their medical discharge, it would be anticipated that this group would have had significant contact with the medical system, which should have assisted with the rates of diagnosis and detection, and presumably treatment. However, only half of those with an affective disorder are a DVA client. The very high rate of disorder is therefore of concern.

Furthermore, while it was expected that affective disorder rates would be higher among those with a medical discharge, because primary and secondary mental disorders can be a reason for being classified as medically unfit, it is concerning that 17.4% who were not medically discharged reported an affective disorder in the last 12 months. This suggests that disorders are either not being identified during the transition process, or present post-discharge when individuals may not have the same level of accessibility to services as those who transition through the medical discharge process.

Of particular concern were the rates of bipolar disorder in the Transitioned ADF (9.8%) – and especially in the Ex-Serving, with an estimated 13.9% meeting 12-month ICD-10 criteria. These high rates of bipolar affective disorder represent more than four times the Australian rates reported in the 2007 National Survey of Mental Health and Wellbeing (NSMHW) (0.9% – 1.7%) (Mitchell et al., 2013) and more than double the highest lifetime rate reported in other non-military population-based studies (0.1% – 7.5%) (Dell’Aglia et al., 2013).

The unanticipated and unexpectedly high estimated prevalence of bipolar disorder in the Transitioned ADF requires comment. To date, the prevalence of bipolar disorder in Serving and Ex-Serving military and veteran populations has been largely unaddressed in the published literature. Only one recent study has focused on bipolar disorder among military combat members. In this 2014 study, McLay examined the rates of

bipolar disorder among 109 Active Duty US military members with PTSD, using a structured clinical interview.

The study found that 54% of those with PTSD also met criteria for bipolar disorder. Further examination showed that clinicians had not previously detected bipolar disorder in any of the 59 patients with PTSD, with the authors suggesting this may be due to under-diagnosis of bipolar disorder by military providers due to 'lack of insight into mania by patients, lack of systematic assessment of mania by clinicians, stigma and aggressive marketing of antidepressants' (McLay et al. (2014), p. 160). This under-diagnosis of bipolar disorder is also acknowledged in the scientific literature more broadly, with other studies reporting that milder forms of bipolar disorder are frequently missed in clinical practice (Carvalho et al., 2015). Furthermore, a third of individuals with bipolar disorders report being misdiagnosed at least once, with a proper diagnosis taking, on average, 10 years from the initiation of affective symptoms (Drancourt et al., 2013; Lish et al., 1994).

It is possible that the prevalence estimates are identifying subthreshold bipolar disorder; however, these are still clinically important (Marangell, 2004). The US National Comorbidity Survey investigated this clinical entity and found that nearly 40% of study participants with a history of a major depressive disorder had a history of subthreshold hypomania. This subgroup had a younger age at onset, more episodes of depression and higher rates of comorbidity (Angst et al., 2010). Subthreshold bipolar disorder is also associated with significant morbidity, including criminal behaviour and substance abuse (Zimmermann et al., 2009). Prospective studies have also found that subthreshold bipolar disorder converted more often into bipolar disorder during follow-up. Hence, this group is at significant risk – including of suicide and suicidal ideation – in addition to disorder severity, particularly when it is comorbid with PTSD (Reddy et al., 2017).

More generally, evidence also suggests that the Transitioned ADF may be at particular risk of bipolar disorder because they have a high rate of anxiety disorders (as discussed above), which epidemiological research has shown pose a greater risk for developing an affective disorder (Goldstein & Levitt, 2007). Other research findings have also concluded that PTSD may predict the incidence of major depressive disorder and bipolar disorder in civilian populations (Chou et al., 2011). Hence, the unexpected rate of bipolar disorder in this population may arise as a secondary consequence of the rates of other disorders in the Transitioned ADF.

Whatever the cause or consequence of the elevated rate of bipolar disorder in the Transitioned ADF, this issue requires further detailed examination. It also highlights the importance of ensuring that mental health professionals who provide clinical services

to Serving and Ex-Serving ADF members are adequately trained in differential diagnosis and can detect a comprehensive range of emerging disorders.

The estimated 12-month prevalence rate of approximately 40% for depression among the medically discharged group highlights the morbidity among this subpopulation. It could also reflect the rising complexity of physical and comorbid mental health conditions for members post-discharge (O'Donovan et al., 2015; Pacella et al., 2013). The extent of comorbidity between physical and mental disorders needs further exploration to ensure the appropriate treatment services are being put in place (McFarlane, 2017). Comorbidity is a component of this research Programme's Physical Health Study. Once again, the most comparable estimate of affective disorders (mania, dysthymia or bipolar disorder) in transitioned military populations internationally is 3% for the Canadian military. However, this rate referred to a current mood disorder diagnosed by a health professional, and should be interpreted in this context (Thompson et al., 2011a).

#### **7.1.6 Alcohol disorders**

A further area of concern are the rates of alcohol dependence (9.1%) and harmful use (3.8%) among the Transitioned ADF, where 12.9% were estimated to meet criteria for a diagnosable alcohol disorder. Estimated rates of 12-month alcohol disorders were noticeably higher in the Ex-Serving Transitioned ADF, where 18.7% had either alcohol dependence and/or abuse, in contrast to the Active Reservists where a much lower 7.3% met diagnostic criteria.

Gender did not appear to significantly impact the prevalence of alcohol disorder, but increasing age tended to be associated with declining rates of alcohol dependence. Alcohol disorder overall was highest in the 28–37 age group. There was a non-significant trend for members of the Navy and Army to have higher rates than members of the Air Force. Other Ranks had significantly higher rates (18.3%) than Officers (6.4%) and Non-Commissioned Officers (7.3%). A related non-significant trend showed that those who transitioned before completing 7.9 years of military service – in particular, early service leavers who completed between three months and 3.9 years of service – had greater rates of 12-month alcohol disorders than those with longer periods of service.

The first year post-transition appeared to be a particularly vulnerable period for alcohol disorder, suggesting that separation from the ADF is a risk factor for increased drinking. Again, an estimated 47% of individuals with alcohol disorder did not have contact with DVA. This contrasts with the 53% accessing some form of assistance from the DVA, highlighting the extent of potential unmet need in the Transitioned ADF.

Currently, there is no international literature on diagnosable alcohol disorder in other transitioned military cohorts.

### **7.1.7 Comorbidity**

The issue of mental disorder comorbidity is important as it is a marker of the severity of disorder and presents a significant challenge in obtaining optimal treatment outcomes (Hruska et al., 2014).

In the Transitioned ADF, just over half of those with a mental disorder had a least one comorbid disorder, with one in four Transitioned ADF meeting criteria for two or more mental disorder classes.

Anxiety and affective disorders were the most common comorbidity – and importantly, more than 80% of those meeting 12-month ICD-10 criteria for PTSD had another comorbid mental disorder. An even greater 95% of the Transitioned ADF meeting criteria for a 12-month alcohol disorder had another mental disorder comorbidity. While there are independent determinants of alcohol abuse, in a significant percentage of cases, self-medication plays a role in alcohol use (Crum et al., 2013; Davis et al., 2013). This highlights the importance of having treatment programs that assess and treat comorbidity as an integral part of standard clinical approaches (Langdon et al., 2016).

The comorbidity observed between PTSD and affective disorders deserves specific consideration because traumatic stress exposure also plays a role in the onset of affective disorder. The neurobiology of PTSD and major depressive disorder have many shared elements (Dekel et al., 2014; Rytwinski et al., 2013), and it is likely that the co-existence of an affective disorder indicates a greater degree of severity and general psychological stress among those diagnosed with PTSD (Morina et al., 2013).

The rates of comorbidity in the Transitioned ADF (15.1% meeting criteria for two disorder classes; 10.1% meeting criteria for three or more disorder classes) is greater than the rates reported in the Australian Community. In the 2007 NSMHW, 14.9% met ICD-10 criteria for one disorder class, 4.4% met criteria for two disorder classes and 0.7% met criteria for three disorder classes (Teesson et al., 2009). Similar to the Transitioned ADF, the most common comorbidities were anxiety disorders and affective disorders, which were consistent across the sexes (females 3.9%, males 2.9%). The second most common comorbid disorder combination was substance abuse and anxiety disorders (females 0.8%, males 1.3%), followed by substance abuse and affective disorders (females 0.2%, males 0.6%).

Overall, the high rate of comorbidities observed in the Transitioned ADF points to the greater challenge of effectively treating and managing the complexity of disorder identified within this population. This raises important questions about developing

treatment programs that specifically address comorbidity, including comorbidities of substance abuse, affective disorder and PTSD. The treatment literature has tended to incorrectly assume that the treatment of PTSD will have significant additional benefits for comorbid disorders. However, this may not be the case and therefore requires further examination and consideration because of the substantial impairment and social disadvantage of this group. In general, it is accepted that comorbidity is a marker of severity of disorder, further underscoring the importance of these results.

### **7.1.8 Suicidality**

Suicide and suicidality are issues of major concern in military populations (Brenner & Barnes, 2012; Ursano et al., 2016). In this study, 21.7% of the Transitioned ADF reported some form of suicidal ideation, plans or attempts in the last 12 months, with more than one-quarter reporting they felt their life was not worth living, and an estimated 21.2% reporting they had felt so low they thought about death by suicide. An estimated 7.9% of the Transitioned ADF reported making a suicide plan and 2.0% had attempted suicide. These rates highlight the degree of distress, support concerns about suicidality in the Transitioned ADF, and point to an opportunity for early intervention.

Those who have attempted suicide represent an estimated 505 individuals and, when identifying to services, present an opportunity for targeted intervention because of the risk that attempts represent for future completed suicide (Ribeiro et al., 2016). These rates closely match those reported for transitioned Canadian Military personnel, for whom the prevalence of past-year suicidal ideation was 7% (6% – 8%) (Thompson et al., 2015). Similar to the current study, suicidal ideation was much more common than suicide attempts, which were more common than completed suicide. Very low numbers reported 12-month suicide attempts (1%) (Thompson et al., 2011a).

Among the Ex-Serving ADF (13.1%), the rate of suicide plans was higher than both Reservist groups (2.7% – 4.7%), with an estimated 3.8% of the Ex-Serving Transitioned ADF reporting they had attempted suicide, contrasted with the Active and Inactive Reservist populations where the rates were substantially lower (0.1% – 1.1%). This highlights that the group who have fully discharged from the ADF are particularly at risk of suicidal ideation and attempts. This finding is consistent with recently released Australian Institute of Health and Welfare (AIHW) suicide data, which showed a pattern of increased risk of completed suicides among ADF members following transition from the Regular ADF (Australian Institute of Health and Welfare, 2017a).

A significant trend for increasing suicidality was found in the current study over the passage of time since discharge from full-time military service. This may be related to the increasing duration of mental disorder in this population and the increasing

awareness of the difficulties of transition into meaningful civilian roles in those with psychiatric symptoms.

These relationships require detailed exploration in further analyses. Rates of suicidal thoughts, plans and attempts were significantly lower in Officers compared to Non-Commissioned Officers, and significantly higher in those with less years of service, specifically for suicidal ideation. In line with the pattern of results for affective, anxiety and alcohol disorders, those who were medically discharged and DVA clients reported significantly higher rates of suicidal ideation plans and attempts, than those who were not.

In relation to comorbidity, affective disorders in particular have been identified as a significant risk factor for suicidality (Panagioti et al., 2012). A recent review of the literature (Bentley et al., 2016) concluded that the issue of suicide risk is much broader, noting ‘... suicidal thoughts and behaviours are highly prevalent public health problems with devastating consequences. There is an urgent need to improve our understanding of the risk factors for suicide to identify effective intervention targets’. When examining the spectrum of anxiety disorders, it concluded that ‘... the strongest associations were found for PTSD’ (Bentley et al., 2016). Considering the overall high rates of mental disorder observed in this study, and in particular the high rates of PTSD, there is an urgent need to further analyse these data and determine the effectiveness of the interventions that serving and ex-serving ADF members may or may not be receiving.

#### **7.1.9 Risk and protective factors for ICD-10 mental disorder and suicidality**

As briefly covered above, further to the detailed examination of 12-month mental disorder prevalence and suicidality among the Transitioned ADF, a number of key demographic, service and transition factors were examined. The pattern of findings for each of these factors across all disorders are summarised in this section.

#### **7.1.10 Demographic factors**

Overall, the demographic predictors of age and sex had little impact on estimated rates of 12-month ICD-10 mental disorder in the Transitioned ADF. There were no significant sex-related differences in affective, anxiety or alcohol disorders, or self-reported suicidality. There were some age-related trends, with 12-month affective disorders lowest in Transitioned ADF members aged 58+ and dysthymia most commonly observed in the 38–47 age group (11.8%). Alcohol disorders were most commonly observed among the younger Transitioned ADF, aged 18–47.

#### **7.1.11 Service factors**

Service-specific factors, including Service branch, years of service, deployment and rank showed mixed effects on mental disorder and suicidality prevalence among the



Transitioned ADF. Service branch at time of transition had some association with rates of PTSD, alcohol disorder and suicidality. Specifically, estimates of 12-month PTSD were greater in the Army and the Air Force than the Navy; the Navy and the Army had higher estimated alcohol disorder compared to the Air Force; and estimated suicidality was highest among Transitioned ADF from the Army. Consistent with previous Australian and international findings (Haller et al., 2016; Kline et al., 2011; LeardMann et al., 2013), rank at the time of transition from the Regular ADF had some association with the prevalence of 12-month mental disorder. Specifically, estimated rates of 12-month ICD-10 affective disorders and alcohol disorders, and rates of self-reported suicidality were higher among Other Ranks, while anxiety disorders were higher among Non-Commissioned Officers compared to Officers.

Overall, years of Regular ADF service was negatively associated with estimated rates of 12-month ICD-10 mental health disorder, though this was not a linear relationship, and varied by disorder category.

In general, affective disorders were most commonly observed in members of the Transitioned ADF with fewer years of service. There was an overall trend for rates of anxiety disorders to decrease with increasing service length, with the highest rates among those with less than four years of service. Alcohol disorders were also most commonly observed in Transitioned ADF members with fewer years of service.

The concept of early service leavers (generally defined as those who leave before completing their minimum 3–4.5 years of service) being at particular risk is supported by the international literature. Furthermore, those who leave at short notice with little time to plan the transition to civilian life (that is, those whose military career was cut short by redundancy, or medical or disciplinary discharge) may be at particular risk. For example, an examination of 874 service leavers found that common mental disorders were more prevalent among early service leavers compared to non-early service leavers (45.6% vs 26.5%) (Buckman et al., 2013). Similarly, Giebel (2014), in a study of 952 treatment-seeking UK veterans, reported higher levels of anxiety disorder (9%) and depression (30.8%) in early service leavers compared to non-early service leavers (5.3% and 24.2% respectively).

Transitioned ADF who had ever deployed were more likely to meet criteria for an anxiety disorder than those who had not. This finding of increased rates of disorder in deployed members of the military has been reported elsewhere (Interian et al., 2012; Institute of Medicine, 2013; Iversen et al., 2005a). While there was a trend for Transitioned ADF who had ever deployed to be more likely to meet criteria for all of the individual anxiety disorders, OCD and PTSD were the only disorders that were significantly more prevalent in the deployed versus the non-deployed group. Further

research on the impact of deployment on the mental health of the Transitioned ADF is required and will be examined in further detail in the Impact of Combat Study.

#### **7.1.12 Transition factors**

Perhaps unsurprisingly, transition-specific factors – including type of transition, years since transition, reason for discharge and DVA status – had the greatest impact on mental disorder and suicidality prevalence. Across both 12-month ICD-10 mental disorder and self-reported suicidality, there was a consistent pattern whereby mental health outcomes were poorer for those Transitioned ADF who were most disengaged with Defence. Specifically, those who had fully discharged at the time of completing the study (Ex-Serving) recorded the highest rates of 12-month mental disorder across the various disorder categories, and had significantly higher estimated rates of suicidality. This was consistent with the finding of the 2017 AIHW suicide study (Australian Institute of Health and Welfare, 2017a).

In contrast, Transitioned ADF members who were Inactive and Active Reservists had substantially lower rates of 12-month mental disorder and suicidality. Logically, Reservists – particularly those who remain in the Active Reserves – should have better mental health than those who are fully discharged, however rates of diagnosable disorder, representing one in three, still remain a concern within this group. This pattern of reduced symptoms in transitioned Reservists has been reported previously (Thompson et al., 2015).

Length of time since transition was also associated with various mental health outcomes. Overall, estimated rates of 12-month mental disorder were lowest in those who had transitioned less than one year ago, increasing at one year or more post-transition. This was not a linear association, and varied according to mental health outcome. This is a particularly important finding as it suggests that the most critical time for mental health surveillance, which could potentially include screening, may occur a significant time after transition from the Regular ADF. Furthermore, it may be indicative of the first 12 months following transition being a critical risk period for future disorder emergence.

Further investigation of this issue will be undertaken in the *Mental Health Changes Over Time: a Longitudinal Perspective Report*, which will utilise data from the MHPWS cohort 2010 and 2015, and examine the course of mental health symptoms and disorder, including mapping the emergence of disorder in the period following transition from regular service.

Among the Transitioned ADF, prevalence estimates of 12-month ICD-10 mental disorder were also examined in relation to two further factors: reason for discharge and DVA status. These variables denoted whether an individual was medically

discharged, or transitioned for another reason and whether or not an individual was a DVA client or not. A similar pattern of findings emerged for both factors: those with a medical discharge, and those who were a DVA client had significantly greater estimated rates of affective, anxiety and alcohol disorder, and greater suicidality. These findings, while highlighting areas of interest for further examination, are not unexpected.

Individuals with a medical versus other type of discharge would be expected to have greater rates of mental (and other) disorders. Similarly, as DVA is the primary conduit to care and assistance for ex-serving members, rates of mental disorder are expected to be significantly higher among DVA clients. This is a positive finding, suggesting that many of those Transitioned ADF who require assistance are seeking it through DVA.

Of concern, however, is the remaining, relatively large proportion of Transitioned ADF who met criteria for a 12-month ICD-10 mental disorder, but are not recorded as DVA clients. This highlights the many transitioned members who have a mental disorder in the first five years following discharge from military service who are *not DVA clients*, and therefore are *not* receiving support through DVA.

#### **7.1.13 Risk and protective factors**

It is important to consider these summary findings from two perspectives. Inevitably, these rates of disorder represent the outcomes of the drivers and risk factors for the emergence of mental disorders, versus the factors that might mitigate them. The latter include the significant efforts that have been put in place subsequent to the Dunt reviews (Dunt, 2009b; Dunt, 2009a) to improve mental health service delivery within the ADF and to assist a smooth transition to services delivered by DVA, as outlined in the recent Government response to the Review into the Suicide and Self Harm Prevention Services available to current and former serving ADF members and their families (the Review) (Commonwealth of Australia, 2017).

Importantly, a key component of the response to the Review has been the establishment of a taskforce, including DVA, Defence and the Commonwealth Superannuation Corporation, to work with recently transitioned members and their families, to inform and co-design an enhanced transition pathway. Notably, Defence is implementing a new policy and process that supports the discharge process to ensure that ADF members are discharged with all their necessary documentation including a transition plan and paperwork, inclusive of record of service, record of training and employment, and copies of medical records.

#### 7.1.14 Comparisons with the 2010 ADF Mental Health Prevalence and Wellbeing Study

The results of this study outlined above should also be considered against the background of the 2010 MHPWS, noting two primary caveats: firstly, that these two populations are not entirely separate (i.e. Transitioned ADF members in 2015 may have been Regular ADF members in 2010 and hence are included in both populations) and, secondly, that the prevalence estimates have been established five years apart. A more detailed and contemporaneous comparison of the mental health of Transitioned and Regular ADF is provided in section 7.2 of this discussion.

The 2010 MHPWS reported an estimated lifetime prevalence of mental disorder of 54%, a 12-month prevalence of 22% and a 31% prevalence of comorbid disorder in Regular ADF members in 2010. In contrast, in the current study, approximately three out of four Transitioned ADF members (74.7%) were estimated to meet criteria for any ICD-10 mental disorder in their lifetime, with a 12-month prevalence of 46.4% and a rate of 55% for comorbid mental disorder. This indicates that the estimated 12-month prevalence of mental disorders in the Transitioned ADF is more than double the prevalence reported in the Regular ADF in 2010. The fact that rates of 12-month disorder were closer than might be expected to lifetime disorder rates in the Transitioned ADF (McFarlane et al., 2011) suggests the increasing chronicity and severity of mental disorder (Morina et al., 2013) and highlights the cumulative psychological morbidity in this population.

The rate for PTSD in the Transitioned ADF (17.7%) was also more than double that of the Regular ADF in 2010 (8%). These results indicate that ADF members with PTSD have a greater probability of transitioning from military service. However, it is only after the first year following discharge that rates substantially increase, and appear to escalate with the passage of time. This is in keeping with the anticipated process of time-dependent sensitisation and the reactivity of those with sub-syndromal symptoms to intercurrent life stressors (McFarlane, 2010). The issue of how PTSD emerges over time will also be examined in further detail in the *Impact of Combat Report* and the *Mental Health Changes Over Time, a Longitudinal Perspective Report*.

The 12-month estimated rates of panic attacks and panic disorder in the Transitioned ADF (17.0% and 5.4%) were greater than was found in the Regular ADF in 2010 (7.1% and 1.4% respectively) as were the rates of social phobia (11.0% vs 3.8% in the 2010 Regular ADF), affective disorder (23.1% vs 9.5% in the 2010 Regular ADF) and in particular bipolar disorder (9.8% vs 2.8% in the 2010 Regular ADF), alcohol disorder (12.9% vs 5.2% in the 2010 Regular ADF), and suicidality (21.7% vs 4.0% in the 2010 Regular ADF). In contrast, rates of OCD were relatively similar to those reported in 2010 and generally low in both groups (4.1% in the Transitioned ADF and 3.2% in the

2010 Regular ADF), as were rates of generalised anxiety disorder (3.7% in the Transitioned ADF and 1.1% in the 2010 Regular ADF).

Emerging psychological distress is likely to be a significant driver of an individual's decision to discharge or be medically discharged from military service. Hence it is not surprising that there are substantially greater rates of morbidity in the Transitioned ADF population than among 2010 Regular ADF members. The key findings from the 2010 MHPWS indicated that ADF members with the highest number of mental health symptoms may also be those most likely to transition from service, thereby possibly obscuring the true individual costs of military service (McFarlane & Bryant, 2013). This suggestion was based on the observation of higher rates of affective and anxiety disorders in younger ADF members compared to the Australian Community, and is supported in the international literature (Iversen et al., 2005a; Iversen et al., 2005b). The higher rates of disorder in the Transitioned ADF compared to the 2010 Regular ADF support this hypothesis by emphasising that those who transition out of the ADF are in fact less healthy than those who remain in service.

These findings combined shed light on why the costs of deployment may not be readily visible *within* the ADF. The ADF members with emerging symptomatic distress have a substantially greater probability of transitioning from full-time service, whereas as those who remain in the ADF following a deployment are more likely to be those who remained mentally well. Together, these results highlight the importance of studying transitioning members in addition to Regular ADF members if the true risks associated with combat exposure are to be defined.

The following chapter will examine this point in greater detail by comparing the self-reported mental health and wellbeing of the Transitioned ADF and the Regular ADF using data collected from both populations in the same year – 2015.

## **7.2 The Transitioned ADF compared to the 2015 Regular ADF**

### **7.2.1 The rationale for using self-report measures**

The results discussed to this point have primarily focused on describing the estimates of *12-month* diagnosable mental disorder among the Transitioned ADF. The data examined was substantially derived from the World Mental Health Survey Initiative Version of the World Health Organization Composite International Diagnostic Interview – version 3.0 (CIDI) on a sub-cohort of the Transitioned ADF (CIDI sample). The sample was weighted to represent the total Transitioned ADF population. Twelve-month prevalence estimates were used in this study as this is the accepted period used in psychiatric epidemiology, and it allows comparison with the national mental health surveys (Slade et al., 2009).

The following section provides valuable additional information on the severity and nature of *current* mental health symptomatology, above and beyond the dichotomous 12-month diagnoses provided by the CIDI. In particular, it provides a detailed discussion of current self-reported mental health – including psychological distress, abuse of alcohol, PTSD, anger, generalised anxiety, suicidality, depression and illicit drug use – in the Transitioned ADF compared to the 2015 and 2010 Regular ADF. In contrast to the CIDI interview, the self-report measures of mental health were administered to *all* study participants; therefore, they allow comparisons between the mental health of the Transitioned ADF and a contemporary cohort of the Regular ADF.

Furthermore, self-report symptom measures used in this study document mental health from a dimensional perspective in contrast to the use of categorical diagnosis of mental disorder using ICD-10 criteria. The use of a dimensional examination of self-reported symptoms has gained increasing consideration in mapping the emerging risks of mental disorder at a population level over time (Karsten et al., 2011). While diagnosis has a considerable utility for categorising and treating patients, the sometimes-arbitrary cut-offs between disorder and no disorder disguise the significance of subthreshold symptomatology. There is substantial evidence that subthreshold symptoms across the spectrum of anxiety and depression are associated with significant levels of impairment and distress (Judd et al., 1996; Karsten et al., 2013) and that they represent a significant risk of further development of symptoms and escalation of disorder with the passage of time (O'Donnell, 2013; Pietrzak, 2013). Individuals experiencing subthreshold symptoms are also at significant risk because of the likelihood of not receiving treatment for their symptoms, and the potential associated suicidal ideation and levels of impairment that may accompany this (Marshall et al., 2001). These subthreshold symptoms therefore have significant relevance from a public health perspective. In particular, some subthreshold symptoms are potentially less entrenched and more susceptible to brief interventions than are fully established mental disorder (Haller et al., 2014; McFarlane et al., 2017; Scott et al., 2013).

In this report, ADF screening cut-offs, mean scores and symptom risk categories were presented and compared between groups. This screening cut-off is the value that maximises the sum of the sensitivity and specificity (the proportion of those with and without the disease that are correctly classified). These were derived from the 2010 MHPWS, using the Kessler Psychological Distress Scale (K10), Alcohol Use Disorders Identification Test (AUDIT), Posttraumatic Stress Disorder Checklist (PCL) and Patient Health Questionnaire-9 (PHQ-9) (McFarlane et al., 2011).

### **7.2.2 Psychological distress**

The K10 is a self-report instrument administered regularly to ADF members as part of the Return to Australia Psychological Screen and Post Operational Psychological

Screen. The K10 was also administered to the 2010 Regular ADF as part of the 2010 MHPWS (McFarlane et al., 2011), providing an opportunity to map levels of symptomatic psychological distress over time.

In the current study, the K10 was administered to all cohorts, providing the opportunity to not only compare the levels of psychological distress of the Transitioned ADF with the levels of psychological distress in the 2015 Regular ADF, but also to compare the levels of psychological distress of the Regular ADF in 2010 with the Regular ADF in 2015.

Psychological distress, as measured by the K10, was high among the Transitioned ADF, with 33.1% scoring in the high to very high symptom bands, and over 40.6% scoring equal to or above the screening cut-off of 19. Importantly, a further 17.8% of the Transitioned ADF had a moderate level of symptomatology reflecting subthreshold anxiety or depressive disorders. Clearly, the latter are a group at risk of developing a diagnosable disorder in the future, with these results highlighting that more than 50% of the Transitioned ADF have some level of symptomatic distress. These rates are higher than rates reported in Transitioned Canadian military personnel whereby 30% of Transitioned Regular Members showed psychological distress. Also using the K10, the Canadian study reported 13% of Regular force veterans had moderate/severe (7%/5%) levels of psychological distress respectively in the past month (Thompson et al., 2015).

Psychological distress in the 2015 Regular ADF was significantly lower than among the Transitioned ADF, with 18.7% scoring in the high to very high band compared to 33.1% of the Transitioned ADF. When compared to the findings from the 2010 Regular ADF, the 2015 Regular ADF had proportionally more very high scorers (10.8% vs 3.6%), and proportionally fewer moderate scorers (15.8% vs 22.5%). Concerns have been raised within the military and broader Australian Community about the potential increasing burden of mental disorder over time following the draw-down of troops from the MEAO. Looking at these two cross-sectional samples, there is some indication of this increasing morbidity. Unfortunately, however, this preliminary analysis cannot tell us about incidence (the rate of development of new mental disorders) in this period.

While the change in symptoms over time was not considered in this report, the apparent shift in the pattern of scores between 2010 and 2015 may reflect the progression to more severe symptoms in a proportion of individuals who remain in the Regular ADF and who had moderate symptoms in 2010. This hypothesis will be specifically examined in the *Mental Health Changes Over Time: a Longitudinal Perspective Report*, which will discuss implications regarding the possibility of early intervention to mitigate the escalation of symptomatic distress over time. Equally, it remains the case in 2015 that there is a substantial proportion of the Regular ADF

population who would benefit from targeted early intervention for psychological distress symptoms.

As with diagnosable mental disorder, Transitioned ADF who were Ex-Serving were particularly at risk, with nearly two-thirds reporting some level of psychological distress. Also, consistent with diagnosable mental disorder, greater symptomatology tended to emerge after the first year post-transition, indicating the importance of considering possible post-discharge screening in the second year after leaving military service. This further highlights the importance of taking a longitudinal perspective of symptomatic distress and the role that inter-current stressors play in magnifying or mitigating individual symptoms over time, an issue that will be addressed in detail in the future the *Impact of Combat Report* and the *Mental Health Changes Over Time: a Longitudinal Perspective Report*.

### **7.2.3 Posttraumatic stress symptoms**

The level of posttraumatic stress symptoms in the Transitioned ADF was particularly striking, with approximately 38.0% scoring in the moderate to very high scoring bands on the PCL and almost one-quarter scoring in the high to very high risk categories. Almost 40% of the Transitioned ADF scored equal to or above the ADF screening cut-off of 29 (McFarlane et al., 2011). Importantly, these individuals represent the group who could be considered to have subthreshold or partial PTSD and should be a target for early intervention. When the subgroups in the Transitioned ADF were examined, the Ex-Serving were most symptomatic, with posttraumatic stress symptoms lower among Inactive Reservists, and lowest of all among Active Reservists. This pattern of findings may reflect that Active Reservists may be less symptomatic and are functioning better overall and therefore have 'self-selected' to remain more actively engaged in military service. When years since transition was examined, there was some indication of the recruitment of posttraumatic stress symptoms with the passage of time, with symptoms showing the greatest peak at three years post-transition.

Similar to findings for psychological distress, the severity of posttraumatic stress symptoms was significantly greater in the Transitioned ADF compared to the 2015 Regular ADF, highlighting the strength of the relationship between poor mental health and transition. Similarly, the 2015 Regular ADF reported significantly greater levels of posttraumatic stress symptoms than the 2010 Regular ADF. This issue will be further analysed in the *Impact of Combat Report* and the *Mental Health Changes Over Time: a Longitudinal Perspective Report*.

Again, while not tested in this report, this is consistent with an increasing burden of sub-syndromal symptoms from 2010 and 2015, and could represent the cumulative burden of traumatic stress exposures due to the deployment cycle of the ADF over the last decade. A number of longitudinal studies have emphasised the risk of delayed



onset PTSD (Marmar et al., 2015). In the 2010 MHPWS report, the progressive recruitment of PTSD symptoms with an increasing number of trauma exposures was highlighted as an important issue to monitor (McFarlane et al., 2011). In this study, the rates of sub-syndromal PTSD symptoms in both the Transitioned ADF and the 2015 Regular PTSD warrant early intervention particularly due to the associated risk of delayed onset PTSD and the significant risk for later disorder development (Pietrzak et al., 2014) (McFarlane, 2010).

Overall, the findings relating to self-reported posttraumatic stress symptoms in this report should be interpreted against the background of the epidemiological literature showing that sub-syndromal PTSD has similar levels of impairment to the full disorder (Fetzner et al., 2012; Marshall et al., 2001; Pietrzak et al., 2009; Schmidt, 2015). Prospective epidemiological population studies, for example, have highlighted the role of emerging symptomatic distress – even relatively brief episodes of symptoms – as markers of risk for later disorder (Halpern et al., 2011). Studies of military cohorts, in particular, have shown emerging patterns of altered neurobiology even where symptom levels are well below what is required for the full diagnosis of PTSD (Schür et al., 2016; Steudte-Schmiedgen et al., 2015; van Zuiden et al., 2015; Vermetten et al., 2015; Wiborg et al., 2016). The MEAO Prospective Health Study (Dobson et al., 2012) and subsequent detailed analyses (Lawrence-Wood et al., 2014) for example, documented changes in the neurobiology of individuals at subthreshold levels of symptomatic distress.

These shifts in homeostasis, with the upregulation of physiological regulatory systems, highlight the importance of further investigating the emerging neurobiology of this group so as to provide potential targets for intervention. The domains that have shown dysregulation include inflammatory mediators, measures of brain neural stability and allostatic load (Gola et al., 2013; Heinzelmann & Gill, 2013; McFarlane, 2010).

These epidemiological observations need to be interpreted in the context of the substantial growing body of knowledge about biomarkers and the future risk of disorder (McFarlane et al., 2017). Finally, posttraumatic stress symptoms are also regularly observed in military primary care settings and are associated with treatment-seeking behaviour (Kornfield et al., 2012). Hence the imperative of further analysing the potential clinical interventions for this group is substantial. The *Impact of Combat Study Report* will significantly inform this discussion.

Together these findings emphasise the importance of investigating the early stages of symptom development and how these relate to later disorder (McFarlane et al., 2017). These investigations may also provide important leads in the development of novel preventive interventions.

#### 7.2.4 Alcohol usage

The self-report measure of alcohol use used within the ADF and in this study – the AUDIT – while providing a good indication of patterns of drinking behaviour, has low levels of sensitivity and specificity in predicting alcohol abuse and dependence. Hence interpretation of these data needs to be carefully considered in the context of the rates of diagnosable alcohol dependence and harmful use discussed earlier (McFarlane et al., 2011).

Overall, self-reported alcohol use and problem drinking were significantly greater in the Transitioned ADF compared to the 2015 Regular ADF. However, rates significantly decreased in the Regular ADF from 2010 to 2015. Compared to the 2015 Regular ADF, the Transitioned ADF reported significantly higher AUDIT total scores, more frequent drinking, and drinking more standard drinks on a typical day. They were also more likely to report a problem with drinking and to anticipate problems cutting down or stopping drinking if they tried, a pattern of drinking consistent with psychological dependence. Compared to the 2010 Regular ADF, the 2015 Regular ADF scored lower on the AUDIT, drank less frequently, consumed fewer drinks per occasion and anticipated less difficulty reducing their alcohol consumption in the next three months. The positive finding of a decrease in rates from 2010 to 2015 supports the effectiveness of the ongoing alcohol intervention and prevention strategies employed by the ADF. The finding of increased rates in the Transitioned ADF may possibly reflect the loosening of institutional controls around alcohol consumption that exist during full-time military service.

A matter of concern was that 14.4% of the Transitioned ADF reported drinking an average of seven or more standard drinks on a typical day when consuming alcohol. This represents a pattern of harmful usage in terms of an individual's long-term health (Fuehrlein et al., 2016). The pattern of problematic alcohol use also became more prevalent with increasing disengagement from Defence, with Ex-Serving members reporting the most problems and higher usage, and Active Reservists reporting the least. Time since transition on the other hand appeared to have little impact on alcohol usage patterns. Combined with the patterns of use among Active Reservists, this suggests a more general overall pattern of change in alcohol consumption once an individual leaves the ADF community.

An important question that has not been examined in this study is the relationship between ongoing trauma exposure and patterns of alcohol consumption. This is a matter of particular importance, due to the known relationship between the consumption of alcohol and posttraumatic stress symptoms (Boscarino et al., 2011). The literature generally supports a self-medication model with elevated PTSD symptoms predictive of greater alcohol use (Haller & Chassin, 2014; Simpson et al., 2014); however, there is also the need to consider the potential bi-directional

relationship between psychological symptoms and alcohol consumption with some evidence that excessive regular consumption of alcohol could impact on psychological symptoms (Rumpf et al., 2002; Saunders et al., 1993).

### **7.2.5 Depressive symptoms**

The prevalence of sub-syndromal and diagnosable depressive disorder are important to consider in this population. The severity of self-reported depressive symptoms, as measured by the Patient Health Questionnaire-9 (PHQ-9), were elevated in the Transitioned ADF, with nearly one in five reporting moderately severe to severe depressive symptoms. A further 11.1% of the Transitioned ADF had symptoms of depression in the moderate range, highlighting the prevalence of subthreshold depression, which is a significant risk in terms of future morbidity (Pine et al., 1999). In contrast, the 2015 Regular ADF reported a significantly lower severity of depressive symptoms. As with posttraumatic stress symptoms and symptoms of psychological distress, this further underscores the role that symptoms may play in influencing the decision to leave the military, as well as the impact of transition on mood more generally.

The 2015 Regular ADF sample reported significantly higher depressive symptoms compared to the 2010 Regular ADF sample. In the context of Regular ADF service, these symptoms are of concern because of their impact on the functioning of the work force (Wang et al., 2007). The risk factors for the observed higher rates of depressive symptoms among the 2015 Regular ADF should be further investigated, including the potential impacts of deployments, morale and other employment-related stressors. This would assist in framing preventive interventions for the future.

The pattern of symptoms observed in this study also highlights the risk of disengagement with the ADF, with the Ex-Serving Transitioned ADF having more than three times the risk of being in the moderately severe and severe symptom range compared with the Inactive and Active Reservists. It is possible that this reflects an increasing loss of self-esteem, sense of worthlessness and sense of loss among those no longer directly linked to the military (Denneson et al., 2015; Forces in Mind Trust, 2013; Forces in Mind Trust, 2015; Pease et al., 2016). Although not statistically significant, there appeared to be a trend for depressive symptoms to emerge after the first year following transition from full-time service. In combination with the patterns of emerging diagnosable disorder, and other symptoms, this would suggest the importance of following up members into the second year after discharge from military service as this appears to be a point of particular risk for the emergence of increasing distress and disorder across multiple domains. More generally, the rates of depression and depressive symptoms observed among the Transitioned ADF raise important questions about the adequacy of care provided, including targeted antidepressant usage, and adequately addressing treatment non-response (Jha et al., 2017). The

association between depressive symptoms and suicidal ideation should also be further examined because of the well-recognised relationship between affective disorder and suicide risk (Beautrais et al., 1996).

### **7.2.6 Anger symptoms**

Self-reported anger was measured in this study for a range of reasons, notably because it is an important symptom of PTSD. In particular, the associated impairments and impacts on interpersonal relationships and social functioning in relation to anger are significant.

Overall, self-reported anger followed the same patterns as for other psychological symptoms and for diagnosable mental disorder, with Transitioned ADF members reported significantly greater levels of anger than the 2015 Regular ADF. Similarly, the rates of self-reported anger and its intensity above the screening cut-off observed in this study were substantially higher among the Ex-Serving Transitioned ADF in contrast to those remaining in the Inactive or Active Reserves. Furthermore, anger frequency, intensity and duration, and antagonism towards others, as well as the impacts of anger on social relationships, was significantly higher among the 2015 Regular ADF when compared to the 2010 Regular ADF.

Anger and hostility can be seen as a manifestation of PTSD (Barrett et al., 2013; Jakupcak et al., 2007). Therefore, the role of PTSD and anxiety disorders need to be explored further as possible drivers of the levels of anger observed in the both the Transitioned ADF and the 2015 Regular ADF. It is important to also assess whether current treatment programs for Transitioned ADF members are adequately addressing the issue of aggression, which may not respond to more targeted interventions for PTSD (Rodenburg et al., 2016). It is likely that as individuals become increasingly symptomatic, anger and reactivity become increasingly disruptive to their social functioning and intimate relationships (Meffert et al., 2014).

This anger and reactivity may also be a potential cause of domestic violence and criminal assault. A further enquiry into the consequence of the high levels of anger in the Transitioned ADF is recommended. It is also important to identify the risk factors for increasing anger and the extent to which this is aggravated by a sense of social disenfranchisement and social isolation, which is often described by the veteran community (Adler et al., 2011; Ahern et al., 2015; Pedlar & Thompson, 2016). A further possible risk factor is the nature of the exposures on deployment and how the related traumatic memories can drive a sense of vigilance in self-defensive aggression (Jakupcak et al., 2007). Aggression can also be an emotion that is used to inhibit fear.

### 7.2.7 Suicidality

Due to the high level of community interest and concern – for example reflected through the 2017 National Mental Health Commission *Review into the Suicide and Self-Harm Prevention Services Available to current and former serving ADF members and their families* – and the significance and risk of suicidality in the broader Australian Community, suicidality was examined in multiple chapters. Chapter 4 focused on the prevalence and risk factors for suicidality in the Transitioned ADF. In chapter 5, suicidality in the Transitioned ADF was compared with that experienced by the 2015 and 2010 Regular ADF.

As previously stated, in relation to suicidal thoughts and behaviour, an estimated one in five of the Transitioned ADF reported some form of suicidal ideation, plans or attempts in the last 12 months. More than a quarter reported that they felt their life was not worth living and an estimated one in five reported they had felt so low that they thought about death by suicide. Further to this, an estimated 7.9% of the Transitioned ADF reported making a suicide plan and 2.0% reported trying to take their own life in the past 12 months. Ex-Serving Transitioned ADF members were at greatest risk, reporting significantly greater suicidality than Inactive or Active Reservists, and suicidality increased with the years since transition, peaking at three years post-transition.

The Transitioned ADF were significantly more likely to report suicidal ideation, plans and attempts than the 2015 Regular ADF. This is consistent with the 2016 AIHW report into the incidence of suicide among serving and Ex-Serving ADF members, which found rates of completed suicide were lower than the general population among those still serving in the ADF (Regular and Reserve) but higher in those who were Ex-Serving. The consistency of the self-reported suicidality observed in the current study with data regarding completed suicide is of high importance, as it strongly indicates that the Ex-Serving Transitioned ADF are at increased risk of suicidal ideation escalating to suicidal behaviour.

In keeping with the elevated levels of psychological distress, posttraumatic stress symptoms, depressive symptoms and anger, the 2015 Regular ADF sample were significantly more likely to report suicidal ideation than the 2010 Regular ADF cohort. However, this pattern did not apply to plans and attempts. The higher rates of suicidal ideation in the 2015 Regular ADF may be indicative of substantial ongoing consequences of the high operational deployment tempo of the last decade.

The impact of specific trauma exposures during military service, including on deployment, as against pre-military risk factors of suicidality among the Regular ADF and Transitioned ADF needs further detailed investigation.

Mental disorder is a known significant risk factor for suicidal ideation and completed suicide (Beautrais et al., 1996). Furthermore, exposure to death and suffering, cumulative trauma exposure (LeBouthillier et al., 2015; Stanley et al., 2015) and PTSD convey further risk (Krysinska & Lester, 2010). Defence has undertaken initiatives to manage and prevent suicide among members. While the 2010 MHPWS showed high rates of suicidal ideation compared with the Australian Community, the rates of *attempted* suicide were significantly lower. These findings, combined with the recent AIHW findings suggest that the various programs put in place have been beneficial while in ADF service. However, once personnel have fully transitioned to the civilian community there appears to be a significant rise in suicidal behaviour that needs to be addressed.

### 7.2.8 Anxiety symptoms

The severity of self-reported symptoms of generalised anxiety, as measured by the Generalised Anxiety Disorder 7-item Scale (GAD-7), in the Transitioned ADF was high, with 22.3% reporting moderate to severe symptoms. In contrast, a significantly lower proportion of the 2015 Regular ADF (9.6%) reported moderate to severe symptoms. When examined by transitioned status, 33.2% of the Ex-Serving group fell within the moderate to severe range of GAD symptoms. This contrasts with 15.5% of Inactive Reservists and 11.7% of Active Reservists.

While there was a significant relationship between years since transition and symptoms of generalised anxiety, there was a sharp increase in the proportion reporting severe symptoms at the one-year mark, with rates in the Transitioned ADF increasing from 5.7% to 14.5% at this time point.

In interpreting this data, one notable finding is the disparity in the proportion of Transitioned ADF scoring above the screening cut-off for current anxiety using the GAD-7 (GAD-7  $\geq$  10: 33.2%) and the proportion meeting diagnostic criteria for 12-month GAD on the CIDI (3.7%). This is in vast contrast to the size of difference reported for the PCL (PCL  $\geq$  29: 39.9%, CIDI PTSD: 17.7%), AUDIT (AUDIT  $\geq$  8, 33.6%, CIDI alcohol disorder: 12.9%) and PHQ (PHQ  $\geq$  6: 48.6%, CIDI affective disorder 23.1%). While the proportion scoring above the screening cut-off on the GAD-7 was nine times greater than for those meeting CIDI criteria for 12-month GAD, the proportion scoring above the screening cut-off on the PCL, AUDIT and PHQ-9 compared to the CIDI was much lower. This discrepancy is largely due to the hierarchical nature of diagnostic criteria for ICD-10 GAD.

Under the ICD system of diagnosis, generalised anxiety symptoms are recognised as relatively ubiquitous and highly comorbid with a number of other psychiatric disorders. Accordingly, the ICD-10 criteria do not allow a diagnosis of GAD if the symptoms can be better explained by another disorder, such as panic disorder, social phobia, specific

disorder, OCD or hypochondriacal disorder (World Health Organization, 1992). Looking across the spectrum of other diagnoses reported by the Transitioned ADF, the prevalence of panic disorder, social phobia and specific phobia was 5–8%. This provides some insight into why the symptoms of generalised anxiety were common yet only 3.7% met criteria for a 12-month diagnosis.

Despite this issue, the significance of these symptoms should not be underestimated. For example, studies of monozygotic and dizygotic twin pairs on the Vietnam Era Twin Registry have identified aetiological elements shared between GAD and other psychiatric disorders, as well as unique environmental determinants of this disorder (Chantarujikapong et al., 2001).

This has important implications for treatment as it means that the symptoms of GAD often are not fully resolved by the evidence-based interventions administered for the comorbid condition.

Similarly, traumatic exposures (in particular childhood trauma) play a significant role in the onset of generalised anxiety disorder symptoms, even after controlling for PTSD, depression, panic disorder and substance abuse disorders (Ghafoori et al., 2009). This has important implications for Transitioned ADF, particularly due to the inflated rates of lifetime trauma and deployment exposures in this population compared to the 2015 Regular ADF.

Finally, prospective research has shown GAD to be a major risk factor for later depression, emphasising the potential long-term morbidity associated with these symptoms (Moffitt et al., 2007).

To summarise, in clinical situations, GAD symptoms are often dealt with in the context of hierarchical diagnostic symptoms and, as such, are subsumed under PTSD, OCD and other disorders, indicating that the morbidity associated with these symptoms is significant. The prevalence within the Transitioned ADF, and particularly how they are appointed to future risk of disorders, such as depression, highlights the potential need for these symptoms to become a specific focus of intervention strategies in the clinical setting.

### **7.2.9 Deployment and non-deployment traumatic exposures**

The consistent findings of elevated rates of psychological symptoms and mental disorders in the Transitioned ADF need to be considered in the context of the reported deployment and non-deployment traumatic stress exposures of this population.

Results of this study suggest that those who had transitioned from the ADF had substantially higher levels of deployment-related traumas in contrast to those who remained in the ADF in 2015. For example, in the Transitioned ADF, 38.3% reported

they had gone on combat patrols in contrast to 29.9% of the 2015 Regular ADF. Similarly, among the Transitioned ADF, 37.4% had either handled or seen dead bodies in contrast to 30.2% of the 2015 Regular ADF. While it is important not to minimise the significant exposures of those who remain in the Regular ADF, these findings suggest that those who transition have on average endured a slightly greater history of a range of traumatic exposures related to deployment. The relationship between these exposures and the levels of psychological symptoms and mental disorder in this population require further exploration. This is particularly important longitudinally given recent research highlighting the role of sensitisation following deployment as a risk factor for the development of delayed-onset PTSD and other mental disorders (McEwen, 2003; Smid et al., 2013).

It is important not to conclude that deployment-related trauma is the substantial cause of the majority of the morbidity identified in the Transitioned ADF until further analyses are conducted; however, the findings summarised in this report highlight the potential impact of these exposures. This trend was not apparent in the 2010 MHPWS (McFarlane et al., 2011), which found no significant differences in the rates of mental disorder between those who had been deployed and those who had not. The reason for the latter finding may be that those who had developed mental health symptoms as a consequence of deployment-related trauma had already self-selected for discharge.

In this study, the measure of lifetime trauma exposure similarly highlights the significantly higher levels of combat exposure in the Transitioned ADF compared with the 2015 Regular ADF (31% vs 21%).

Interestingly, the Transitioned ADF were more likely to have been engaged in a peacekeeping role and report having been kidnapped and held captive, when compared to the 2015 Regular ADF. This latter experience was identified in the 2010 ADF MHPWS as being a particular risk factor for PTSD. Again, this measure highlights the important role of deployment as well as non-deployment related traumas in differentiating the Transitioned ADF from those who remain in the Regular ADF. Substantial further analyses are required to unpack the specific risks associated with these exposures. Investigation of the role of trauma on the mental health of the Transitioned ADF –whether or not deployment related – is an important question for further interrogation, and will be explored in the *Impact of Combat Report*.

#### **7.2.10 Drug use in the Transitioned ADF**

Illicit drug use and the use of prescription drugs for non-medical purposes were examined in the Transitioned ADF only. Currently, the ADF has a zero-tolerance policy on the use of illicit drugs by full-time and Reserve personnel. Members found using illicit drugs may attract disciplinary and administrative action, including dismissal. For



this reason, data on drug use in the 2015 Regular ADF was not collected as it was improbable that the result would provide reliable usable data.

In this study, 39.3% of Ex-Serving ADF members reported using illicit drugs in their lifetime, with 16.4% reporting illicit drug use in the last 12 months. These rates closely matched the rates reported in the 2016 National Drug Strategy Household Survey, which reported a lifetime rate of 43% and a 12-month rate of 15.6% in the general Australian population aged 14 and over (AIHW, 2017b). Despite this, the high level of recent use represents a substantial issue that requires consideration in terms of treatment and prevention.

An estimated 11.3% of Ex-Serving ADF members reported using prescription drugs for non-medical purposes in their lifetime, with more than half reporting using them in the last 12 months (6.7%). This is similar to the finding that approximately one in 20 Australians misused prescription drugs in 2016 (4.8%) (AIHW, 2017b). Internationally, rates of prescription drug misuse in current serving US members of the military is suggested to be on the rise, with past-month prescription drug misuse among Active Duty service members increasing from 1.8% in 2002 to 11.1% in 2008 (Bray et al., 2010); however, the rates of drug use in transitioned militaries remains largely unknown. Further research is required to better understand which medication groups are being used for non-medical purposes and how patterns of use relate to patterns of mental disorder and physical conditions such as chronic pain.

Ex-Serving ADF members and Inactive Reservists reported similar patterns of lifetime and 12-month drug use. They were significantly more likely to report 12-month and lifetime illicit drug use, as well as 12-month and lifetime use of prescription drugs for non-medical purposes, than those in the Active Reserves. The potential for legal sanctions for drug use remains of greater significance to the Active than the Inactive Reservists, which may partly account for this pattern. Similar to the pattern observed with posttraumatic stress symptoms, both types of drug use (illicit and non-medical use of prescription drugs) showed a gradual increase over the first few years following years since transition, reaching a peak at three years post-transition. This pattern highlights the importance of awareness of this risk in clinical settings. Equally it may represent self-medication of symptoms that have not been effectively treated by available therapies (Leeies et al., 2010). This group represents a particular concern as self-medication with drugs is a marker for suicidal ideation and risk (Leeies et al., 2010).

Similar to suicidality and alcohol misuse, mental disorder (in particular PTSD) is a known significant risk factor for substance use (illicit and non-medical use of prescription drugs).

A further marker is chronic pain, including mild traumatic brain injury (mTBI) whereby military personnel are suspected to misuse prescription drugs as part of maladaptive coping with deployment-related injuries, pain or psychological injury (Jacobsen et al., 2001; Dao & Frosch, 2010). There is substantial evidence that individuals with PTSD self-medicate with alcohol and drugs (Haller & Chassin, 2014; Simpson et al., 2014). Further research should examine the association between deployment-related exposures and injuries, and other risk and protective factors for substance use among Transitioned ADF members. The interaction between PTSD and substance use represents specific challenges in the treatment setting. In general, the evidence suggests that both disorders should be treated in conjunction due to drugs and alcohol usage represent self-medication (Simpson et al., 2012). A further area that requires investigation is the relationship between aggression and drug and alcohol use in this population (Watkins et al., 2017), as this carries with it a substantial societal and individual cost.

### **7.2.11 Implications of the dimensional data analyses**

Together these data further confirm that the Transitioned ADF are a population with substantially higher levels of psychological distress than those who remain in the ADF, including the Reserves. Strategies such as ongoing screening while in the Active and Inactive Reserves is one method of case definition for the purposes of early intervention. While disorder and symptomatology are lower among the Reservists than the Ex-Serving Transitioned ADF, they are still higher than observed in the 2015 Regular ADF, suggesting a need for greater screening and intervention.

Equally, at the point of discharge from the Reserves, a further screen and thorough medical should be conducted, similar to what is currently in place for ADF members transitioning from full-time service. An important unanswered question is how the patterns of distress in the Transitioned ADF will progress in the future. This again underscores the importance of considering approaches to monitoring health conditions and the need for ongoing health surveillance of this group.

The self-report data discussed here highlights the importance of considering mental health symptoms according to a dimensional perspective. In particular, these symptoms should be considered in light of the increasing emphasis in psychiatry to examine the prodromal symptoms of mental disorder, because of the substantial benefits of early intervention (McGorry & Nelson, 2016). Particularly for the younger age groups in the ADF, the body of research following adolescent populations into adulthood is of some relevance. In the area of adolescent mental health, symptoms of dysphoria and distress have equally attracted increasing investigation because of their ability to predict adult mental disorder, an approach that is relevant to younger ADF recruits (Pine et al., 1999). Individuals who join the ADF at age 18 are at relatively high risk of an emerging disorder, and so their mental health requires consideration and

monitoring. This is in part ameliorated by the recent Defence trial and potential expansion of a mental health screening continuum, which provides opportunistic screening across the career span of ADF members (O'Donnell et al., 2014). However, the results of this report suggest that consideration of novel approaches to support access to care for early service leavers may also be justified.

A further corollary of the utility of a dimensional perspective of symptomatic distress is the use of a staging approach in understanding the development of mental disorders and to develop optimal treatment strategies (McGorry et al., 2014; McGorry et al., 2006). The staging approach postulates that the boundaries between syndromes and disorders are not as distinct as often assumed, and that comorbidity is the rule rather than the exception. It is recognised that the early stages of developing mental disorders are complex and less differentiated than the strict diagnostic categories would suggest. Emerging psychopathology represents a mixture of changes in motivation, anxiety and depression, and affect dysregulation: all dimensions of adaptation that interact with each other (McFarlane et al., 2017; McGorry & Nelson 2016).

Clinical staging is an approach that captures these emerging dimensions of psychiatric morbidity, better defining the risk and emphasising the importance of differential intervention strategies according to the severity of symptomatic distress. The development of this approach has the potential to lead to treatments better tailored to the fluidity, severity and chronicity of an individual's disorder.

In summary, Transitioned ADF and Regular ADF members with sub-syndromal levels of distress, irrespective of their age, represent a group that is at significant risk into the future. Hence, the rates of diagnosable mental disorder documented in this report need to be considered against the background of this further pool of potential distress. This level of sub-syndromal distress points to the future risk of both mental and physical morbidity in the 2015 Regular ADF and the Transitioned ADF. The levels of self-reported distress also highlight the potential opportunity for interventions to be provided at a population level.

### **7.3 The Transitioned ADF compared to the Australian Community**

A limited comparison of the mental health of the Transitioned ADF with an Australian Community sample from the ABS – matched on age, sex and employment status – was included in this report to situate the Transitioned ADF in the context of the civilian population. Two mental health outcomes were available for comparison between these groups: psychological distress and self-reported alcohol consumption.

In general, psychological distress was higher in the Transitioned ADF compared to the Australian Community. Almost three times more Transitioned ADF members scored in

the high to very high psychological distress bands (33.1%) compared to the Australian Community (12.8%). The largest difference between the Transitioned ADF and the Australian Community – across the various sex and age groups – was in the very high scoring band on the K10 for psychological distress. Nearly one in five Transitioned ADF scored in this band compared with just under 5% of the Australian Community. Psychological distress was also found to decrease overall with age in the Transitioned ADF, while in the Australian Community, it remained relatively stable across age groups.

A quite different pattern of results was found when comparing patterns of alcohol use between the Transitioned ADF and the Australian Community. Overall, there were fewer observed differences in the rates of alcohol consumption between the two samples, particularly in the younger age groups. The majority of both populations consumed alcohol monthly, with members of the Transitioned ADF significantly more likely to do this than members of the 2015 Regular ADF. This pattern was mostly accounted for by ADF males. There were female-specific differences in rates of problem drinking between the Transitioned ADF and the community, with a significantly higher proportion of Transitioned ADF females reporting drinking daily, weekly and monthly compared to Australian Community females.

Overall, members of the Australian Community had more standard drinks on a single occasion in the last 12 months than the Transitioned ADF, with a significantly higher proportion of the Australian Community (48.3%) drinking more than seven or more standard drinks on a single occasion compared to the Transitioned ADF (33.2%). This pattern was particularly salient in Australian Community males.

In the 2010 MHPWS, lower rates of alcohol use and disorders were shown in the Regular ADF compared to the Australian Community in 2007. Chapter 5 of this report details how rates of alcohol use were observed to be similarly low among the 2015 Regular ADF, however rates of use were higher among the Transitioned ADF, particularly those who were Ex-Serving.

It appears that differences in alcohol consumption observed between the Transitioned ADF and the 2015 Regular ADF may reflect a movement towards the general population drinking behaviour among the Transitioned ADF.

## **7.4 Strengths and limitations of the study**

### **7.4.1 Limitations and caveats**

A range of limitations and caveats should be considered when interpreting the findings from this study.

First and foremost is the study response rate: the overall response rate for the study was low. This is particularly so for the Transitioned ADF, with a response rate of 18% (n = 4326). This was largely due to the limited contact information available for this group. Participant contact information for all new invitees was obtained from the Department of Defence following an extensive opt-out process. Unfortunately, for most individuals, particularly those who were Ex-Serving, contact information may not have been updated for several years highlighting a difference in response patterns for Serving and Ex-Serving members. In contrast, the response rate for those who participated in the earlier Military Health Outcomes Program (MilHOP) studies (where more up-to-date information was available) was much higher (35%). Maintaining contact has important practical implications for DVA as well as for research. Comprehensive strategies for improving research participation rates and surveillance is a matter that should be discussed with the Transitioned ADF community moving into the future.

Consistent with previous research (Dobson et al., 2012; McFarlane et al., 2011), responders in this study were more likely to be females, Officers, Non-Commissioned Officers and Air Force members. Individuals classified as medically unfit were also more likely to respond. The current study addressed this response bias by statistically weighting the results based on four key variables – sex, rank, Service (Navy, Army or Air Force) and medical fitness – known to impact response rates and the prevalence of mental disorder more broadly, and medical fitness. Therefore, where prevalence rates of mental disorder are reported, they are referring to the *estimated* rates of a particular outcome within the entire population. As such these estimates represent the proportion of cases we would predict to observe in the entire population, based on the proportion of actual cases detected in the subpopulation who completed the outcome measure (the CIDI for mental disorder estimates, the survey for symptom estimates). This weighting process assumes a general consistency across individuals with each combination of these characteristics (strata), and does not account for individual differences, or other factors that may influence the outcomes of interest. Importantly, however, the lower the number of responders, the less accurate the resulting weighted population estimates are likely to be. This is highly relevant to rank where Officers and Non-Commissioned Officers were overrepresented among responders, while Other Ranks were highly underrepresented despite accounting for the largest proportion of the total population. As such, any estimates, when stratified by rank, should be interpreted with a degree of caution.

A large proportion of this study is based on self-report measures, which are subject to potential biases, including recall bias and other response biases. The collection of diagnostic mental disorder data allows for corroboration of findings; however, these potential biases should be noted.

This study reported ICD-10 rates of mental disorder to allow comparison with the 2010 MHPWS (primarily in the *Mental Health Changes Over Time: a Longitudinal Perspective Report*), and past and future data from the Australian studies conducted by the ABS. This is likely to have some impact on the prevalence estimates for PTSD, due to the fact that ICD-10 PTSD has a lower threshold of severity of symptoms to meet the necessary diagnostic threshold (Peters et al., 2006) compared to the alternative DSM diagnostic system. However, given the extant literature regarding the morbidity associated with sub-syndromal DSM PTSD, this still means that the population defined in this study are of clinical relevance (McFarlane, 2010).

Finally, this study only represents the investigation of the initial stages of transition (the first five years). Further study of this cohort should be an important priority to map the ongoing course of mental disorder following ADF service, particularly in light of evidence regarding the emergence of disorder many years after active service in earlier conflicts such as Vietnam (Johnston et al., 2016).

#### **7.4.2 Strengths of the study**

An important strength of the design of this study was the use of a two-phase design, where in phase 1, the population was screened using a self-report questionnaire, then in the second phase a stratified sample of phase 1 participants were interviewed using the 'gold standard' CIDI diagnostic interview. Similar to the 2010 MHPWS (see Annex A for the detailed methodology used), scores on the PCL and AUDIT were used to select a higher proportion of high scorers for the CIDI, resulting in an enriched prevalence of disorder. This method provides greater capacity and power to examine the risk factors and treatment outcomes of particular diagnostic groups in particular disorders of low prevalence. The use of a structured diagnostic interview to detect mental disorder is in direct contrast to most other military and veterans' health studies conducted to date, which have typically used self-report questionnaire data to derive prevalence estimates of 'probable' disorder.

The use of a structured diagnostic interview such as the CIDI, which covers the broad range of mental disorders, provides a more accurate picture of the breadth of diagnosable psychopathology in the Transitioned ADF. The CIDI also allows comparisons with Australian data collected by the ABS, such as the 2007 NSMHW (Australian Bureau of Statistics, 2008). Furthermore, this strategy allowed the examination of a range of specific diagnostic groups that have not generally been examined in military cohorts, such as bipolar affective disorder, agoraphobia and social phobia. These mental disorders are important to investigate as they are important sources of impairment that carry high levels of disability. Furthermore, the design of this study has allowed the screening of a significant number of Defence and transitioned members for mental disorders and suicidal ideation. The nature of additional consents provided by participants to the research team allows the

opportunity for those participants at risk or with ongoing mental disorder to be offered further assistance and therapeutic interventions.

The only other study of a comparable nature conducted to date is the 2010 Canadian Survey on Transition to Civilian Life (STCL) and the Life After Service Survey (LASS 2013) (Thompson et al., 2011a; Thompson et al., 2015; Thompson et al., 2014; Van Til et al., 2014a), although sample differences still limit direct comparison of mental disorder estimates.

Importantly, the structure of the study within the broader and comprehensive research programme allows not only levels of mental distress or disorder to be explored but also comorbidity with physical health, patterns of help seeking, as well as stigma and barriers to care. These issues will be covered in *the Pathways to Care Report*, the *Physical Health Report* and the *Technology Use and Wellbeing Report*.

Finally, the current study allows for the course of mental disorder and symptoms across a five-year window (between 2010 and 2015) to be mapped in the same cohort of individuals. This is a major strength of the longitudinal design and will be the focus of the *Mental Health Changes Over Time: a Longitudinal Perspective Report* and the *Impact of Combat Report*.

## **7.5 Implications and future directions**

The rates of mental disorder the study identified among ADF members in the first five years after transition – with nearly half estimated to have a 12-month mental disorder – are a matter of concern that warrants attention. This level of mental distress highlights the challenges of transitioning out of full-time military service. Clearly, detailed consideration of the findings in this report and analyses of the data in the reports to follow are required before drawing final conclusions and making recommendations. However, this study already highlights key needs of this transitioned population and actions that could be considered.

Consistent with the findings of the 2016 AIHW report on suicide incidence among Serving and Ex-Serving members, those discharging medically are one of the most high-risk groups identified in this report and should be a priority for further evaluation and follow-up. Importantly, however, there is also a large proportion of Transitioned ADF who were not medically discharged but who met criteria for a mental disorder in the last 12 months. Thus, many of these individuals may not have been referred to the appropriate mental health providers at the point of transition. This raises important questions as to whether these disorders emerged following discharge or failed to be declared or identified during the discharge medical. It also raises questions as to whether there should be a more systematic mental health assessment during military service and/or the discharge process using structured diagnostic interviews.

Furthermore, as has been planned by Defence, referral of discharging members to a primary health care provider should increasingly become a priority as this is likely to significantly assist in both the diagnosis of emerging disorders as well as referral to treatment networks.

Similarly, a large proportion of Transitioned ADF members who met criteria for a 12-month mental disorder were not recorded as DVA clients. Taken together, these findings suggest a need to address how ADF members are screened, assessed and monitored for mental health conditions both pre- and post-transition. The data also reinforces the importance of a range of initiatives currently being implemented by DVA and Defence to enhance early identification and intervention, including through the transition process.

One example highlighted in the Australian Government's response to the National Mental Health Commission's review is the Early Engagement Model. The goal is for DVA to establish a relationship with serving members as early in their career as practical. This will include Defence notifying DVA at agreed events during a member's career, such as enlistment, involvement in a serious incident, medical discharge or retirement (Commonwealth of Australia, 2017). Defence is also reforming the ADF Transition Support Services to offer coaching and mentoring, focusing on developing an individual post-separation plan, including employment support. This new model is aimed at all ADF members who are transitioning. Under the model, a Transition Officer will contact each member one month after separation to check on the success of the post-separation plan and whether any new issues have arisen.

Over recent years, Defence has been trialling and implementing an enhanced mental health screening program, which builds on the comprehensive program of screening that already occurs post-deployment and post-exposure to critical incidents. Key components include standardising mental health screening measures across screening events, introducing opportunistic periodic mental health screening for all ADF members (regardless of whether they have been deployed) in primary healthcare settings, command-requested screening for high-risk groups, and updates to the health examination conducted as part of the discharge process (O'Donnell et al., 2014). This Mental Health Screening Continuum includes the development of an online self-assessment website, which will allow ADF members to anonymously assess their own mental health.

Meanwhile, the Veterans and Veterans Families Counselling Service (VVCS) is developing a VVCS online system to increase help-seeking, early intervention and self-management (Australian Liberal Party, 2017). Using participatory design, VVCS intends to establish digital options for care, including a Mental Health e-Clinic that will offer immediate online assessment, resulting in a dashboard of results and support via apps



and e-tools that will progressively display real-time data (for example, for physical activity, mood and sleep). This initiative will make available a wide variety of information, co-designed with members and their families, which enhances awareness of the challenges experienced by transitioning members, and offers information and tools to manage these experiences. Increased tailoring of online tools will not mitigate the need for some members of the community to access more direct clinical support, but it will increase the likelihood that all discharging ADF members and their families are aware of, and understand, the VVCS services available to them. As part of this offering, VVCS will seek to create a self-administered, online mental health check offering appropriate tools, resources and support, depending on individual need.

In addition to these initiatives, it is suggested Defence and DVA consider integrating screening processes pre- and post-transition, and online resources to enable continuity throughout the transition process. The *Pathways to Care Report* and the *Technology Use and Wellbeing Report* will provide important information about the current use of, and potential benefits to improving, online mental health resources for this population.

The findings in this study also strongly support an important DVA initiative to increase access to care: the DVA non-liability healthcare program. This program pays for mental health treatment for Serving and Ex-Serving ADF members, without the need to establish that the condition was caused by their ADF service. This treatment is delivered through the provision of a DVA White Card and allows Ex-Serving ADF members to access general practitioners, psychologists, psychiatrists, medication, public and private hospital care, and VVCS counselling services. Originally, it covered only five common mental health conditions – PTSD, depressive disorder, anxiety disorder, alcohol disorder and substance use disorders – with a set period of service. This access has been extended to anyone who has ever served at least one day in the full-time ADF, and to all mental health conditions.

The data in the study also highlights the importance of ensuring that when individuals access care they need comprehensive assessment by military-aware clinicians to ensure effective treatment. The relatively high rates of bipolar disorder for example, found in the transitioned personnel and potential associated impairments, are matters of considerable concern, particularly due to the behavioural disinhibition, including greater suicidal risk, associated with bipolar disorder (Raja & Azzoni, 2004). Hypomanic episodes are often missed in primary care settings, which means there is a reasonable probability that a number of these individuals are not being effectively managed or treated (Dunner, 2003). This is also a group who are at particular risk of suicidal ideation, suicide attempts and completed suicides (Raja & Azzoni, 2004). The longer the duration of untreated bipolar disorder, the lower the probability of good treatment response (Drancourt et al., 2013; Dunner, 2003), heightening the imperative to

develop a plan to further assess and manage these individuals. This group specifically deserves further clinical assessment, particularly as bipolar disorder is not subject to investigation in veteran populations in any systematic manner currently in the scientific literature. The increased rates of disorder in deployed Transitioned ADF, which was not apparent in the Regular ADF in 2010 also raises important questions as to whether the emergence of bipolar disorder is an as yet unidentified consequence of warlike service.

These findings have important implications from a clinical perspective including the need to upskill both military and civilian clinicians on the specific criteria of mania and hypomania. While some of these symptoms may be considered a natural consequence of combat exposure (that is, feeling they can do things others could not do, engaging in pleasurable activities to the point of ignoring risks or consequences) (McLay et al., 2014), clinicians need to be cognisant of the acceptable limitations of these thoughts and patterns of behaviour. Transitioned ADF members who are still exhibiting a substantial number of these symptoms once they have left full-time service should be appropriately assessed to ensure that their symptoms do not meet diagnostic criteria. The findings in relation to GAD also reinforced the need for effective differential diagnosis when developing treatment plans.

The epigenetic consequences of PTSD and related stress exposures may also play a significant role in triggering the risk of disorders like bipolar disorder in this population (Zannas et al., 2015). There are further epigenetic changes – for example, in the context of PTSD, major depression and anxiety disorders – that could contribute to the later emergence of bipolar disorder (Goes, 2016). This perspective emphasises the importance of a longitudinal model of psychiatric morbidity that is fluid and reactive to environmental stressors and interventions (Fichter et al., 2008). This body of work highlights the importance of further investigating the role of stress exposure in this group and exploring the longitudinal course of disorder (Post & Weiss, 1998). In light of this, an important clinical priority should be the further follow-up of individuals identified with bipolar disorder in this study, to ensure that they have been formally diagnosed, to ensure that they are receiving appropriate treatment, and to better characterise their risk factors. Further research also needs to be conducted to examine the potential risk factors for this disorder in military populations, including the prevalence of comorbid disorder, in order to clearly identify subpopulations who maybe at particular risk.

A qualitative study of Transitioned ADF members who have been identified as having particular mental disorders would assist in better understanding the issues that cannot be captured by the structured diagnostic interview and questionnaires used in this study. This strategy would assist in better understanding the nuances and difficulties experienced by ADF members as they navigate the civilian healthcare system upon

transition. This would also build on the quantitative information in the *Pathways to Care Report*, including the nature of the interventions that have been offered once contact is made with the mental health system. It needs to be recognised that there are many limitations within the civilian healthcare sector, and these are potentially impacting on Transitioned ADF members who do not have DVA entitlements.

This report examined diagnosable mental disorders and subthreshold mental health symptoms. This latter group represents those at significant risk of the later emergence of disorder: a predictable outcome given the international evidence showing an association between increasing age and time and increasing rates of some disorders such as PTSD (Mota et al., 2016; Smid et al., 2013). This reinforces the importance of providing Australian GPs with the ability to conduct a comprehensive ADF Post Discharge Health Assessment (Reed et al., 2016). It also further supports the Departments' considering further options for ongoing surveillance of this population, including those who have transitioned to the Active and Inactive Reserves.

Another issue not explored in this study is psychological outcomes for those who sustained physical injuries during military service (Bryant et al., 2015; Stewart et al., 2015), with those injured on deployment representing a group at particular risk. Current literature indicates an increased recognition of the substantial comorbidity that exists between psychiatric and physical illness (Lohr et al., 2015; Pacella et al., 2013). While these issues will be explored in the *Physical Health Report* and the *Impact of Combat Report*, they deserve to be highlighted for future targeted and detailed analysis.

The current study focuses on ADF members who transitioned from the Regular ADF between 2010 and 2014. This includes ADF members who transitioned into the Active and Inactive Reserves. What this study does not address is the mental health of Reservists who have never served in the Regular ADF (Ab initio Reservists). Data was collected on a sample of Ab initio Reservists as part of this Programme, and a future report is planned that will compare the impacts of military service in these three Reservist groups.

More generally, this study highlights the value of ongoing health surveillance of longitudinal cohorts. In the case of longitudinal surveillance, it is possible to make causal associations particularly where exposures have been measured in close proximity to their occurrence. The *Impact of Combat Report* and the *Mental Health Changes Over Time: a Longitudinal Perspective Report* will provide examples of the power of these prospective cohort studies to help identify risk and protective factors for good and poor health outcomes over time. They can also inform risk mitigation and resilience-building strategies to protect future cohorts.

## 7.6 Conclusion

The Transition and Wellbeing Research Programme aimed to address a number of key research priorities of both DVA and Defence over three studies: The Mental Health and Wellbeing Transition Study, the Impact of Combat Study and the Family Wellbeing Study. This comprehensive programme of research aimed to provide a detailed understanding of the impact of contemporary military service on the mental, physical and social health of serving and ex-serving members and their families, to ensure policy and service delivery responds to future needs.

This research arose out of the need to align future work to the DVA Strategic Research goal of conducting longitudinal studies. It also provided a bridge between the data collected by MilHOP (Defence Health, 2017) and future longitudinal studies of Australian contemporary veterans. The first priority identified was to establish the prevalence of mental disorder in ADF members who recently transitioned from the full-time Regular ADF (since 2010), the remit of this report. Importantly, the findings of this report are a fundamental component of DVA and Defence work to enhance transition processes, including enhancing mental health support services and suicide prevention initiatives (Commonwealth of Australia, 2017).

Based on the 2010 MHPWS (McFarlane et al., 2011), it was predicted that younger Defence members who developed mental disorders were at particular risk of transitioning. The recent intensity of deployments to the Middle East Area of Operations meant there was an accumulated risk as a consequence of trauma-related exposures in war-like environments. The growing body of literature about the prevalence of delayed-onset PTSD meant the MEAO Census and Prospective Health Studies were likely to underestimate the rates of disorder that would emerge as a consequence of these deployments. These deployment and combat exposures may, in part, account for the apparent decline in the mental health and wellbeing of the 2015 Regular ADF members that has been observed in this study.

As anticipated, those ADF members transitioning from military service represent a group at particular risk of mental disorder. The finding that an estimated 46% met 12-month ICD-10 diagnostic criteria for a mental disorder, using a structured diagnostic interview, highlights the burden of the identified morbidity, representing twice the rates found in full-time ADF members in 2010 (McFarlane et al., 2011). Furthermore, the patterns of disorder and subthreshold symptomatology suggest a picture of increasing severity of disorder, particularly with the emergence of agoraphobia, social phobia, PTSD and bipolar disorder, which carry particular risks of impairment and disability. The second report in this series, the *Pathways to Care Report*, provides vital information about how these individuals access care.

Despite these levels of disorder, the levels of engagement in employment and socially connected roles among the Transitioned ADF is encouraging. However, this is clearly a population who is at risk and would benefit from proactive strategies that aim to lessen the burden of mental illness within the group. The rates of suicidal ideation are of particular concern among those who have fully disengaged from the ADF, and will be a focus of further investigation. Substantially more information exists in the dataset collected, and is yet to be analysed. It is critical that the value of this information is understood and that ongoing strategies for further analyses are developed. The findings of this study and subsequent reports will provide the foundation for evidence-based policy and programs to support those who have served our nation to successfully transition from full-time military service.



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## **Annex A    Mental Health and Wellbeing Transition Study method**

This annex outlines the study 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 (DVA) and the Department of Defence (Defence) to examine the impact of contemporary military service on the mental, physical and social health of Serving and Ex-Serving Australian Defence Force (ADF) members and their families. It builds on previous research and will inform effective and evidence-based health and mental health service provision.

The Programme was conducted by a consortium of six of Australia's leading research institutions, led by the Centre for Traumatic Stress Studies (CTSS) at the University of Adelaide and the Australian Institute of Family Studies. The consortium included researchers from 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 issues for those deployed to the Middle East Area of Operations (MEAO) between 2010 and 2012. Following the 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 Programme aimed to address these research gaps in three separate but related studies:

- Mental Health and Wellbeing Transition Study
- Impact of Combat Study
- Family Wellbeing Study.

## A.2 Aims of the Programme

The Transition and Wellbeing Research Programme objectives were to:

- determine the prevalence of mental disorders amongst 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
- examine the physical 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 factors that contribute to the wellbeing of Transitioned ADF and the 2015 Regular ADF
- conduct predictive modelling of the trajectory of mental health symptoms/disorder of Transitioned ADF and the 2015 Regular ADF, removing the need to rely on estimated rates
- investigate technology and its utility for health and mental health programmes, including implications for future health service delivery
- follow up on the mental, physical and neuro-cognitive health and wellbeing of ADF members who deployed to the MEAO between 2010 and 2012
- investigate the social, physical, mental health and wellbeing of 2015 Ab initio Reservists (those who joined as Reservists and have only served in the Reserves)
- 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 during the readjustment phase post-separation
- develop insights into how to improve communication between contemporary veterans, DVA and Defence
- further develop the research outcomes and optimise the use of existing data sets within DVA and Defence in relation to improving the understanding of the mental health of serving and Ex-Serving members and the access to clinical services and their outcomes
- develop the objective knowledge base of DVA and Defence staff, and other interested parties in the mental health of serving and transitioned members



- improve the mental health (and associated physical health) outcomes for serving and Ex-Serving members across all age cohorts allow a review of the optimal method of conducting scientifically valid and reliable research with the ADF and Ex-Serving members that is accepted to the participants, the Ex-Serving community the ADF and DVA.

### **A.3 Sample**

To achieve the aims of the broader research Programme, the following five overlapping samples were targeted for data collection.

#### **A.3.1 Sample 1: Transitioned ADF**

This sample 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 had discharged completely from the Regular ADF. This sample was comprised of three groups of Transitioned ADF members: (1) MHPWS Transitioned ADF: ADF members who participated in the 2010 ADF Mental Health Prevalence and Wellbeing Study (MHPWS) as a Regular ADF member, but have since transitioned; (2) Combat Transitioned ADF: ADF members who participated in the MEAO Prospective Health Study between 2010 and 2012 and have since transitioned; and (3) ADF members who have transitioned from the Regular ADF since 2010, 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 Transitioned ADF in 2015.

#### **A.3.2 Sample 2: 2015 Regular ADF**

This sample is comprised of three groups of Regular ADF members in 2015 who were invited to participate in the study: (1) those who participated in the 2010 MHPWS and were a Regular ADF member in 2015; (2) those who participated in the MEAO Prospective Health Study between 2010 and 2012 and were a Regular ADF member in 2015; and (3) 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**

All ADF members who joined the ADF Reserves and 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**

A sample of ADF families, nominated by 2015 Regular ADF and Ex-Serving ADF members participating in the Programme.

Two MilHOP samples, which were incorporated into samples 1 and 2 above for the purposes of analysis, were also followed up as part of an ongoing program of longitudinal health surveillance. These samples were:

#### **A.3.5 Sample 5: Combat zone**

All ADF members who participated in the MEAO Prospective Health Study, comprising members who were deployed to the MEAO after June 2010 and returned from deployment by June 2012.

#### **A.3.6 Sample 6: MHPWS**

All individuals who participated in the 2010 MHPWS component of MilHOP (2010 ADF). This sample comprised two groups: (1) MHPWS Transitioned ADF: ADF members who participated in the 2010 MHPWS as a Regular ADF member but have since transitioned; and (2) 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 research Programme, and Table A.1 presents the samples each report will cover. All samples were drawn from the Military and Veteran Research Study Roll (Study Roll), which is described in section A.11.2 of this Annex.

### **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 due to the overlapping nature of these two populations.

#### **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 within the 2014-2015 ABS National Health Survey (NHS) 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 (consistent with the Transitioned ADF). The NHS 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.

**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.5 Response rates

### A.5.1 Survey responders

Overall, there was a response rate of 29.1% for the entire survey across both the Transitioned ADF and Regular ADF (total responders/total invited). As at 15 December 2015, 18.0% (4326) of the 23,974 Transitioned ADF members invited to participate had completed a survey. In contrast, response rates in the invited 2015 Regular ADF (20,031) were much higher, with 42.3% of the 2015 Regular ADF who were invited to participate completing a survey. However, it is important to note that not all Regular ADF members were invited to participate in the survey, with invitations 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, had opted out of being contacted further, or there was insufficient address information.

Table A.2 and Figure A.1 summarised the breakdown of Transitioned ADF and 2015 Regular ADF members with enough data to be included in the survey. Table A.3 describes the demographic profile of this group.

**Table A.2 Survey response rates by Service, sex, rank and medical fitness for the Transitioned ADF and the 2015 Regular ADF**

	Transitioned ADF (n = 24,932)				2015 Regular ADF (n = 52,500)			
	Population	Invited	Responders	Response rate %	Population	Invited	Responders	Response rate %
<b>Service</b>								
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
<b>Sex</b>								
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
<b>Rank</b>								
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
<b>Medical fitness</b>								
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
<b>Total</b>	24,932	23,974 <sup>a</sup>	4326	18.0	52,500	20,031	8480	42.3

Notes:

Unweighted data

95% CI: 95% confidence interval

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.

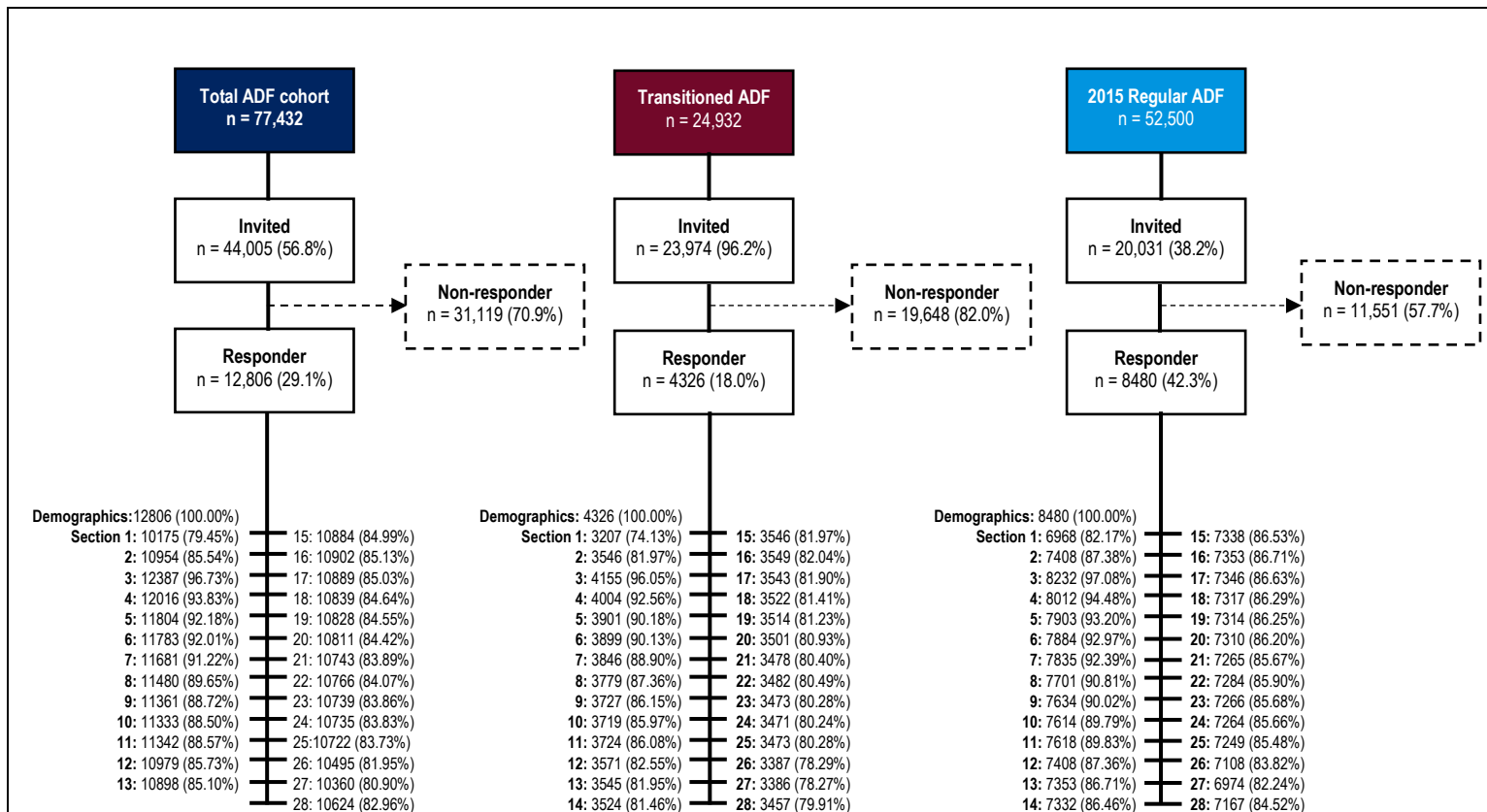
**Age** – Transitioned ADF survey responders (mean age 41.9 (SE 0.18)) were similar in age to the 2015 Regular ADF responders (mean age 41.1 (SE 0.1)).

**Rank** – Survey responders 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 to 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 responders were Navy, 56.9% were Army and 23.1% were Air Force. However, for the Regular 2015 ADF, 34.7% of survey responders 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 2015 Regular ADF were slightly over-represented in the responder group (31.1%) compared to the 2015 Regular ADF population (16.1%). Transitioned ADF who were medically unfit had a response rate of 21.0% compared to 46.5% in the 2015 Regular ADF population.

Figure A.1 Survey response rates for Transitioned ADF and 2015 Regular ADF



**Table A.3 Unweighted demographic characteristics of responders by Transitioned ADF and 2015 Regular ADF**

	Transitioned ADF (n = 4326)			2015 Regular ADF (n = 8480)		
	n	%	95% CI	n	%	95% CI
<b>Age (M, SE)</b>	41.9	0.2		41.1	0.1	
<b>Age group</b>						
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)
<b>Sex</b>						
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)
<b>Rank</b>						
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)
<b>Service</b>						
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)
<b>Medical fitness</b>						
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)

Denominator: Those who were invited and responded to the survey

Notes:

Unweighted data

95%CI: 95% confidence interval

### **A.5.2 CIDI responders**

In phase 2 of the research, a sub-sample 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 was used to estimate prevalence of mental disorder in the Transitioned ADF.

#### ***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 describes the response rates for the stratified Transitioned ADF undertaking the CIDI interview and Table A.5 describes the demographic profile of this group.

**Table A.4 CIDI response rates for stratified Transitioned ADF by Service, sex, rank and MEC status**

	Stratified Transitioned ADF CIDI (n = 1384 (selected); n = 745 (responded))			
	Population	Selected	Responders	Response rate (%)
<b>Service</b>				
Navy	5671	285	150	52.6
Army	15,038	795	424	53.3
Air Force	4223	304	171	56.3
<b>Sex</b>				
Male	21,671	1140	631	55.4
Female	3261	235	109	45.0
<b>Rank</b>				
OFFR	4063	423	252	59.6
NCO	7866	694	389	56.1
Other Ranks	13,003	267	104	39.0
<b>Medical fitness</b>				
Fit	18,273	932	521	55.9
Unfit	6659	443	219	49.4
<b>Total</b>	24,932	1384	745	53.8

Denominator: Transitioned ADF Invited to participate in the CIDI interview

Notes:

Unweighted data

95%CI: 95% confidence interval

The characteristics of Transitioned CIDI respondents were as follows:

**Sex** – Consistent with the Transitioned ADF population, the CIDI sample was predominantly male; however, Transitioned females were less likely to complete a CIDI interview than transitioned males.

**Age**- Transitioned CIDI respondents responders were significantly older 45.6 (SE=0.4) than non-responders 40.4 (SE 0.5).

**Rank** – CIDI responders 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 to above 50% for those invited in Non-Commissioned Officers and Officers who were more likely to respond.

**Service**- 20.1% of CIDI responders were Navy, 56.9% were Army and 23.0% were Air Force. There was no significant difference between CIDI responders and non-responders in relation to Service.

**Medical fitness** – Transitioned ADF who were medically unfit on transition from Regular ADF comprised 29.4% of CIDI responders.



**Table A.5 Demographic characteristics of stratified Transitioned ADF CIDI responders**

	Stratified Transitioned ADF CIDI responders (n = 745)		
	n	%	95% CI
<b>Age (M, SE)</b>	45.6	0.4	
<b>Age group</b>			
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)
<b>Sex</b>			
Male	631	84.7	(81.9, 87.1)
Female	109	14.6	(12.3, 17.4)
<b>Rank</b>			
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)
<b>Service</b>			
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)
<b>Medical fitness</b>			
Fit	521	69.9	(66.5, 73.1)
Unfit	219	29.4	(26.2, 32.8)

Denominator: Transitioned ADF Invited to participate in the CIDI interview

Notes:

Unweighted data

95% CI: 95% confidence interval

***Mental Health Prevalence and Wellbeing Study group***

A total of 1088 participants from this group were invited to participate in the CIDI 3.0. Of those invited, 76.8% (835) completed the interview. Table A.6 describes the response rates for this group.

**Table A.6 CIDI response rates for the MHPWS group, by Service, sex, rank and Medical Employment Classification status**

	MHPWS CIDI (n = 1088 (invited); n = 835 (responded))		
	Invited	Responders	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>

Denominator: MHPWS sample invited to participate in the CIDI interview

Notes:

Unweighted data

95% CI: 95% confidence interval

The characteristics of the MHPWS group CIDI respondents are 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, with females being less likely to respond than males.
- **Rank**-CIDI responders in this group were comprised 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 ranking categories.
- **Service**- 21.0% of survey responders were Navy, 41.8% were Army and 37.2% were Air Force. There was no difference between CIDI responders and non-responders in relation to service.
- **Medical fitness** -ADF members who were medically unfit were similarly represented in the CIDI responder group (29.1%) compared to those selected (30.1%). ADF members who were medically fit were also similarly represented in the CIDI responder group (70.7%) compared to 69.7% in the invited population. Therefore, the responder sample was representative in terms of medical fitness of the selected group.

### Combat Zone group

A total of 183 participants from this group were invited to participate in the CIDI 3.0. Of those invited, 76.5% (140) completed the interview. Table A.7 describes the response rates for this group.

**Table A.7 CIDI response rates for the Combat Zone group, by Service, sex, rank and Medical Employment Classification status**

	Combat Zone group CIDI (n = 183 (invited); n = 140 (responded))		
	Invited	Responders	Response rate (%)
<b>Service</b>			
Navy	10	10	100
Army	143	111	77.6
Air Force	0	0	0.0
Missing	30	19	63.3
<b>Sex</b>			
Male	148	118	79.7
Female	2	2	100.0
Missing	33	20	60.6
<b>Rank</b>			
OFFR	20	16	80.0
NCO	101	77	76.2
Other Ranks	47	39	83.0
Missing	15	8	53.3
<b>Medical fitness</b>			
Fit	130	103	79.2
Unfit	21	17	81.0
Missing	32	20	62.5
<b>Total</b>	183	140	76.5

Denominator: Combat zone sample invited to participate in the CIDI interview

Notes:

Unweighted data

95% CI: 95% confidence interval

The characteristics of the Combat Zone group CIDI respondents were as follows:

- **Sex** – The Combat Zone CIDI sample consisted of both 2015 Regular ADF and Transitioned ADF members participated. Consistent with the ADF population, the CIDI sample was almost entirely male. Of the two females selected, both responded.
- **Rank** - CIDI responders in this group were comprised 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-** 7.1% of survey responders were Navy, 79.3% were Army and 0% were Air Force. There was no difference between CIDI responders and non-responders in relation to Service.
- **Medical fitness** -ADF members who were medically unfit were similarly represented in the CIDI responder group (12.14%) compared to those selected (11.5%). ADF members who were medically fit were also similarly represented in the CIDI responder group (73.6%) compared to 71.0% in the invited population. Therefore, the responder sample was representative in terms of medical fitness of the selected group.

## A.6 Study overview

Prevalence estimates were obtained using a two-phase design. This is a well-accepted approach to epidemiological research (Salim & Welsh, 2009), and was utilised in the 2010 Mental Health Prevalence Wellbeing Study (McFarlane et al., 2011). In the first phase, participants completed a screening questionnaire. This provided the research team with 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 1-hour diagnostic mental health telephone interview. Additional biological, neurocognitive testing and Magnetic Resonance Imaging (MRI) was undertaken by participants in the Combat Zone sample. A detailed description of this additional testing is not provided here but will be provided in a later report.

Interview data for the Transitioned ADF was 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 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 which was completed either online or in hard copy. This survey was developed at the beginning of the study period in close consultation DVA and Defence. Survey anonymity was preserved via the allocation of a unique study ID number to each participant.

Participants who 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 which included a secure link to an online invitation package containing the web-based survey. Participants could only access the survey by entering their unique study ID number and password which was provided to them in the invitation email; or
- In hardcopy: participants could opt to complete a hard copy version of the questionnaire, which was then 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 regard to demographics, Service and deployment history, however, the core-validated measures of psychological and physical health remained the same and replicated where possible the measures previously administered as part of the MHPWS in 2010. This component of the design is critical to the longitudinal comparisons across time and highlights the importance of a consistent approach to the oversight of research design of military and veteran populations over time.

Prior to roll out, the online and hardcopy 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 then subsequently incorporated into the final version of the survey. This ensured that there were no mistakes in the survey or glitches in the system prior to the study rolling out.

Please note, 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 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 Household, Income and Labour Dynamics in Australia (HILDA) 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 was comprised of eight questions from the 2010 ABS General Social Survey (GSS)(Australian Bureau of Statistics, 2011) that addressed lifetime and recent episodes of homelessness. Items looked at:

- participants' experiences of homelessness
- reasons for homelessness
- frequency of homelessness
- details about their 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, 1990) and the other four items were developed by researchers for the study.

Transitioned ADF members were also 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 included '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 required 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 Household, Income and Labour Dynamics in Australia (HILDA) Survey (Watson & Wooden, 2002). Participants were also asked to indicate whether they had experienced a period of unemployment greater than 3 months since transitioning, and when this period began. This item was taken from the Australian Gulf War Veterans' Health Study 2011 (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, 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 Veterans' Health Study 2011 follow-up (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, participants were asked to provide a date. This item in the

survey was taken from the Australian Gulf War Veterans' Health Study 2011 follow-up (Sim et al., 2015).

#### *ADF separation details*

This section of the survey was comprised of 2 parts. Firstly, participants were asked about their discharge/resignation category. Examples of options included 'medical discharge', 'compassionate grounds' and 'end of fixed period engagement'. In part 2, participants were provided with a comprehensive list of reasons for leaving the ADF and asked to mark all that played a role in their decision to leave. Participants were also asked to indicate the main reason of those selected. Items in this section were based on the current exit survey utilised by the ADF (Shirt, 2012).

ADF Reservists were also asked additional questions pertaining to the following:

#### *Reservist details*

Participants were asked to provide details in relation to the following: length of time served as a Reservist, Reservist status, periods of continuous full-time service, hours worked per week in the past month, weeks away in the past 5 years, and satisfaction with participation in the Reserves. Items in this section were derived from the Soldier Wellbeing Survey (Riviere, 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, 1998). Other items were developed specifically by researchers for use in the study.

#### *Civilian employment*

Participants were asked a series of questions about the following 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, 2011; Thomas et al., 2010), The Middle East Area of Operations (MEAO) Health Study: Prospective Study (Davy, 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 previous section about Transitioned members.

#### *Contribution to the ADF*

Participants' perception of their contribution to the ADF was measured via 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, 1998).



### *How the ADF deals with Reservists*

Participants' perceptions of how well the ADF deals with, understands and accepts Reservists were assessed via 3 items measured on a 5-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 the following: mental health problems resulting from Reservist experience, help sought for these problems, help sought and received from ADF services/non-Defence organisations, 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*

In this section of the survey, participants were asked to provide detailed information about their deployment history with the ADF. Deployments were grouped into the following 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 experienced each one during their military career. Response categories ranged from 'never' to '10+ times'. Examples of events included 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 was comprised of 3 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, 1992) referred to as the Form 1 (SF1). The SF 1 is a single item that is increasingly being utilised 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 Veterans Health Study follow-up (Sim et al., 2015).

### *Depression*

Self-reported depression was examined using the Patient Health Questionnaire - 9 (PHQ9)(Kroenke et al., 2001). The 9 items of the PHQ9 are scored from 0-3 and summed to give a total score between 0 and 27. The PHQ9 provides various levels of diagnostic severity with higher scores indicating higher levels of depression symptoms.

### *Generalised anxiety disorder*

Generalised anxiety disorder was measured via the Generalised Anxiety Disorder 7 (GAD-7) (Spitzer, 2006). Each of the 7 items is scored from 1 to 3, providing a total generalised anxiety score ranging between 0 and 21. Participants were asked to rate each item in the GAD-7 in relation to last 2 weeks only.

### *Sleep problems*

Self-perceived insomnia was examined via the Insomnia Severity Index (ISI) (Bastien et al., 2001). The ISI 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 0–4 scale and the total score ranges from 0 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 4 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 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 that address anger frequency, intensity, duration, aggression, and interference with social functioning. Items are scored on a 5-point Likert scale generating a severity score ranging from 5 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 addressing participants' personal experiences with physical violence or threatened violence were taken from the 2010 Mental Health Prevalence Wellbeing Study (McFarlane et al., 2011).

### *Suicidal ideation and behaviour*

12-month suicidal ideation and behaviour was assessed via four items that looked specifically at suicidal thoughts, plans and attempts. Three of the items in this section 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 addressing 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 experienced 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 regarding the following: 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 indicated 'yes' to was their worst event.

### *Posttraumatic Stress Disorder*

The Post Traumatic Stress Disorder Checklist- civilian version (PCL-C) (Weathers, 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 1 to 5 and are summed to give a total symptom severity score of between 17 and 85. An additional 4 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 last 12 months, and whether or not it was still having an effect on their life. Examples of events include '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 was 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 World Health Organization (WHO) risk categories are utilised with ADF populations and are also therefore the scoring categories utilised in this study. This 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 that are likely to require simple advice; Band 3 (scores of 16-19) are those where counselling and continued monitoring is 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 additional 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 usage were taken from the 2013 National Drug Strategy Survey (Australian Institute of Health and Welfare, 2011) 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 usage including frequency of use, the ages they started and stopped smoking daily, and the types of tobacco products they had smoked in the last year.

### *Drug use*

12-month and lifetime Drug use in Transitioned ADF only was measured using modified Items from the 2013 National Drug Strategy Survey (Australian Institute of Health and Welfare, 2011). Transitioned ADF were asked a series of questions about two categories of drugs; (1) illicit drugs (including meth/amphetamines, marijuana, heroin, methadone or buprenorphine, cocaine, hallucinogens, ecstasy, ketamine, GHB, inhalants, opiates, opioids) and (2) 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 the last 12 months, and the age that they first used them.

### *Functioning*

Functional impairment was assessed via the Sheehan Disability Scale (Sheehan, 1983), a 5-item self-report measure of disability due to mental health symptoms in three inter-related domains; work/school, social life and family life. The 3 items assessing impairment in the 3 domains are scored from 0 to 10 and can yield a total global functional impairment score of between 0 and 30.

### *Getting help*

This section of the survey was developed by key study investigators with specific knowledge and experience within the field. Other items were taken from the Australian Bureau of Statistics (2008), the CIDI 3.0 (Haro et al., 2006) and the 2010 Mental Health Wellbeing Prevalence 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 utilised by participants to inform/assess and maintain their mental health in the last 12 months, and whether or not they found these strategies to be helpful. The 32 items looking at ways in which people informed/assessed their mental health were developed specifically for the study by researchers. The 4 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. Options included via telephone, the internet, or in person (face to face). This item was developed by researchers for use in the study.

- **Barriers and stigmas to care**

Participants were asked to rate the degree to which a list of ‘concerns’ might affect their decision to seek help on a 5-point scale. Anchors ranged from ‘strongly disagree’ to ‘strongly agree’. Items in this section were taken from the 2010 Mental Health Prevalence 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, 2011; Thomas et al., 2010) with several additions by investigators. Examples of items include ‘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. This question targeted individuals who expressed concerns about their mental health but never sought help. Participants were presented with a list of 7 barriers and asked to indicate how much they disagreed with each one on a 5-point scale ranging from ‘strongly disagree’ to ‘strongly agree’. Examples of statements include ‘I can still function effectively’ and ‘I didn’t know where to get help’.

Items addressing barriers to care in both of sets of questions listed above 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 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 list of doctors or professionals for their own mental health in the past 12 months or outside of the past 12 months:

- general practitioner/medical officer
- psychologist
- psychiatrist
- other mental health professional

For each of the professionals listed above, 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 utilised the following services in the past 12 months or outside of the past 12 months:

- inpatient treatment, hospital admission
- hospital-based PTSD program
- residential alcohol and other drug program

For each of the treatments/programs listed above, 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 health care/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 past 12 months only.

- **Doctor diagnosed mental health conditions**

This section of the survey asked participants about mental health problems or conditions that they had ever 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 past year, and finally whether they had taken medication for the condition in the past month. Items in this

section were derived from the 2011 Australian Gulf War Veterans Health Study follow-up (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 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, PTSD. This question was developed by researchers at CTSS 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 was comprised of two questions. The first item asked participants whether someone else suggested that they seek help for their mental health condition. The second item asked participants whether someone else practically assisted them in seeking care. Options included their GP, Medical Officer, partner, other family member, friend/colleague, or their supervisor/manager/Commander. These questions were developed by researchers for specific use in the study.

- **Reasons for seeking care**

Participants were asked to indicate what primary and secondary reason lead them to seeking care. Examples included 'anger', 'depression' and 'gambling'. These two questions were developed by researchers for specific 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 past 12 months. Participants were also asked to indicate how many times they had consulted a general practitioner and/or specialist doctor in the last 2 weeks. All items in this section were taken from the 2011 Australian Gulf War Veterans Health Study follow-up (Sim et al., 2015).



### *Family and children*

This section of the survey was comprised of several scales looking at participants' relationships with their family and children:

- Family support and strain was 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 doing. Negative interactions were indicated by responses to questions about how often family 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 4-point Likert-type scale ranging from 'often' to 'never'.
- Items assessing participants' relationship with their current partner, arguments with their current partner and abuse experienced by partner were taken from the Timor-Lest 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 also taken from the 2014 Vietnam Veterans Family Study (Forrest et al., 2014).
- 2 items assessing relationship satisfaction were taken from the Household, Income and Labour Dynamics in Australia (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, 2005).
- Global parental self-efficacy was assessed via a single item taken from the Longitudinal Study of Australian Children (Gray, 2005). Participants were required to rate their competency as a parent on a 5-point Likert-type scale ranging from 'not very good at being a parent' to 'a very good parent'.
- Parental warmth was measured using 6 items from the Child Rearing Questionnaire (Paterson & Sanson, 1999). These items were also utilised in the Longitudinal Study of Australian Children (Gray, 2005). Participants were required to answer questions in this section thinking about their first-born child aged

between 4 and 17 who lived with them 50% or more of the time in the last 6 months. Participants were required to indicate how often each listed event took place on a 5-point Likert type scale ranging from 'never/almost never' to 'always/almost always'. Examples of events include '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 5 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 5-point Likert type scale ranging from 'never/almost never' to 'all the time'. Examples of events include '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 was comprised of several scales looking at participants' friends and social contacts:

- Social support and strain was 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 4-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 conducted by the Department of Veterans Affairs (Forrest et al., 2014).
- A single item assessing how satisfied participants were with their friendships was taken from The Household, Income and Labour Dynamics in Australia (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 Ex-Service Organisations benefited them were taken from the 2011 Australian Gulf War Veterans Health Study follow-up (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 6 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 (PGSI) (Stinchfield, 2007) is a widely used nine item scale for measuring the severity of gambling problems in the general population. Each item is scored from 0 to 3. 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, 2005) and looked specifically at driving over the speed limit and driving while effected 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 finally whether they had ever been sent to prison. For any that applied, participants were also asked to indicate whether the event occurred prior to entry into the ADF, prior to transition from the Regular ADF service, or since transition from Regular ADF service. Items in this section of the survey were sourced from the 2011 Australian Gulf War Veterans Health Study follow-up (Sim et al., 2015).

### *Internet usage*

This section of the survey aimed to ascertain what role the internet played in improving the mental health and wellbeing of participants. Items looking at internet usage were taken from the Young and Well National Survey (Burns, 2013) and looked specifically at internet usage patterns, means of accessing the internet, the use of the internet for social support, the use of the internet for obtaining information relating to mental health, the 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 Young and Well Co-operative Research Centre (Burns, 2013; Young and Well Cooperative Research Centre, 2013). Questions looked at participants' current usage of new and emerging technologies, barriers to usage, types

of new and emerging technologies utilised, 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 utilise if money was not a factor, and finally the early adoption of new technologies

### *Head injuries*

This section of the survey was comprised of 2 scales. Firstly, a self-report version of the Ohio State University Traumatic Brain Injury Identification Method (OSU TBI-ID) (Corrigan & Bogner, 2007), which 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 (TBI). Questions focused on the types of head/neck injuries incurred, symptoms experienced (e.g. 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 finally the occurrence of multiple blows to the head in relation to a history of abuse, contact sports or ADF training/ deployment. Secondly, a modified version of the Post-concussion Syndrome Checklist (PCS)(Gouverier et al., 1992), which was utilised as part of the 2012 Middle East Area of Operations Health Study (Davy, 2012). This modified version of the scale required participants to indicate the degree to which they had experienced a list of 11 symptoms in the past 4 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 last 7 days, as well as the amount of time they spent sedentary.

### *Pain*

Items assessing pain intensity and disability were taken from the 2011 Australian Gulf War Veterans Health Study follow-up (Sim et al., 2015). Participants were asked to answer a series of questions on a scale of 1 to 10 about their current pain, worst pain and average pain in the last 6-month period. 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 last 6 months.

### *Injuries*

This section of the survey was developed by researchers for the current Programme and 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 experienced in the last 12 months. Items were derived from the European Community Respiratory Health Survey 1 (Burney et al., 1994). Examples of symptoms that were assessed include 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 2011 Australian Gulf War Veterans Health Study follow-up (Sim et al., 2015). This 67-item adapted version of self-report symptom questionnaire included respiratory, cardiovascular, musculoskeletal, dermatological, gastrointestinal, genitourinary, neurological and cognitive symptoms. For every symptom experienced within the past month, participants were also required to provide an indication of symptom severity on a 3-point Likert scale (mild, moderate, severe).

#### *Doctor diagnosed medical conditions*

This 44-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 past year and finally whether they had taken medications for the condition in the past month. Items in this section were derived from the 2011 Australian Gulf War Veterans Health Study follow-up (Sim et al., 2015).

\*For more detail surrounding the individual measures listed in the previous section including information about scoring, please refer to the relevant chapters within each commissioned report.

### **A.7.2 Phase 2: Diagnostic interview**

In phase 2 of the research, a sub-sample of individuals was selected to participate in a one-hour telephone interview using 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 vast use in epidemiological studies worldwide, including the 2010

MHPWS conducted by CTSS 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, NSW. Their diagnostic inter-rater reliability was closely monitored by supervisors based at the research centre throughout the study period.

### ***12-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 have been 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; therefore, to qualify for a 12-month diagnosis, individuals would be required to meet lifetime criteria initially and then have reported symptoms in the 12 months before the interview.

### ***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 (PCL) and AUDIT, to increase representativeness of the sample and optimise the ability to capture low prevalence mental disorders.

As such 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 the following 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 & 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 responders 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:

- Band 3
- Female Band 2
- Female Band 1
- Male Navy Band 2
- Male Navy Band 3
- Male Army Band 3
- Male Army Band 1
- Male RAAF Band 2

**Table A.8 Stratification characteristics of Transitioned ADF CIDI sample**

	Transitioned ADF CIDI							
	No Band*		Band 1		Band 2		Band 3	
	Invited (n = 110)	Completed (n = 72)	Invited (n = 408)	Completed (n = 258)	Invited (n = 335)	Completed (n = 225)	Invited (n = 954)	Completed (n = 494)
<b>Navy</b>								
Male	20	8	73	43	57	41	140	71
Female	1	1	17	10	8	4	40	20
<b>Army</b>								
Male	52	37	152	94	155	109	515	272
Female	15	10	35	19	31	15	66	25
<b>Air Force</b>								
Male	17	13	104	77	74	50	152	86
Female	4	3	25	14	8	5	34	16
<b>Missing</b>	1	–	2	1	2	1	7	4

\*Includes Combat Zone and MHPWS participants who were invited to participate but were not stratified

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 responders were missing band, sex or Service, and were excluded from the final weighted population.

## 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. The two types of weights used in the study were:

- the survey responder weights, which corrected for differential non-response on the survey for Transitioned ADF and 2015 Regular ADF
- two-phase CIDI responder weights, which compensated for differential non-response on the survey, and for oversampling or under-sampling 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 responder, based on key variables that are known for the entire population (including both responders and non-responders). This weight indicates how



many individuals in the entire population are represented by each actual responder. Weighting data allows for inference of results for an entire population, in this case, the Transitioned ADF, by assigning a representative value to each 'actual' case (responder) in the data. If a case has a weight of 4, it means that case counts in the data as 4 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 responders indicates how many 'like' individuals in the entire population (based on those characteristics), each responder represents.

Weighting is used to correct for differential non-response and to account for systematic biases that may be present in study responders (e.g., oversampling of high scorers for CIDI). Both types of weights were used in this study.

These two types of weights were combined to give each responder 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 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, a dichotomous variable derived from Medical Employment Classification Status (see details of reclassification below). 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 on perturbation approach). 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. The inclusion of this additional stratification variable was to account for the targeted sampling of the MilHOP cohort, who were then overrepresented within the current serving responders. 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 B.14, B.15 and B.16 present the study population and responders within each strata used for weighting, and show approximately how many persons within each subpopulation each study responder represents.

### **A.9.1 Reclassification of MEC for study**

MEC is an administrative system designed to monitor physical fitness and medical standards in the ADF, and is divided into the following 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 sub-classifications 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 utilised in the current Programme of research. Medical fitness was defined accordingly:

- 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 are 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 survey**

To maximise the actual real data available for analysis, *survey* weights were calculated for each section of the survey separately. This addressed the issue of differential response 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.

### **A.9.3 Estimates from 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. As 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 Medical Employment Classification values**

### **A.10.1 Methodology**

Due to 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 (AIHW) carried out a perturbation approach 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. The model used was a logistic regression model. 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 undertake more accurate analyses and tabulations.

The unit record perturbation allowed for tabulation and analyses. 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 characteristic of each person to inform the perturbed value that 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, as the counts of ‘fit’, ‘unfit’ and ‘missing’ were the same for both the original and 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 gender, Service, rank or age. As such, the number 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
Navy	613	191	3	614	193	0
Army	254	63	0	255	60	2
Air Force	433	108	0	431	109	1

## **A.11 Contact strategy and recruitment methods**

### **A.11.1 Promoting the study**

Before the research team made initial direct contact, the following strategies were used to promote the study to participants.

#### ***Advertising via print media***

The study team developed promotional posters, which were placed in Service newspapers, on DVA and Defence internet and intranet sites, on bases, at ESOs 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 study to the wider community, disseminating information and generating interest among ADF members. The Executive Dean of the 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 enquiries, which the CTSS 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 ESOs to disseminate information and generate support for the study.

#### ***Distribution of study briefing packs***

Briefing packs containing study/promotional materials were distributed to ESOs as another means of promoting the study to 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 CTSS research team. The primary objectives of the social media campaign were to raise awareness of the research 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 CTSS.

### **A.11.2 Development of the Military and Veteran Health Research Study Roll**

Participants' contact details and demographic information were obtained via the creation of the Military and Veteran Health Research Study Roll (Study Roll), which was created by the AIHW, in collaboration with DVA and Defence. This process involved integrating contact information from:

- Defence's PMKeyS database
- DVA client databases
- the National Death Index (NDI)
- 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 only passed on to the research team after an opt-out process was conducted. This involved DVA and Defence contacting participants via their websites, email, hard copy letter, service newspapers and a media campaign, and providing them with detailed information about the Study Roll and its broader purpose. The contact information, basic service history and demographic information of individuals who did not opt out of this process within four weeks of the campaign commencing were then passed on to 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. 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 NDI 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 CTSS at the beginning of the study period, but who subsequently self-selected into the study were sent to AIHW 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 CTSS to participate. Reservists who

self-selected into the study were only included in the dataset if they appeared on the original Study Roll.

#### **A.11.4 Sampling by data integrator**

Before recruitment, AIHW created appropriate samples for the research Programme, including:

- all members who transitioned from full-time Regular ADF service between 2010 and 2014
- all ADF members who participated in the MilHOP, excluding members who indicated they did not wish to be contacted for further research
- a stratified random sample of 5,040 2015 Regular ADF members
- 22,638 currently serving Ab initio Reservists. Note: only Reservists with contact information were invited to participate (22,638).

The stratified random sample of 5,040 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 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 listed above, 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 upon request, hard copy versions of the invitation package were posted to participants.

### ***Follow-up of survey non-respondents***

A multifaceted approach to following up survey non-respondents was used to maximise participation rates:

- **Reminder emails**

Email reminders were sent to all non-responders 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**

SMS reminders were sent to all non-responders 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 disorder. 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 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 CTSS made the phone calls following a structured script. The calls were made at a variety of times during the day and evening to maximise 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, along with 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:

- all Transitioned ADF non-responders
- all Ab initio Reservist non-responders
- all 2015 Regular ADF non-responders 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 1-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 for phase 2:

- A stratified sample of ADF members who had transitioned out of full-time Service since 2010. Transitioned ADF survey responders 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 who 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, who couldn't 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 maximise 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:

- participants providing contact details/alternative contact details either online or in hard copy as part of phase 1 of the Mental Health and Wellbeing Transition Study.
- AIHW
- PMKeyS
- 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 listed above 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 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 was undertaken.

At the end of the structured interview, participants were provided with sufficient time to debrief, ask questions, and provided 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 access to complete Medicare, Pharmaceutical Benefit Scheme (PBS) and Repatriation Pharmaceutical Benefits Scheme (RPBS) data. Data for each consenting participant was 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 who 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), 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 number of disorder classes as the outcome. The regression involved the co-variables

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 co-variables 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 co-variables 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. However, the main assumption of this approach was violated, so the ordinal response was dichotomised by means of several cut-offs. All regressions included the co-variables age, sex, Service and rank.

To compare the mental health and wellbeing of the 2015 Regular ADF with the 2010 Regular ADF, a direct numerical comparison was performed. This did not include standardisation or tests of statistical significance. As 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 issue of individual change in symptoms and disorder over time in this group will be addressed in the future longitudinal report.

To compare estimates in the Transitioned ADF with the Australian Community, direct standardisation was applied to estimates in the 2014–15 NHS. The NHS data were restricted to those aged 18–71 (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 and/or were free to withdraw from the project at any time. This was emphasised in all study materials. Secondly, 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 Australian Institute of Health and Welfare Ethics Committee and received approval accordingly (EO 2015/1/163).



## Annex B Detailed tables

### B.1 Analytical tables

**Table B.1** Estimated prevalence of lifetime and 12-month ICD-10 anxiety disorder in Transitioned ADF using the ABS definition

ABS any anxiety disorder	Transitioned ADF (n = 24,932)		
	Weighted n	%	95% CI
Lifetime any anxiety disorder	10421	41.8	37.1, 46.6
12-month any anxiety disorder	7694	30.9	26.6, 35.5

Note: To allow comparison with the ABS study, 'any anxiety disorder' was limited to the following six anxiety disorders: panic disorder, agoraphobia, social phobia, generalised anxiety disorder, obsessive-compulsive disorder and posttraumatic stress disorder. The ABS definition replicates the categories used in the 2007 National Mental Health and Wellbeing Survey (Slade et al., 2007) and the 2010 ADF Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011).

Note: 95%CI: 95% confidence interval

**Table B.2** Regression coefficients comparing mean DAR-5 anger in Transitioned vs 2015 Regular ADF

	Transitioned ADF vs 2015 Regular ADF			
	Coef*	SE	CI	P
Anger frequency	0.2	0.05	0.10 0.30	<0.001
Anger intensity	0.29	0.05	0.19 0.39	<0.001
Anger duration	0.31	0.05	0.22 0.41	<0.001
Antagonism towards others	0.26	0.05	0.16 0.36	<0.001
Social relations	1.47			<0.001
DAR-5 Total	1.34	0.22	0.91 1.77	<0.001

\*Adjusted for age, sex, service rank.

Note: 95% CI: 95% confidence interval

**Table B.3** A comparison of DAR-5 anger in 2015 Regular ADF vs 2010 Regular ADF

	2015 Regular ADF vs 2010 Regular ADF		
	Mean difference	SE of difference	CI of difference
Anger frequency	0.29	0.041	0.21, 0.37
Anger intensity	0.22	0.040	0.14, 0.30
Anger duration	0.2	0.040	0.12, 0.28
Antagonism towards others	0.08	0.040	0.002, 0.16
Social relations	1.27	0.040	1.19, 1.35
DAR-5 Total	1.03	0.16	0.71, 1.35

Note: 95%CI: 95% confidence interval

**Table B.4 Odds ratios comparing 12month suicidal ideation, plans and attempts in Transitioned ADF who were Ex-Serving, Inactive or Active Reservists**

	Ex-Serving vs Inactive Reservists				Ex-Serving vs Active Reservists				Inactive vs Active Reservists			
	OR*	SE	CI	P	OR*	SE	CI	P	OR*	SE	CI	P
Felt life not worth living	2.39	0.26	1.92, 2.96	<0.001	3.08	0.35	2.46 3.85	<0.001	1.29	0.16	1.00 1.66	0.046
Felt so low thought about committing suicide	2.39	0.29	1.88, 3.04	<0.001	3.12	0.44	2.37 4.10	<0.001	1.3	0.2	0.96 1.76	0.087
Made a suicide plan	3.11	0.6	2.13, 4.54	<0.001	5.77	1.34	3.66 9.10	<0.001	1.86	0.49	1.11 3.12	0.019
Attempted suicide	3.33	1.43	1.43, 7.75	0.005	31.43	19.49	9.32 106.04	<0.001	9.43	6.74	2.32 38.30	0.002
Any suicidality <sup>^</sup>	2.39	0.29	1.89, 3.04	<0.001	3.17	0.44	2.41 4.17	<0.001	1.32	0.2	0.98 1.79	0.068

\*Adjusted for age, sex, service rank.

<sup>^</sup>calculated as yes to either felt so low thought about committing suicide, made a suicide plan, or attempted suicide

Note: 95% CI: 95% confidence interval



**Table B.5 Odds ratio comparing proportion of Transitioned ADF endorsing suicide question 1: felt life was not worth living for each year since transition (compared to 0: 1–11 months post transition)**

Time since Transition	Transitioned ADF vs 2015 Regular ADF			
	OR*	SE	CI	P
0 years	REF	REF	REF	REF
1 year	1.78	0.31	1.26, 2.51	0.001
2 years	1.5	0.27	1.05, 2.12	0.024
3 years	2.03	0.35	1.44, 2.85	<0.001
4 years	1.67	0.31	1.16, 2.39	0.005
5 years	1.63	0.32	1.12, 2.39	0.011

\*Adjusted for age, sex, service rank  
Note: 95% CI: 95% confidence interval

**Table B.6 Odds ratio comparing proportion of Transitioned ADF endorsing suicide question 2: felt so low thought about committing suicide for each year since transition (compared to 0: 1- 11 months post transition)**

Time since Transition	Transitioned ADF vs 2015 Regular ADF			
	OR*	SE	CI	P
0 years	REF	REF	REF	REF
1 year	1.68	0.34	1.14 2.49	0.009
2 years	1.53	0.31	1.03 2.28	0.036
3 years	2.2	0.43	1.49 3.23	<0.001
4 years	1.79	0.37	1.19 2.69	0.005
5 years	1.75	0.38	1.14 2.68	0.011

\*Adjusted for age, sex, service rank

**Table B.7 Odds ratio comparing proportion of Transitioned ADF endorsing suicide question 3: made a suicide plan for each year since transition (compared to 0: 1–11 months post transition)**

Time since Transition	Transitioned ADF vs 2015 Regular ADF			
	OR*	SE	CI	P
0 years	REF	REF	REF	REF
1 year	1.62	0.41	0.99 2.66	0.055
2 years	1.52	0.38	0.93 2.49	0.097
3 years	1.98	0.49	1.22 3.20	0.006
4 years	1.31	0.35	0.78 2.19	0.314
5 years	1.58	0.47	0.89 2.82	0.12

\*Adjusted for age, sex, service rank  
Note: 95% CI: 95% confidence interval

**Table B.8 Odds ratio comparing proportion of Transitioned ADF endorsing yes to suicide questions 2, 3, 4 (any suicidality) for each year since transition (compared to 0: 1–11 months post transition)**

Time since Transition	Transitioned ADF vs 2015 Regular ADF			
	OR*	SE	CI	P
0 years	REF	REF	REF	REF
1 year	1.59	0.32	1.08 2.35	0.019
2 years	1.44	0.29	0.97 2.14	0.068
3 years	2.07	0.4	1.41 3.03	<0.001
4 years	1.7	0.35	1.13 2.54	0.011
5 years	1.64	0.36	1.07 2.51	0.022

\*Adjusted for age, sex, service rank  
 Note: 95% CI: 95% confidence interval

**Table B.9 Odds ratios comparing 12-month suicidal ideation, plans and attempts in Transitioned ADF and 2015 Regular ADF**

	Transitioned ADF vs 2015 Regular ADF			
	OR*	SE	CI	P
Felt life not worth living	2.38	0.35	1.79,3.18	<0.001
Felt so low thought about committing suicide	2.51	0.46	1.76,3.59	<0.001
Made a suicide plan	4.17	1.39	2.17,8.01	<0.001
Attempted suicide	2.99	1.65	1.01,8.85	0.047
Any suicidality <sup>^</sup>	2.52	0.45	1.77,3.59	<0.001

\* Adjusted for age, sex, service rank

<sup>^</sup> Calculated as yes to either felt so low thought about committing suicide, made a suicide plan, or attempted suicide

Note: 95% CI: 95% confidence interval

**Table B.10 Odds ratios comparing 12-month, and lifetime drug use in transitioned ADF who were Ex-Serving, Inactive or Active Reservists**

	Ex-Serving vs Inactive Reservists		Ex-Serving vs Active Reservists		Inactive vs Active Reservists	
	OR*	95% CI	OR*	95% CI	OR*	95% CI
Lifetime illicit drug use	0.98	0.79, 1.22	1.58	1.25, 2.00	1.62	1.26, 2.07
12-month illicit drug use	1.17	0.84, 1.63	3.51	2.05, 6.02	2.99	1.71, 5.23
Lifetime prescription drugs for non-medical purposes	1.31	0.90, 1.90	3.70	2.28, 6.02	2.83	1.69, 4.74
12-month prescription drugs for non-medical purposes	1.74	1.04, 2.91	4.91	2.32, 10.37	2.82	1.26, 6.29

\*Adjusted for age, sex, service rank  
 Note: 95% CI: 95% confidence interval

**Table B.11 A comparison of 12-month suicidal ideation, plans and attempts in 2015 ADF and 2010 ADF**

	2015 ADF v 2010 ADF		
	% Diff*	SE	CI
Felt life not worth living	6.5	1.46	3.62, 9.34
Felt so low thought about committing suicide	4.7	1.27	2.20, 7.15
Made a suicide plan	0.7	0.58	-0.41, 1.85
Attempted suicide	0.2	0.32	-0.46, 0.79
Any suicidality <sup>^</sup>	4.8	1.43	2.03, 7.63

\*Adjusted for age, sex, service rank.

<sup>^</sup> Calculated as yes to either felt so low thought about committing suicide, made a suicide plan, or attempted suicide

Note: 95%CI: 95% confidence interval

**Table B.12 A Comparison of the proportion of Transitioned ADF versus 2015 ADF reporting each lifetime deployment exposure type**

	Transitioned ADF vs 2015 ADF (REF)	
	Adj OR*	95% CI
Seriously fear you would encounter IED	1.21	0.96, 1.52
Go on combat patrols	1.41	1.11, 1.78
Concern about unauthorised discharge of weapon	1.25	1.01, 1.55
Clear/search buildings	1.52	1.18, 1.94
Come under fire	1.23	0.98, 1.54
In danger of being killed or injured	1.39	1.13, 1.72
Have casualties among people close to you	1.64	1.31, 2.05
Handle or see dead bodies	1.41	1.14, 1.73
Experience threatening situation unable to respond	1.71	1.31, 2.24
Witness human degradation	1.39	1.13, 1.70
Discharge weapon in direct combat	1.63	1.08, 2.47
Believe your action resulted in injury or death	1.88	1.40, 2.52
Exposed to smoke	1.15	0.92, 1.44
Exposed to fumes	1.17	0.93, 1.47
Exposed to chemicals	1.22	0.99, 1.50
Exposed to hazardous materials	1.3	1.02, 1.66
Exposed to local food or water	1.08	0.88, 1.32
Exposed to close loud noise	1.29	1.04, 1.61
Any deployment Exposure	1.61	1.09, 2.36

\*Adjusted for age, sex, service, rank.

Significant OR are highlighted in bold

Note: 95% CI: 95% confidence interval

**Table B.13 A comparison of the proportion of Transitioned ADF versus 2015 ADF reporting each lifetime trauma type**

	Transitioned ADF vs 2015 ADF (ref)	
	Adj OR*	95% CI
Combat (military or organised group)	<b>1.58</b>	<b>1.21, 2.05</b>
Peacekeeper (in a war zone or place of ongoing terror)	<b>1.42</b>	<b>1.15, 1.77</b>
Unarmed civilian (in a place or war, revolution, military coup or invasion)	1.02	0.52, 1.97
Lived as a civilian (in a place of ongoing terror for political, ethnic, religious or other reason)	<b>1.39</b>	<b>1.02, 1.90</b>
Refugee	1.31	0.58, 2.96
Kidnapped or held captive	<b>2.03</b>	<b>1.27, 3.25</b>
Exposed to a toxic chemical which could cause harm	<b>1.47</b>	<b>1.16, 1.87</b>
Life-threatening automobile accident	1.17	0.90, 1.53
Other life-threatening accident	<b>1.53</b>	<b>1.11, 2.11</b>
Major natural disaster	1.31	0.99, 1.71
Man-made disaster	<b>1.91</b>	<b>1.34, 2.72</b>
Life-threatening illness	<b>1.75</b>	<b>1.43, 2.15</b>
Beaten by spouse/romantic partner	<b>1.8</b>	<b>1.27, 2.55</b>
Badly beaten by anyone else	1.01	0.69, 1.47
Mugged, held up, threatened with a weapon	1.22	0.92, 1.62
Rape	1.25	0.71, 2.19
Sexual assault	1.29	0.91, 1.81
Stalked	<b>1.95</b>	<b>1.56, 2.42</b>
Some-one close died unexpectedly	1.2	0.97, 1.48
Child had life-threatening illness/injury	0.86	0.59, 1.25
Some-one close had traumatic experience	1.3	0.92, 1.84
Saw someone badly injured/killed or unexpectedly saw a dead body	<b>1.45</b>	<b>1.16, 1.79</b>
Accidentally injured/killed someone	1.03	0.63, 1.70
Purposely injured/tortured/killed someone	<b>2.4</b>	<b>1.19, 4.82</b>
Saw atrocities or carnage such as mutilated bodies or mass killings	<b>1.5</b>	<b>1.07, 2.09</b>
Other traumatic event.	1.32	0.95, 1.85
Any lifetime trauma	<b>1.46</b>	<b>1.14, 1.88</b>

\*Adjusted for age, sex, service rank  
Significant OR are highlighted in **bold**  
Note: 95%CI: 95% confidence interval

## B.2 Methodological interpretive tables

**Table B.14 Strata description MilHOP Regular ADF**

Strata Sex   Rank   Medical fitness   Service	2015 Regular ADF			No. of persons in population each responder represents
	Population	Responder	%	
<b>MilHOP</b>				
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 B.15 Strata description mon-MiLHOP Regular ADF**

Strata Sex   Rank   Medical fitness   Service	2015 Regular ADF			
	Population	Responder	%	No. of persons in population each responder represents
<b>Non-MiLHOP</b>				
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	10074	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 B.16 Strata description Transitioned ADF**

Strata Sex   Rank   Medical fitness   Service	Transitioned ADF			No. of persons in population each responder represents
	Population	Responder	%	
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

**Table B.17 Weighting table**

ICD-10 12 month disorder	Transitioned ADF (n=24,932)								
	Raw Results			Stage 1 Weighted			Stage 2 Weighted		
	Raw n	Raw %	95% CI	Weighted n	%	95% CI	Weighted n	%	95% CI
Panic attack	155	16	13.7, 18.4	4031	16.1	13.9, 18.6	4244	17	13.8, 20.8
Panic disorder	53	5.5	4.1, 7.1	1368	5.5	4.2, 7.1	1344	5.4	3.6, 8.0
Agoraphobia	105	10.8	8.9, 12.9	2842	11.4	9.5, 13.6	2975	11.9	9.1, 15.5
Social phobia	83	8.6	6.9, 10.5	2167	8.7	7.0, 10.6	2738	11	8.4, 14.3
Specific phobia	97	10	8.2, 12.1	2499	10	8.3, 12.1	1936	7.8	5.8, 10.3
Generalised anxiety disorder	33	3.4	2.4, 4.7	855	3.4	2.4, 4.8	917	3.7	2.2, 6.0
Obsessive compulsive disorder	37	3.8	2.7, 5.2	922	3.7	2.7, 5.1	1029	4.1	2.6, 6.6
Posttraumatic stress disorder	170	17.5	15.2, 20.1	4483	17.9	15.6, 20.5	4408	17.7	14.5, 21.3
Any anxiety disorder	354	36.5	34.3, 38.6	9175	36.7	33.7, 39.8	9232	37.0	32.6, 41.7
Depressive episodes	108	11.1	9.2, 13.3	2812	11.2	9.4, 13.4	2783	11.2	8.6, 14.3
Dysthymia	43	4.4	3.2, 5.9	1143	4.6	3.4, 6.1	1140	4.6	3.1, 6.7
Bipolar affective disorder	60	6.2	4.8, 7.9	1599	6.4	5.0, 8.2	2443	9.8	7.0, 13.5
Any affective disorder	180	18.5	16.1, 21.1	4739	19	16.6, 21.6	5755	23.1	19.2, 27.5
Alcohol harmful use	32	3.3	2.3, 4.6	894	3.6	2.6, 5.0	948	3.8	2.3, 6.3
Alcohol dependence	50	5.2	3.9, 6.7	1399	5.6	4.3, 7.3	2271	9.1	6.4, 12.8
Any alcohol disorder	82	8.4	6.8, 10.4	2293	9.2	7.5, 11.2	3219	12.9	9.8, 16.9



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## Acronyms

ABS	Australian Bureau of Statistics
ADF	Australian Defence Force
AIFS	Australian Institute of Family Studies
AIHW	Australian Institute of Health and Welfare
AUDIT	Alcohol Use Disorders Identification Test
BRS	Ohio State University Brief Resilience Scale
CI	Confidence interval
CRC	Cooperative Research Centre
CTSS	Centre for Traumatic Stress Studies
DAR-5	Dimensions of Anger Reactions Scale
DMAC	Data Management & Analysis Centre
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders – 4th edition
DVA	Department of Veterans' Affairs
ESO	Ex-service organisation
GAD	Generalised anxiety disorder
GAD-7	Generalised Anxiety Disorder 7-item Scale
HILDA	Household, Income and Labour Dynamics in Australia
HREC	Human Research Ethics Committee
HRF	Hunter Research Foundation
ICD-10	International Statistical Classification of Diseases and Related Health Problems – 10th Revision
K10	Kessler Psychological Distress Scale
KCMHR	King's Centre for Military Health Research Academic Department of Military Mental Health
MEAO	Middle East Area of Operations

MEC	Medical Employment Classification
MECRB	Medical Employment Classification Review Board
MHPWS	Mental Health Prevalence and Wellbeing Study
MilHOP	Military Health Outcomes Program
mTBI	Mild Traumatic Brain Injury
NCO	Non-Commissioned Officer
NDI	National Death Index
NHMRC	National Health and Medical Research Council
NHS	National Health Survey
OCD	Obsessive Compulsive Disorder
OFFR	commissioned officer
OR	Odds ratio
OR	Other Ranks
OSU TBI-ID	Ohio State University Traumatic Brain Injury Identification Method
PBS	Pharmaceutical Benefits Scheme
PCL-C	Posttraumatic Stress Disorder Checklist – civilian version
PCS	Post-Concussion Syndrome Checklist
PGSI	Problem Gambling Severity Index
PHQ-9	Patient Health Questionnaire
PMKeyS	Personnel Management Key Solution
PTSD	Posttraumatic stress disorder
RPBS	Repatriation Pharmaceutical Benefits Scheme
SAC	Scientific Advisory Committee
SE	Standard error
TBI	Traumatic brain injury
UA	University of Adelaide

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## Glossary of terms

**12-month prevalence** - Meeting diagnostic criteria for a lifetime ICD-10 mental disorder and then having reported symptoms in the 12 months before the interview.

**Affective disorders** - Affective disorders is 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, 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 previous 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
- 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 their family or friends; was consumed in a situation where the person could get 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 previous 12-months. A person could not meet criteria for Alcohol Harmful Use if they met criteria for Alcohol Dependence.

**Alcohol Use Disorders Identification Test (AUDIT)** – Alcohol consumption and problem drinking was examined using the Alcohol Use Disorders Identification Test (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 widely used in epidemiological and clinical practice for defining at-risk patterns of drinking.

**Anxiety disorders** – A class of mental health disorder. This class of disorder involves the experience of intense and debilitating anxiety. The anxiety 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 (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 in the Transitioned ADF with an Australian Community population, direct standardisation was applied to estimates in the 2014/2015 ABS National Health Survey (NHS) 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 Australian Defence Force (ADF) members, and their families. It builds upon previous research to inform 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 issues 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. 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. These fluctuations of mood 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 individuals met criteria for mania or hypomania in the previous 12-months

**Centre for Traumatic Stress Studies (CTSS)** – 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 share common features. Three classes of mental disorders were included in the survey. These were 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, 5 categories were defined representing those with no mental health disorder, and those with 1, 2, 3 or 4 disorder categories.

**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, 4th edition (DSM-IV) and the World Health Organization International Classification of Diseases, 10th revision (ICD-10) (World Health Organization, 1994). This instrument was utilised 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.

**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, an 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 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 period over which the symptoms have been continuously experienced
- the level of distress or impairment experienced
- 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 (DAR-5)** – A concise measure of anger consisting of five items that address anger frequency, intensity, 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** – A term used when referring to DVA clients for the purpose of analyses.

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 them for assessing how confident DVA was in the address accuracy. Each of the following groups were considered DVA client:

- High – where a veteran is in receipt of a fortnightly payment (such as income support or 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 (i.e., does not also have 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, however they would still be considered DVA clients.

For the purposes of this report, any individual in the study population, who met the criteria above, 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 in order to have this disorder, a person could not have met criteria for either a hypomanic or manic episode and could not have reported episodes of severe or moderate depression within the first two years of dysthymia.

**Ex-service organisation (ESO)** – Organisations that provide assistance to current and former ADF members. Services can include but are not necessarily limited to welfare support, help with DVA claims, and employment programs and social support.

**Generalised anxiety disorder (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 in ‘agoraphobia’. Other symptoms may include symptoms of tension, such as inability to relax and muscle tension, and other non-specific symptoms, such as irritability and difficulty in concentrating.

**Generalised Anxiety Disorder 7-item Scale (GAD-7)** – A brief seven-item screening measure based on the *Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition* (DSM-IV) 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 may 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’ or ‘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 criteria for the ‘with hierarchy’ version, the person cannot have met criteria for an episode of mania.

**Kessler Psychological Distress Scale (K10)** – 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 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 are derived 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 experienced 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 under ‘hypomania’, mania is often associated with feelings of grandiosity, marked sexual indiscretions and racing thoughts.

**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. However, they remain medically fit for duty in their occupation in a deployed or seagoing environment. In allocating

sub-classifications 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 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.

**Medical fitness** – A status defined as:

- **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 described above, 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 described above OR were assigned a perturbed MEC value of Unfitu.

**Medical discharge** – The 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.

**Mental health disorders** – Defined according to the detailed diagnostic criteria within the World Health Organization International Classification of Diseases. This publication reports data for ICD-10 criteria.

**Mental Health Prevalence and Wellbeing Study (MHPWS)** – The 2010 study is part of the Military Health Outcomes Program (MilHOP), 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. 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 upon the Military Health Outcomes Program, which detailed the prevalence of mental disorder in

**Military Health Outcomes Program (MilHOP)** – 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 will address a number of gaps identified following MilHOP, including the mental health of Reservists, Ex-Serving members and ADF members in high-risk roles, as well as the trajectory of disorder and pathways to care for individuals previously 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 comes 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 we did not attempt to approach deceased members.

**National Health and Medical Research Council (NHMRC)** – Australia’s peak funding body for medical research. The NHMRC has funded previous investigations undertaken 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.

**Obsessive compulsive disorder (OCD)** – 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 recognising 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. Therefore, this cut-off would give 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 the 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, fear of dying, losing control or going mad.

**Panic disorder** – Recurrent panic attacks that are unpredictable in nature.

**Patient Health Questionnaire-9 (PHQ-9)** – Self-reported depression was examined using the Patient Health Questionnaire - 9 (PHQ9). The 9 items of the PHQ9 are scored from 0-3 and summed to give a total score between 0 and 27. The PHQ9 provides various levels of diagnostic severity with higher scores indicating higher levels of depression symptoms.

**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 all Australians. The PBS is part of the Australian Government’s broader National Medicines Policy. Health Care Utilisation, 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 programme of research.

**Posttraumatic stress disorder (PTSD)** – A stress reaction to an exceptionally threatening or traumatic event that would cause pervasive distress in almost anyone. Symptoms 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 (PCL-C)** – 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 (PMKeyS)** – An integrated human resource management system that provides the ADF with a single source of personnel management information. PMKeyS manages information about the entire Defence workforce – Navy, Army, 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 (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 on 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 (RPBS)** – The benefits listed in the RPBS can only be prescribed for Department of Veterans' Affairs beneficiaries who hold a Gold, White or Orange card. Health Care Utilisation, 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 programme of research.

**Service status** – The ADF is comprised of:

- **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 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** – The marked fear or avoidance of being the centre of attention or 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** – The 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, and 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 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:

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

**Suicidal ideation** – Serious thoughts about taking one’s own life.

**Suicidality** – Suicidal ideation (serious thoughts about taking one’s own life), suicide plans and attempts.

**Sub-syndromal disorder** – Characterised by or exhibiting symptoms that are not severe enough for diagnosis as a clinically recognised syndrome.

**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 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 into 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 the health cards as a convenient method for veterans, war widows and their eligible dependants to access 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 responder, based on key variables. The weight indicated how many individuals in the entire population were represented by each responder. Weighting was applied to:

- correct for differential non-response

- adjust for any systematic biases in the responders (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:

- injuries or conditions that are accepted as being caused by war or 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 for a Gold Card, but must be for treatment of conditions that are accepted as being caused by war or 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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