

**TRANSITION AND WELLBEING RESEARCH PROGRAMME**

**MENTAL HEALTH AND WELLBEING TRANSITION STUDY**

# Physical Health Status



**2018**

ISBN 978-0-6481609-0-8 (PDF)  
ISBN 978-0-6481609-1-5 (print)

© Commonwealth of Australia 2017

Unless otherwise noted, copyright (and other intellectual property rights, if any) in this publication is owned by the Commonwealth of Australia.



With the exception of the Coat of Arms and all photographs and graphic design elements, this publication is licensed under a Creative Commons Attribution 3.0 Australia licence. This is a standard-form licence agreement that allows you to copy, distribute, transmit and adapt this publication, provided that you attribute the work.

The full licence terms are available at [creativecommons.org/licenses/by/3.0/au/legalcode](https://creativecommons.org/licenses/by/3.0/au/legalcode).

Requests and enquiries concerning reproduction and rights should be emailed to:

[publications@dva.gov.au](mailto:publications@dva.gov.au)

or posted to:

Department of Veterans' Affairs  
GPO Box 9998  
Brisbane QLD 4001

Suggested citation:

Kelsall, H., Sim, M., Van Hooff, M., Lawrence-Wood, E., Benassi, H., Sadler, N., Hodson, S., Hansen, C., Avery, J., Searle, A., Ighani, H., Iannos, M., Abraham, M., Baur, J., Saccone, E., & McFarlane, A. (2018). *Physical Health Status Report, Mental Health and Wellbeing Transition Study*. Canberra: the Department of Defence and the Department of Veterans' Affairs.

The views expressed in this report are those of the individual authors and may not reflect the views of the Australian Government, including the Departments of Defence and Veterans' Affairs.

This report is available from:

The Department of Defence  
<http://www.defence.gov.au/Health/DMH/ResearchSurveillancePlan.asp>

The Department of Veterans' Affairs  
[www.dva.gov.au/physical-health-report](http://www.dva.gov.au/physical-health-report)

Published by the Department of Veterans' Affairs, Canberra  
Publication no: P03635

---

## Key findings

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

The *Physical Health Status Report*:

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

The study samples are the:

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

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

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

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

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

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

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

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

## Demographics

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

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

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

### **Health symptoms**

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

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

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

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

### **Respiratory health**

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

### **Service-related injuries**

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

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

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

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

#### **Insomnia severity**

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

#### **Lifestyle risk factors**

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

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

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

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

#### **Health service use**

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

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

#### **DVA client status**

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

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

#### **Transition status**

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

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

#### **Medical discharge status**

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

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

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



---

# Contents

<b>Key findings</b> .....	<b>iii</b>
<b>Acknowledgments</b> .....	<b>xxix</b>
<b>Transition and Wellbeing Research Programme – an overview</b> .....	<b>xxxii</b>
<b>1 Introduction</b> .....	<b>1</b>
1.1 Background to this report: physical health in transitioned military personnel .....	1
1.1.1 The impact of transition from full-time military service .....	1
1.1.2 Defining transition from regular military service .....	2
1.2 Physical health of personnel during and after leaving military service .....	2
1.2.1 Review of the literature .....	2
1.3 Background literature in the context of the current report.....	14
1.4 Physical health in Transitioned ADF members and 2015 Regular ADF members .....	16
1.4.1 The current study.....	16
1.5 Aims, objectives and research questions .....	17
1.5.1 Aims .....	17
1.5.2 Objectives .....	18
1.5.3 Research questions .....	18
1.6 How to interpret and discuss the findings in this report .....	19
<b>2 Methodology</b> .....	<b>23</b>
2.1 Study design.....	24
2.2 Samples.....	24
2.2.1 Population comparison samples .....	25
2.2.2 Transitioned ADF subgroups .....	25
2.3 Response rates.....	26
2.4 Statistical analysis .....	30
2.5 Weighting.....	31
2.6 Measures used in this report .....	32

<b>3</b>	<b>Demographic characteristics of Transitioned ADF members and 2015 Regular ADF members</b> .....	<b>37</b>
3.1	Transitioned ADF members compared with the 2015 Regular ADF members .....	38
3.2	Transitioned ADF members .....	39
<b>4</b>	<b>Health symptoms</b> .....	<b>45</b>
4.1	Number of health symptoms.....	47
4.1.1	Number of health symptoms in the preceding month: Transitioned ADF and 2015 Regular ADF members.....	47
4.1.2	Number of health symptoms in the preceding month in Transitioned ADF, by DVA client status .....	48
4.1.3	Number of health symptoms in the preceding month in Transitioned ADF, by transition status.....	49
4.1.4	Number of health symptoms in the preceding month in Transitioned ADF, by reason for discharge .....	51
4.2	Types of health symptoms.....	51
4.2.1	Type of health symptoms in the preceding month in Transitioned ADF and 2015 Regular ADF members.....	51
4.2.2	Type of health symptoms in the preceding month in Transitioned ADF, by DVA client status .....	52
4.2.3	Types of health symptoms in the preceding month among Transitioned ADF, by transition status.....	59
4.2.4	Type of health symptoms in the preceding month in Transitioned ADF, by discharge status.....	59
<b>5</b>	<b>Self-reported doctor-diagnosed conditions</b> .....	<b>65</b>
5.1	Number of doctor-diagnosed conditions ever reported .....	67
5.1.1	Doctor-diagnosed conditions ever reported by Transitioned ADF compared with 2015 Regular ADF.....	67
5.1.2	Doctor-diagnosed conditions ever reported by Transitioned ADF, by DVA client status .....	69
5.1.3	Doctor-diagnosed conditions ever reported by Transitioned ADF, by transition status.....	69
5.1.4	Doctor-diagnosed conditions ever reported by Transitioned ADF, by discharge status.....	71
5.1.5	Summary of ever reported doctor-diagnosed conditions.....	71
5.2	Categories of doctor-diagnosed conditions ever reported.....	74
5.2.1	Circulatory conditions .....	74
5.2.2	Digestive conditions.....	77
5.2.3	Musculoskeletal and connective tissue conditions.....	82
5.2.4	Nervous system conditions.....	88
5.2.5	Respiratory system conditions.....	92
5.2.6	Skin cancers (including melanoma) .....	94
5.2.7	Skin and subcutaneous tissue conditions .....	99
5.2.8	Other conditions .....	103

<b>6</b>	<b>Respiratory health.....</b>	<b>107</b>
6.1	Respiratory symptoms .....	109
6.1.1	Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF and 2015 Regular ADF .....	109
6.1.2	Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by DVA client status.....	109
6.1.3	Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by transition status .....	112
6.1.4	Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by discharge status .....	116
<b>7</b>	<b>Service-related injuries.....</b>	<b>119</b>
7.1	Number of service-related injury types sustained during military career.....	120
7.1.1	Number of service-related injury types sustained during military career in Transitioned ADF compared with 2015 Regular ADF.....	120
7.1.2	Number of service-related injury types sustained during military career in Transitioned ADF, by DVA client status.....	121
7.1.3	Number of service-related injury types sustained during military career in Transitioned ADF, by transition status.....	122
7.1.4	Number of service-related injury types sustained during military career in Transitioned ADF, by discharge status.....	123
7.2	Types of service-related injury.....	124
7.2.1	Type of service-related injury sustained during military career in Transitioned ADF compared with 2015 Regular ADF.....	124
7.2.2	Types of service-related injuries sustained during military career in Transitioned ADF, by DVA client status.....	127
7.2.3	Service-related injury types sustained during military career in Transitioned ADF, by transition status.....	127
7.2.4	Service-related injury types sustained during military career in Transitioned ADF, by discharge status.....	130
<b>8</b>	<b>Pain intensity and disability.....</b>	<b>133</b>
8.1	Pain intensity and disability in the preceding six months in Transitioned ADF members compared with 2015 Regular ADF members.....	134
8.2	Transitioned ADF members, by DVA client status .....	136
8.3	Transitioned ADF members, by transition status.....	137
8.4	Transitioned ADF, by discharge status.....	140
<b>9</b>	<b>Insomnia severity .....</b>	<b>141</b>
9.1	Transitioned ADF members compared with 2015 Regular ADF members.....	142
9.2	Transitioned ADF, by DVA client status.....	144

9.3	Transitioned ADF, by transition status .....	144
9.4	Transitioned ADF, by discharge status.....	146
<b>10</b>	<b>Lifestyle risk factors.....</b>	<b>147</b>
10.1	Body mass index.....	148
10.1.1	Current BMI in Transitioned ADF members compared with 2015 Regular ADF members .....	148
10.1.2	Current body mass index in Transitioned ADF, by DVA client status .....	150
10.1.3	Current body mass index in Transitioned ADF, by transition status.....	150
10.1.4	Current body mass index in Transitioned ADF, by discharge status.....	153
10.2	Physical activity .....	153
10.2.1	Physical activity in the preceding seven days in Transitioned ADF compared with 2015 Regular ADF.....	154
10.2.2	Physical activity level in the preceding seven days in Transitioned ADF, by DVA client status .....	155
10.2.3	Physical activity level in the preceding seven days in Transitioned ADF, by transition status.....	156
10.2.4	Physical activity level in the preceding seven days in Transitioned ADF, by discharge status.....	157
10.3	Smoking status .....	158
10.3.1	Smoking status in Transitioned ADF compared with 2015 Regular ADF .....	158
10.3.2	Smoking status in Transitioned ADF, by DVA client status .....	159
10.3.3	Smoking status in Transitioned ADF, by transition status.....	160
10.3.4	Smoking status in Transitioned ADF, by discharge status.....	162
<b>11</b>	<b>Self-perceived health and quality of life .....</b>	<b>165</b>
11.1	Self-perceived health in general .....	166
11.1.1	Transitioned ADF members compared with 2015 Regular ADF members .....	166
11.1.2	Self-perceived health in general in Transitioned ADF, by DVA client status.....	167
11.1.3	Self-perceived health in general in Transitioned ADF, by transition status.....	168
11.1.4	Self-perceived health in general in Transitioned ADF, by discharge status.....	168
11.2	Self-perceived satisfaction with health .....	170
11.2.1	Satisfaction with health in Transitioned ADF members compared with 2015 Regular ADF members .....	170
11.2.2	Self-perceived satisfaction with health in Transitioned ADF, by DVA client status .....	172
11.2.3	Self-perceived satisfaction with health in Transitioned ADF, by transition status.....	172

	11.2.4	Self-perceived satisfaction with health in Transitioned ADF, by discharge status .....	174
11.3		Self-perceived quality of life .....	175
	11.3.1	Self-perceived quality of life in Transitioned ADF members compared with 2015 Regular ADF members .....	175
	11.3.2	Self-perceived quality of life in Transitioned ADF, by DVA client status .....	176
	11.3.3	Self-perceived quality of life in Transitioned ADF, by transition status .....	177
	11.3.4	Self-perceived quality of life in Transitioned ADF, by discharge status .....	179
11.4		Satisfaction with life in the preceding year .....	180
	11.4.1	Self-perceived satisfaction with life in the preceding year in Transitioned ADF compared with 2015 Regular ADF .....	180
	11.4.2	Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by DVA client status .....	181
	11.4.3	Satisfaction with life in the preceding year in Transitioned ADF, by transition status .....	182
	11.4.4	Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by discharge status .....	184
11.5		Self-reported physical health in the preceding year .....	185
	11.5.1	Self-reported physical health in the preceding year in Transitioned ADF members compared with 2015 Regular ADF members .....	185
	11.5.2	Self-reported physical health in the preceding year in Transitioned ADF, by DVA client status .....	186
	11.5.3	Self-reported physical health in the preceding year in Transitioned ADF, by transition status .....	187
	11.5.4	Self-reported physical health in the preceding year in Transitioned ADF, by discharge status .....	189
<b>12</b>		<b>Use of health services .....</b>	<b>191</b>
	12.1	Consultations with health professionals in the preceding 12 months .....	193
	12.1.1	Health professional consultations in the preceding 12 months in Transitioned ADF members compared with 2015 Regular ADF members .....	193
	12.1.2	Health professional consultations in the preceding 12 months by Transitioned ADF, by DVA client status .....	196
	12.1.3	Health professional consultations in the preceding 12 months by Transitioned ADF, by transition status .....	198
	12.1.4	Health professionals and services consulted in the preceding 12 months by Transitioned ADF, by discharge status .....	201

<b>13</b>	<b>Comparison of smoking, self-perceived health and doctor-diagnosed asthma among Transitioned ADF members compared with the Australian community in 2015.....</b>	<b>203</b>
13.1	Smoking status in Transitioned ADF members and the Australian Community .....	204
13.1.1	Smoking status.....	204
13.1.2	Smoking status, by sex.....	205
13.1.3	Smoking status, by age group.....	206
13.2	Self-perceived health in Transitioned ADF members and the Australian Community.....	207
13.2.1	Self-perceived health in general .....	207
13.2.2	Self-perceived health in general, by sex .....	209
13.2.3	Self-perceived health in general, by age group .....	211
13.3	Ever doctor-diagnosed asthma in Transitioned ADF members and the Australian Community.....	213
13.3.1	Ever doctor-diagnosed asthma in general .....	213
13.3.2	Ever doctor-diagnosed asthma, by sex .....	214
13.3.3	Ever doctor-diagnosed asthma, by age group .....	214
<b>14</b>	<b>Discussion .....</b>	<b>217</b>
14.1	Overall patterns in physical health .....	217
14.1.1	Physical health outcomes in Transitioned ADF members and 2015 Regular ADF members .....	218
14.1.2	Physical health outcomes in Transitioned ADF members, by DVA client status, transition status and discharge status .....	220
14.2	The findings of previous research.....	225
14.2.1	Health symptoms.....	226
14.2.2	Doctor-diagnosed conditions.....	226
14.2.3	Respiratory symptoms and conditions .....	227
14.2.4	Service-related injuries .....	228
14.2.5	Pain .....	229
14.2.6	Sleep .....	229
14.2.7	Lifestyle risk factors: smoking, body mass index and physical activity.....	230
14.2.8	Use of health services .....	232
14.2.9	Self-perceived health and quality of life .....	232
14.3	Comparability with the Australian community sample .....	233
14.4	Comorbidity and interrelationships of physical health and mental health .....	234
14.4.1	Comorbidity .....	234
14.4.2	Interrelationship with mental health.....	235
14.5	Strengths and limitations .....	235
14.6	Implications for practice and further research .....	240
14.7	Conclusion .....	242

<b>Annex A Mental Health and Wellbeing Transition Study method .....</b>	<b>245</b>
<b>Annex B Odds ratio tables .....</b>	<b>291</b>
<b>Annex C Methodological interpretive tables .....</b>	<b>341</b>
<b>Glossary .....</b>	<b>345</b>
<b>References .....</b>	<b>359</b>

## Tables

Table 2.1	Survey response rates, Transitioned ADF and 2015 Regular ADF .....	28
Table 2.2	Unweighted demographic characteristics of respondents, Transitioned ADF and 2015 Regular ADF .....	30
Table 3.1	Weighted demographic characteristics of Transitioned ADF and 2015 Regular ADF members .....	40
Table 3.2	Weighted service characteristics in Transitioned ADF and 2015 Regular ADF .....	41
Table 3.3	Weighted transition characteristics for Transitioned ADF members.....	42
Table 3.4	Weighted civilian employment and DVA support among Transitioned ADF members.....	43
Table 3.5	Weighted ex-service organisation engagement and incarceration among Transitioned ADF members .....	44
Table 4.1	Estimated prevalence of number of health symptoms in the preceding month in Transitioned ADF and 2015 Regular ADF.....	47
Table 4.2	Estimated prevalence of number of health symptoms in the preceding month in Transitioned ADF, by DVA client status .....	48
Table 4.3	Estimated proportions of number of health symptoms in the preceding month in Transitioned ADF, by transition status .....	50
Table 4.4	Estimated number of health symptoms in the preceding month in Transitioned ADF, by reason for discharge .....	51
Table 4.5	Estimated prevalence of health symptoms in the preceding month in Transitioned ADF and 2015 Regular ADF .....	53
Table 4.6	Estimated prevalence of health symptoms in the preceding month in Transitioned ADF, by DVA client status .....	57
Table 4.7	Estimated prevalence of health symptoms in the preceding month in Transitioned ADF, by transition status.....	60
Table 4.8	Estimated prevalence of health symptoms in the preceding month in Transitioned ADF, by medical discharge status .....	63
Table 5.1	Estimated number of doctor-diagnosed conditions ever reported by Transitioned ADF and 2015 Regular ADF .....	68
Table 5.2	Estimated number of doctor-diagnosed conditions ever reported by Transitioned ADF, by DVA client status .....	69
Table 5.3	Estimated number of doctor-diagnosed conditions ever reported by Transitioned ADF, by transition status.....	70

Table 5.4	Estimated number of doctor-diagnosed conditions ever reported by Transitioned ADF, by medical discharge status .....	71
Table 5.5	Estimated proportions of circulatory conditions ever reported by Transitioned ADF and 2015 Regular ADF.....	74
Table 5.6	Estimated prevalence of circulatory conditions ever reported by Transitioned ADF, by DVA client status .....	75
Table 5.7	Estimated proportions of circulatory conditions ever reported by Transitioned ADF, by transition status .....	76
Table 5.8	Estimated proportions of circulatory conditions ever reported by Transitioned ADF, by medical discharge status .....	77
Table 5.9	Estimated proportions of digestive conditions ever reported by Transitioned ADF and 2015 Regular ADF.....	78
Table 5.10	Estimated proportions of digestive conditions ever reported in Transitioned ADF by DVA client status .....	79
Table 5.11	Estimated proportions of digestive conditions ever reported by Transitioned ADF, by transition status .....	81
Table 5.12	Estimated proportions of digestive conditions ever reported in Transitioned ADF, by medical discharge status .....	82
Table 5.13	Estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF .....	83
Table 5.14	Estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF, by DVA client status .....	85
Table 5.15	Estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF, by transition status.....	87
Table 5.16	Estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF, by medical discharge status.....	88
Table 5.17	Estimated prevalence of nervous system conditions ever reported by Transitioned ADF and 2015 Regular ADF.....	89
Table 5.18	Estimated prevalence of nervous system conditions ever reported by Transitioned ADF, by DVA client status .....	90
Table 5.19	Estimated prevalence of nervous system conditions ever reported by Transitioned ADF, by transition status .....	91
Table 5.20	Estimated prevalence of nervous system conditions ever reported by Transitioned ADF, by medical discharge status .....	92
Table 5.21	Estimated prevalence of respiratory system conditions ever reported by Transitioned ADF and 2015 Regular ADF.....	92
Table 5.22	Estimated prevalence of respiratory system conditions ever reported by Transitioned ADF, by DVA client status .....	93
Table 5.23	Estimated prevalence of respiratory system conditions ever reported by Transitioned ADF, by transition status .....	95
Table 5.24	Estimated proportions of respiratory system conditions ever reported by Transitioned ADF, by medical discharge status .....	96
Table 5.25	Estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF and 2015 Regular ADF .....	96

Table 5.26	Estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF, by DVA client status.....	97
Table 5.27	Estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF, by transition status.....	98
Table 5.28	Estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF, by medical discharge status.....	99
Table 5.29	Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF.....	100
Table 5.30	Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by DVA client status.....	101
Table 5.31	Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by transition status.....	102
Table 5.32	Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by medical discharge status.....	103
Table 5.33	Estimated prevalence of other conditions ever reported by Transitioned ADF and 2015 Regular ADF.....	103
Table 5.34	Estimated prevalence of other conditions ever reported by Transitioned ADF, by DVA client status.....	104
Table 5.35	Estimated prevalence of other conditions ever reported by Transitioned ADF, by transition status.....	105
Table 5.36	Estimated prevalence of other conditions ever reported by Transitioned ADF, by medical discharge status.....	106
Table 6.1	Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF and 2015 Regular ADF.....	110
Table 6.2	Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by DVA client status.....	112
Table 6.3	Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by transition status.....	113
Table 6.4	Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by medical discharge status.....	117
Table 7.1	Estimated number of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF.....	121
Table 7.2	Estimated number of service-related injury types sustained during military career in Transitioned ADF, by DVA client status.....	122
Table 7.3	Estimated number of service-related injury types sustained during military career in the Transitioned ADF, by transition status.....	122
Table 7.4	Estimated number of service-related injury types sustained during military career in Transitioned ADF, by discharge status.....	123
Table 7.5	Estimated proportions of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF.....	125
Table 7.6	Estimated proportions of service-related injury types sustained during military career in Transitioned ADF, by DVA client status.....	127
Table 7.7	Estimated proportions of service-related injury types sustained during military career in Transitioned ADF, by transition status.....	128
Table 7.8	Estimated proportions of service-related injury types sustained during military career in Transitioned ADF, by medical discharge status.....	131

Table 8.1	Estimated pain intensity and disability in the preceding six months in the Transitioned ADF and 2015 Regular ADF cohorts.....	135
Table 8.2	Estimated pain intensity and disability in the preceding six months in Transitioned ADF by DVA client status .....	137
Table 8.3	Estimated pain intensity and disability in the preceding six months in Transitioned ADF, by transition status .....	138
Table 8.4	Estimated pain intensity and disability in the preceding six months in Transitioned ADF, by medical discharge status .....	140
Table 9.1	Estimated insomnia severity in the preceding two weeks in the Transitioned ADF and 2015 Regular ADF cohorts.....	143
Table 9.2	Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by DVA client status .....	144
Table 9.3	Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by transition status .....	145
Table 9.4	Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by discharge status .....	146
Table 10.1	Estimated proportions of current classification of body mass index in Transitioned ADF and 2015 Regular ADF.....	148
Table 10.2	Estimated proportions of current classification of body mass index in Transitioned ADF, by DVA client status .....	150
Table 10.3	Estimated proportions of current classification of body mass index in Transitioned ADF cohort, by transition status.....	151
Table 10.4	Estimated proportions of current BMI in Transitioned ADF, by medical discharge status.....	153
Table 10.5	Estimated prevalence of physical activity in the preceding seven days in Transitioned ADF and 2015 Regular ADF.....	155
Table 10.6	Estimated physical activity level in preceding seven days in Transitioned ADF, by DVA client status .....	156
Table 10.7	Estimated prevalence of physical activity level in the preceding seven days in Transitioned ADF, by transition status .....	156
Table 10.8	Estimated physical activity level in the preceding seven days in Transitioned ADF, by medical discharge status .....	158
Table 10.9	Estimated prevalence of smoking in Transitioned ADF and 2015 Regular ADF .....	158
Table 10.10	Estimated prevalence of smoking status in Transitioned ADF and 2015 Regular ADF, by DVA client status .....	160
Table 10.11	Estimated prevalence of smoking status in Transitioned ADF, by transition status.....	161
Table 10.12	Estimated prevalence of smoking in Transitioned ADF, by medical discharge status.....	163
Table 11.1	Estimated prevalence of self-perceived health in general in Transitioned ADF and 2015 Regular ADF.....	166
Table 11.2	Estimated prevalence of self-perceived health in general in Transitioned ADF, by DVA client status .....	167
Table 11.3	Self-perceived health in general in Transitioned ADF, by transition status.....	169
Table 11.4	Estimated prevalence of self-perceived health in general in Transitioned ADF, by discharge status .....	170

Table 11.5	Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF and 2015 Regular ADF .....	171
Table 11.6	Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF, by DVA client status .....	172
Table 11.7	Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF, by transition status.....	173
Table 11.8	Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF, by discharge status.....	175
Table 11.9	Self-perceived quality of life in Transitioned ADF and 2015 Regular ADF .....	176
Table 11.10	Self-perceived quality of life in Transitioned ADF, by DVA client status .....	177
Table 11.11	Self-perceived quality of life in Transitioned ADF, by transition status .....	178
Table 11.12	Self-perceived quality of life in Transitioned ADF, by discharge status .....	180
Table 11.13	Self-perceived satisfaction with life in the preceding year in Transitioned ADF and 2015 Regular ADF .....	181
Table 11.14	Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by DVA client status.....	182
Table 11.15	Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by transition status.....	183
Table 11.16	Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by discharge status.....	185
Table 11.17	Self-reported physical health in the preceding year in Transitioned ADF and 2015 Regular ADF .....	186
Table 11.18	Estimated prevalence of self-reported physical health in the preceding year in Transitioned ADF, by DVA client status.....	187
Table 11.19	Estimated prevalence of self-reported physical health in Transitioned ADF, by transition status.....	188
Table 11.20	Estimated prevalence of self-reported physical health in the preceding year in Transitioned ADF, by discharge status .....	190
Table 12.1	Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks in Transitioned ADF members and 2015 Regular ADF members.....	194
Table 12.2	Estimated proportions of health professionals and services consulted in the preceding 12 months and preceding two weeks by Transitioned ADF, by DVA client status .....	197
Table 12.3	Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks by Transitioned ADF, by transition status.....	199
Table 12.4	Health professionals and services consulted in the preceding 12 months and preceding two weeks by Transitioned ADF, by medical discharge status .....	202
Table 13.1	Estimated prevalence of smoking: Transitioned ADF members compared with the Australian Community .....	205
Table 13.2	Estimated prevalence of smoking in Transitioned ADF members compared with the Australian Community, by sex.....	206
Table 13.3	Estimated prevalence of smoking in Transitioned ADF members compared with the Australian community, by age group .....	207

Table 13.4	Estimated prevalence of self-perceived health in general in Transitioned ADF members compared with the Australian Community.....	209
Table 13.5	Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by sex.....	210
Table 13.6	Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by age group.....	211
Table 13.7	Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community.....	213
Table 13.8	Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community, by sex.....	214
Table 13.9	Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community, by age.....	215
Table A.1	Commissioned reports.....	249
Table A.2	Survey response rates, by Service, sex, rank and medical fitness, for Transitioned ADF members and 2015 Regular ADF members.....	251
Table A.3	Unweighted demographic characteristics of respondents, by Transitioned ADF and 2015 Regular ADF.....	253
Table A.4	CIDI response rates for stratified Transitioned ADF, by Service, sex, rank and MEC status.....	254
Table A.5	Demographic characteristics of stratified Transitioned ADF CIDI respondents.....	255
Table A.6	CIDI response rates for the MHPWS group, by Service, sex, rank and medical fitness.....	256
Table A.7	CIDI response rates for the Combat Zone group, by Service, sex, rank and medical fitness.....	257
Table A.8	Stratification characteristics of the Transitioned ADF CIDI sample.....	278
Table A.9	Counts of categories, by source.....	282
Table A.10	Counts of categories, by Service type.....	282
Table B.1	Odds ratios for comparisons of Transitioned vs 2015 Regular ADF and DVA client vs non-DVA client (stratified by Transitioned and 2015 Regular ADF).....	292
Table B.2	Odds ratios for comparisons of Ex-Serving ADF vs Active Reservists, Ex-Serving ADF vs Inactive Reservists, and medical discharge vs other discharge (among Transitioned ADF).....	313
Table C.1	Strata description, MilHOP Regular ADF.....	341
Table C.2	Strata description, non-MilHOP Regular ADF.....	342
Table C.3	Strata description, Transitioned ADF.....	343

## Figures

Figure 2.1	Survey response rates, Transitioned ADF and 2015 Regular ADF.....	29
Figure 4.1	Estimated prevalence of number of health symptoms in the preceding month in Transitioned ADF and 2015 Regular ADF.....	48
Figure 4.2	Estimated proportions of number of health symptoms in the preceding month in Transitioned ADF, by transition status.....	49

Figure 4.3	Estimated prevalence of health symptoms in the preceding month in rank order: Transitioned ADF members .....	55
Figure 4.4	Estimated prevalence of health symptoms in the preceding month in rank order: 2015 Regular ADF members.....	56
Figure 5.1	Estimated number of doctor-diagnosed conditions ever reported by Transitioned ADF and 2015 Regular ADF .....	68
Figure 5.2	Estimated number of doctor-diagnosed conditions ever reported by Transitioned ADF, by transition status.....	70
Figure 5.3	Estimated proportions of doctor-diagnosed conditions ever reported by Transitioned ADF and 2015 Regular ADF .....	72
Figure 5.4	Estimated proportions of doctor-diagnosed conditions ever reported by Transitioned ADF .....	73
Figure 5.5	Estimated proportions of circulatory conditions ever reported by Transitioned ADF and 2015 Regular ADF .....	75
Figure 5.6	Estimated proportions of digestive conditions ever reported in Transitioned ADF and 2015 Regular ADF .....	78
Figure 5.7	Estimated prevalence of musculoskeletal and connective tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF.....	84
Figure 5.8	Estimated prevalence of nervous system conditions ever reported by Transitioned ADF and 2015 Regular ADF .....	89
Figure 5.9	Respiratory system conditions ever reported by Transitioned ADF and 2015 Regular ADF .....	93
Figure 5.10	Estimated prevalence of skin cancers (including melanoma) ever reported in Transitioned ADF and 2015 Regular ADF .....	96
Figure 5.11	Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF .....	100
Figure 5.12	Estimated prevalence of other conditions ever reported by Transitioned ADF and 2015 Regular ADF .....	104
Figure 6.1	Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF and 2015 Regular ADF .....	111
Figure 6.2	Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by transition status.....	115
Figure 7.1	Estimated number of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF .....	121
Figure 7.2	Estimated proportions of number of service-related injury types sustained during military career in Transitioned ADF, by transition status .....	123
Figure 7.3	Estimated proportions of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF .....	126
Figure 7.4	Estimated proportions of types of service-related injuries sustained during military career in Transitioned ADF, by transition status .....	130
Figure 8.1	Estimated pain intensity and disability in the preceding six months in the Transitioned ADF and 2015 Regular ADF cohorts .....	135
Figure 8.2	Estimated pain severity in the preceding six months in the Transitioned ADF and 2015 Regular ADF cohorts .....	136
Figure 8.3	Estimated pain intensity and disability in the preceding six months in Transitioned ADF, by transition status.....	139

Figure 8.4	Estimated pain severity in the preceding six months in Transitioned ADF, by transition status.....	139
Figure 9.1	Estimated insomnia severity in the preceding two weeks in the Transitioned ADF and 2015 Regular ADF cohorts.....	143
Figure 9.2	Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by transition status .....	146
Figure 10.1	Estimated proportions of classification of current body mass index in Transitioned ADF and 2015 Regular ADF.....	149
Figure 10.2	Estimated proportions of classification of current BMI in Transitioned ADF and 2015 Regular ADF, using collapsed grouping.....	149
Figure 10.3	Estimated proportions of current classification of body mass index in Transitioned ADF, by transition status .....	152
Figure 10.4	Estimated proportions of current classification of BMI in Transitioned ADF, by transition status .....	152
Figure 10.5	Estimated prevalence of physical activity in the preceding seven days in Transitioned ADF and 2015 Regular ADF.....	155
Figure 10.6	Estimated prevalence of physical activity in the preceding seven days in Transitioned ADF, by transition status .....	157
Figure 10.7	Estimated prevalence of smoking in Transitioned ADF and 2015 Regular ADF .....	159
Figure 10.8	Estimated prevalence of smoking status in Transitioned ADF and 2015 Regular ADF (using categorised grouping) .....	159
Figure 10.9	Estimated prevalence of smoking in Transitioned ADF, by transition status .....	162
Figure 10.10	Estimated prevalence of smoking status in Transitioned ADF, by transition status (using categorised grouping) .....	162
Figure 11.1	Estimated prevalence of self-perceived health in general in Transitioned ADF and 2015 Regular ADF.....	167
Figure 11.2	Estimated proportions of self-perceived health in general in Transitioned ADF, by transition status .....	170
Figure 11.3	Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF and 2015 Regular ADF.....	171
Figure 11.4	Self-perceived satisfaction with health in Transitioned ADF, by transition status.....	174
Figure 11.5	Self-perceived quality of life in Transitioned ADF and 2015 Regular ADF .....	176
Figure 11.6	Self-perceived quality of life in Transitioned ADF, by transition status.....	179
Figure 11.7	Self-perceived satisfaction with life in the preceding year in Transitioned ADF and 2015 Regular ADF.....	181
Figure 11.8	Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by transition status .....	184
Figure 11.9	Self-reported physical health in the preceding year in Transitioned ADF and 2015 Regular ADF .....	186
Figure 11.10	Estimated prevalence of self-reported physical health in the preceding year in Transitioned ADF, by transition status.....	189
Figure 12.1	Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks by Transitioned ADF members and 2015 Regular ADF members .....	195

Figure 12.2	Estimated proportions of health professionals and services consulted in the preceding 12 months by Transitioned ADF members and 2015 Regular ADF members, by rank order.....	196
Figure 12.3	Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks by Transitioned ADF, by transition status.....	200
Figure 13.1	Estimated prevalence of smoking: Transitioned ADF members compared with the Australian Community.....	205
Figure 13.2	Estimated prevalence of smoking in Transitioned ADF members compared with the Australian Community, by sex.....	206
Figure 13.3	Estimated prevalence of smoking in Transitioned ADF members compared with the Australian Community, by age group.....	208
Figure 13.4	Estimated prevalence of self-perceived health in general responses in Transitioned ADF members compared with the Australian Community.....	209
Figure 13.5	Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by sex.....	210
Figure 13.6	Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by age group.....	212
Figure 13.7	Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community.....	213
Figure 13.8	Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community, by sex.....	214
Figure 13.9	Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian community, by age.....	215
Figure A.1	Survey response rates for Transitioned ADF and 2015 ADF.....	252



---

## Acknowledgments

### Study participants

First and foremost, we acknowledge all current and ex-serving ADF personnel who generously gave their time to complete the study. This research was only made possible by their efforts and commitment to the study. Other key individuals include:

#### Principal Investigator

Dr Miranda Van Hooff, Director of Research, Centre for Traumatic Stress Studies, University of Adelaide

#### Investigators

Dr Helen Kelsall (Lead), Senior Research Fellow, Monash Centre for Occupational and Environmental Health, School of Public Health and Preventive Medicine, Monash University

Professor Malcolm Sim (Lead), Director, Monash Centre for Occupational and Environmental Health, School of Public Health and Preventive Medicine, Monash University

Dr Ellie Lawrence-Wood, Senior Research Fellow, Centre for Traumatic Stress Studies, University of Adelaide

Dr Stephanie Hodson, National Manager, Veterans and Veterans Families Counselling Service, Department of Veterans' Affairs

COL Nicole Sadler (Reservist), Senior Specialist, Military and High Risk Organisations, Phoenix Australia Centre for Posttraumatic Mental Health, University of Melbourne

Ms Helen Benassi, Mental Health, Rehabilitation and Psychology Branch, Joint Health Command, Department of Defence; PhD candidate, Australian National University

Professor Alexander McFarlane, Professor of Psychiatry, Head of Centre for Traumatic Stress Studies, University of Adelaide

### **Lead statistician**

Dr Craig Hansen, Senior Statistician and Epidemiologist, Centre for Traumatic Stress Studies, University of Adelaide

### **Statistician**

Dr Blair Grace, Centre for Traumatic Stress Studies, University of Adelaide.

### **Centre for Traumatic Stress Studies, University of Adelaide**

Mr Roger Glenn, Ms Maria Abraham, Ms Jenelle Baur, Ms Ashleigh Kenny, Ms Marie Iannos, Dr Jodie Avery, Dr Amelia Searle, Dr Elizabeth Saccone, Ms Jane Cocks, Mr Jeremy Hamlin, Ms Judy Bament, Ms Dianne Stewart

### **Hunter Valley Foundation**

Ms Shanti Ramanathan, Mr David Shellard, Dr Clare Hogue, Ms Phyllis Hartung, Mr Russ Redford and the team of CIDI interviewers

### **Nexview Systems**

Mr Trevor Moyle, Ms Hong Yan

### **Australian Institute of Family Studies**

Dr Galina Daraganova, Dr Jacquie Harvey

### **Australian Institute of Health and Welfare**

Mr Phil Anderson, Mr Nick Von Sanden, Mr Richard Solon, Mr Tenniel Guiver

### **Australian Bureau of Statistics**

Mr David Haynes, Ms Beatrix Forrest, Ms Michelle Ducat and staff from the Health and Disability Branch, Mr Barry Tynan and staff from the Communications and Dissemination Branch

### **Transition and Wellbeing Research Programme Scientific Advisory Committee**

RADM Jenny Firman (co-chair), Dr Ian Gardner (co-chair), Professor Ian Hickie, Professor Malcolm Battersby, Professor Mark Creamer, Professor Peter Butterworth, Professor Lyndall Strazdins, Dr Paul Jelfs, Dr Duncan Wallace, GPCAPT Lisa Jackson Pulver, Professor Tim Driscoll, Professor Kathy Griffiths, Professor Beverley Raphael, Dr Graeme Killer

### **Transition and Wellbeing Research Programme Management Team**

Ms Kyleigh Heggie, Ms Karen Barker, Dr Loretta Poerio, Ms Melissa Preston, Dr Carmel Anderson, Ms Doylys Hartridge, Ms Mary-Ann Fisher, Department of Veterans' Affairs

COL Laura Sinclair, Ms Jess Styles, Ms Kanny Tait, Zushan Hashmi, Department of Defence

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

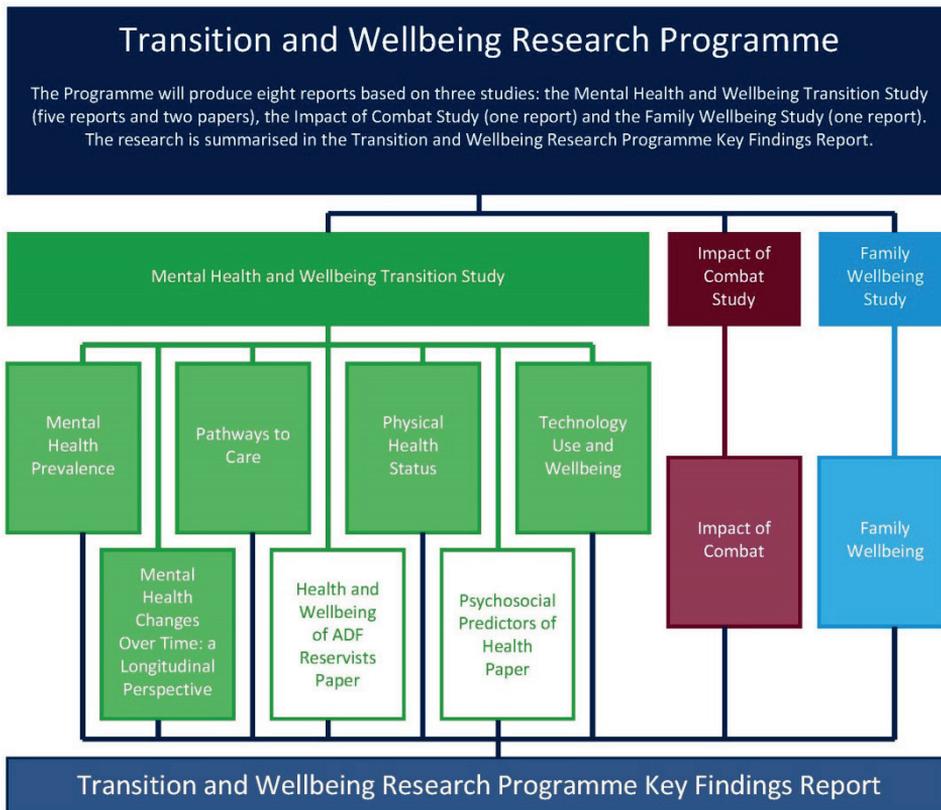
**Roll:** Mr Mark Watson and Ms Megan MacDonald, Department of Veterans' Affairs, and Ms Carolina Casetta and Warrant Officer Class One Iain Lewington, Joint Health Command, Department of Defence

**Other key organisation**

Australia Post

---

## Transition and Wellbeing Research Programme – an overview



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

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

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

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

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

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

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

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

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

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

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

---

# 1 Introduction

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### ***Respiratory health***

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

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

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

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

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

### ***Sleep problems***

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### **1.4.1 The current study**

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

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

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

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

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

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

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

## **1.5 Aims, objectives and research questions**

### **1.5.1 Aims**

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

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

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

### 1.5.2 Objectives

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

### 1.5.3 Research questions

This report addresses the following research questions:

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

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

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

### Weighted prevalence estimates

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

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

### **Confidence intervals**

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

### **Standard errors**

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

### **Between-group comparisons**

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

### **Odds ratios**

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

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

### **Last 12 months**

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

### **Significance**

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

### **Further caveats**

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

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

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



---

## 2 Methodology

### Study design

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

### Study populations

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

### Survey completion rate

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

### Weighting

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

### Analyses

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

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

## 2.1 Study design

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

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

## 2.2 Samples

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

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

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

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

### **2.2.1 Population comparison samples**

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

### **2.2.2 Transitioned ADF subgroups**

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

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

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

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

### **2.3 Response rates**

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

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

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

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

The characteristics of survey respondents can be summarised thus.

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

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

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

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

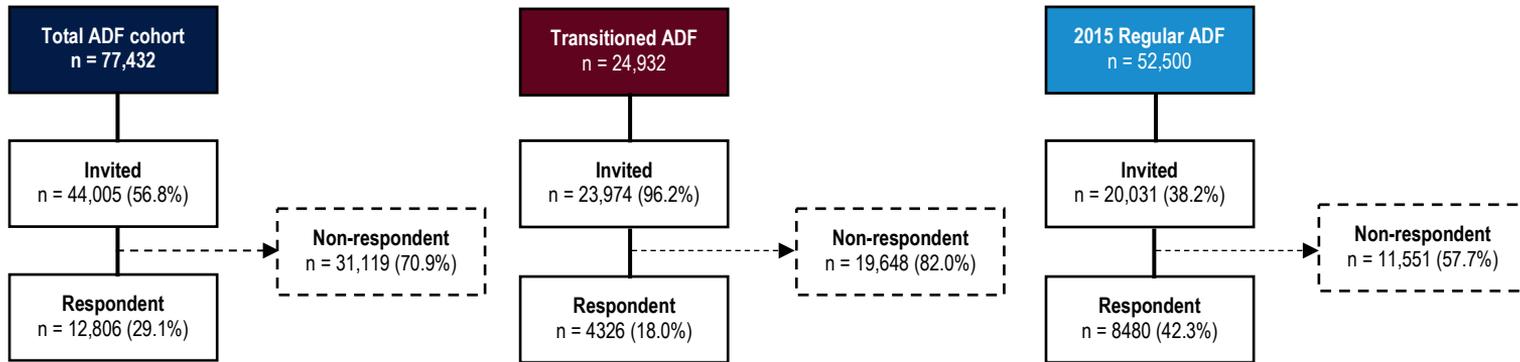
*Medical fitness.* Not surprisingly, Transitioned ADF were significantly more likely to be unfit on transition from the Regular ADF (31.1%) compared with the 2015 Regular ADF population (16.1%). Transitioned ADF who were unfit had a response rate of 20.9% compared with 46.5% in the 2015 Regular ADF.

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

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

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

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



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

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

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

## 2.4 Statistical analysis

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

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

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

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

## 2.5 Weighting

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

---

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

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

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

#### Among Transitioned ADF members

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

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

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

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

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

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

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

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

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

### **3.2 Transitioned ADF members**

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

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

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

Characteristic	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
<b>Age group</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*</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 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)	..	..	..
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	23,378	93.8 (92.8, 94.6)	8043	48,851	93.1 (90.7, 94.9)

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

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

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

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

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

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

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

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

a. Cell size too small to be reported.

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

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

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

a. Proportion of employed Transition ADF only.

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

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

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

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

a. Cell size too small to be reported.

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

---

## 4 Health symptoms

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

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

### Among Transitioned ADF members

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

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

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

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

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

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

A summary 'number of symptoms' variable was also created by summing the distinct symptoms per participant. This variable was then grouped into

:

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

## 4.1 Number of health symptoms

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

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

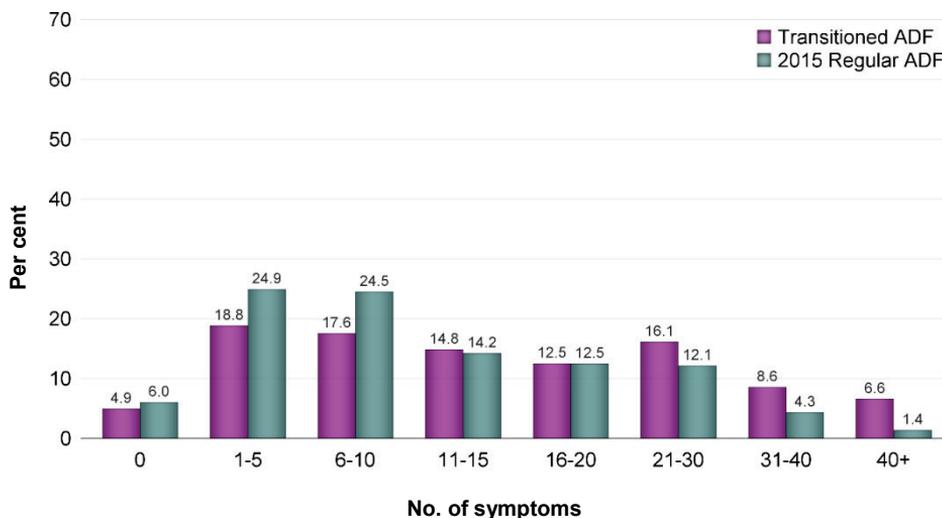
On average, the Transitioned ADF members (M = 16.4, SE = 0.3) reported more health symptoms than the 2015 Regular ADF members (M = 11.8, SE = 0.5). The Transitioned ADF were more likely to report '31 to 40' or 'more than 40' health symptoms (8.6% and 6.6% respectively) compared with the 2015 Regular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

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

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

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

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



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

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

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

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

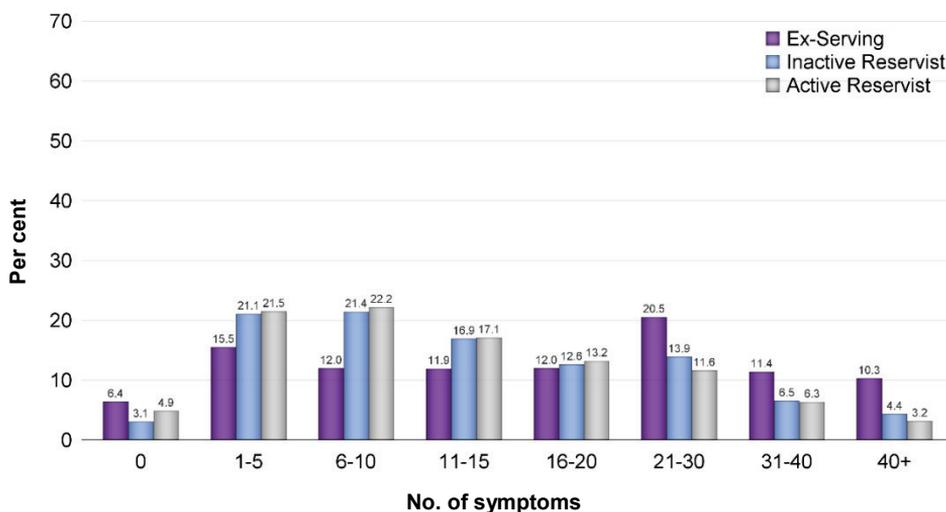
Notes: Denominator – all Transitioned ADF. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included.

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

Table 4.3 shows the number of health symptoms in the preceding month reported by the Transitioned ADF members according to their transition status. Those who were Ex-Serving were more likely to report a greater number of symptoms – ‘21 to 30’, ‘31 to 40’ or ‘more than 40’ symptoms (20.5%, 11.4% and 10.3% respectively) – compared with both Inactive Reservists (13.9%, 6.5% and 4.4%) and Active Reservists (11.6%, 6.3% and 3.2%). In contrast, Ex-Serving ADF were less likely to report ‘6 to 10’ health symptoms (12.0%) than either Inactive Reservists (21.5%) or Active Reservists (22.2%) and less likely to report ‘11 to 15’ health symptoms compared with Active Reservists (11.9% and 17.1%).

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

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



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

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

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

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

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

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

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

Note: Denominator – Transitioned ADF cohort.

## 4.2 Types of health symptoms

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

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

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

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

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

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

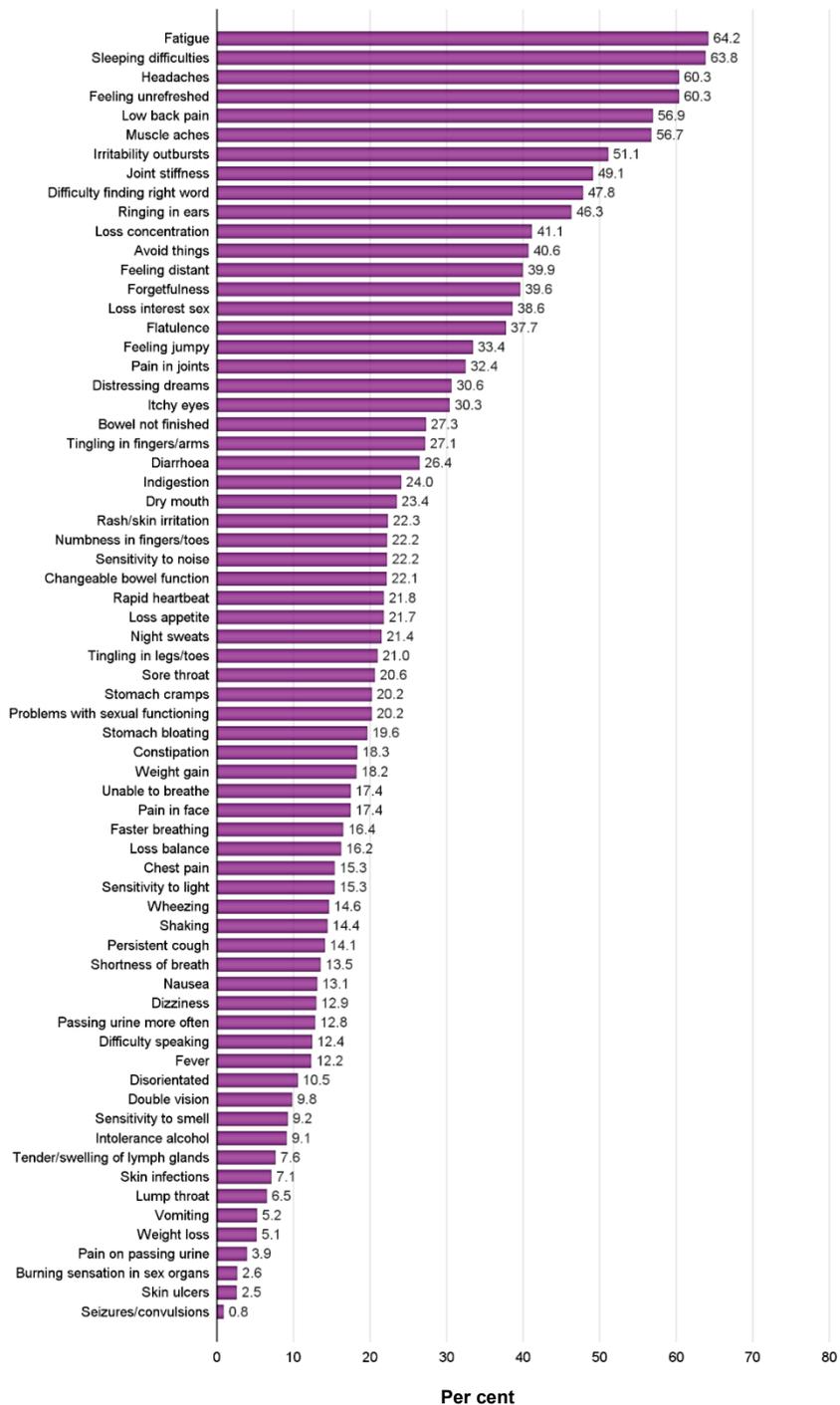
**Table 4.5 Estimated prevalence of health symptoms in the preceding month in Transitioned ADF and 2015 Regular ADF**

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

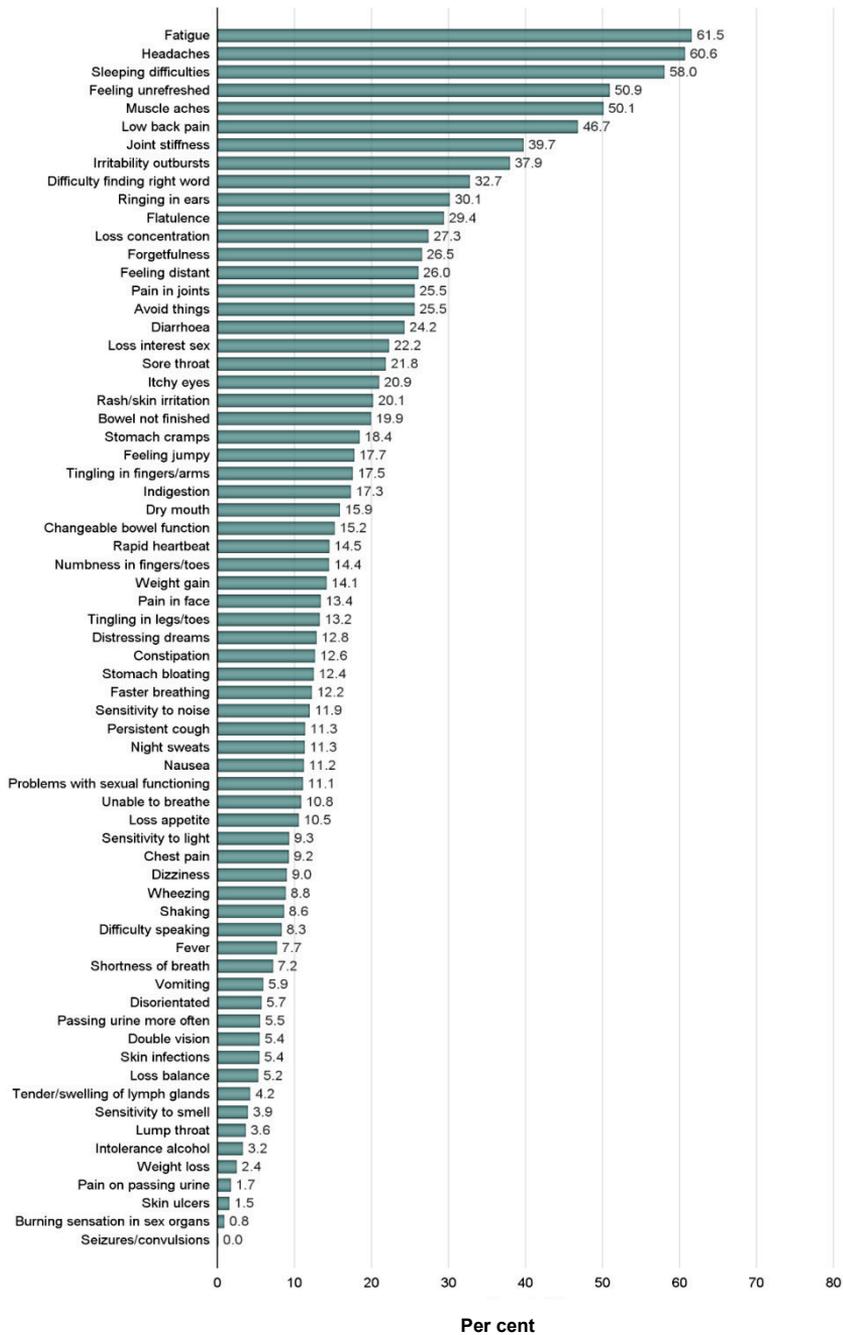
Symptom	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Night sweats which soak the bed sheets	756	5346	21.4 (19.8, 23.2)	877	5913	11.3 (9.0, 14.0)
Numbness in fingers/toes	866	5530	22.2 (20.6, 23.8)	1055	7574	14.4 (11.5, 18.0)
Pain in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

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

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



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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

---

## 5 Self-reported doctor-diagnosed conditions

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

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

### Among Transitioned ADF members

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

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

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

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

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

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

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

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

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

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

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

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

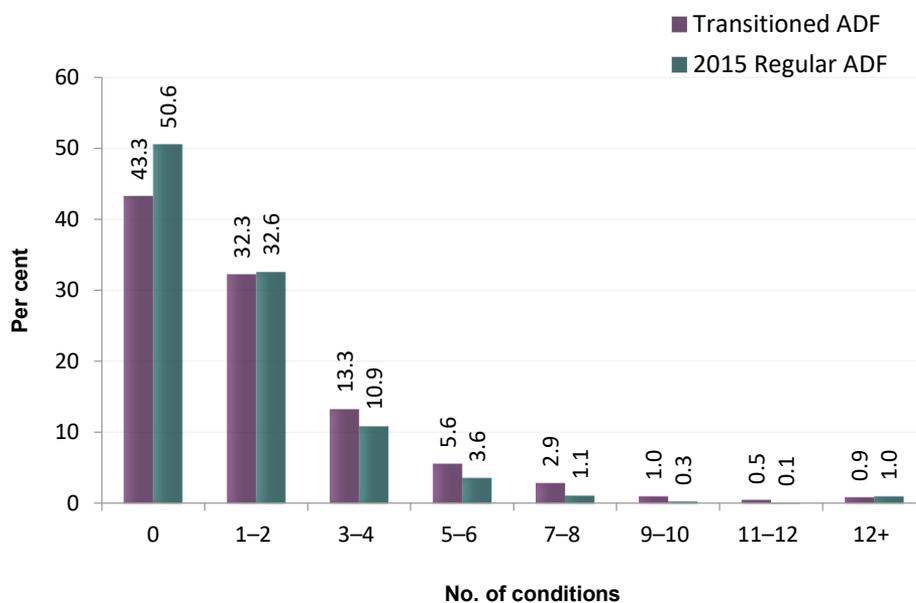
Table 5.1 and Figure 5.1 show the estimated number of doctor-diagnosed conditions ever reported by Transitioned ADF members and 2015 Regular ADF members. The mean number of doctor-diagnosed conditions ever reported was similar for the Transitioned ADF (M = 1.9, SE = 0.1) and the 2015 Regular ADF (M =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

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

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

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

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



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

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

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

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

a. Cell size too small to be reported.

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

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

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

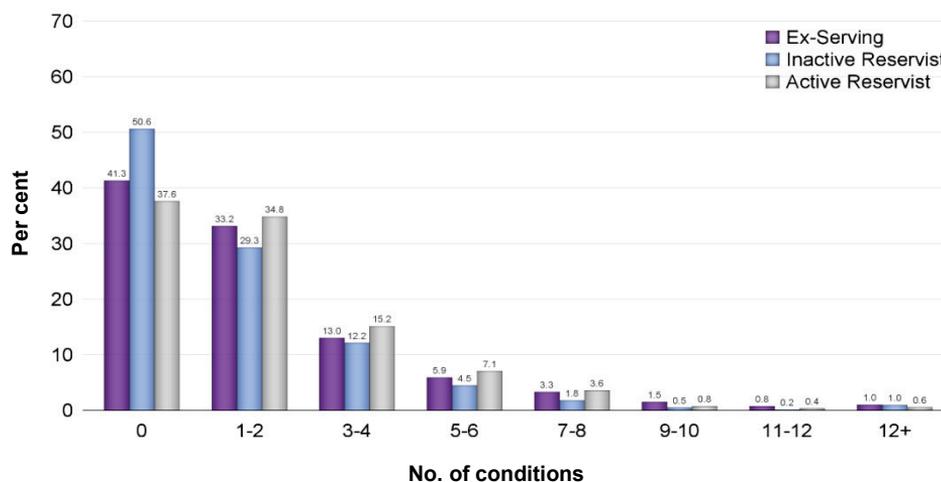
**Table 5.3 Estimated number of doctor-diagnosed conditions ever reported by Transitioned ADF, by transition status**

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

a. Cell size too small to be reported.

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

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



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

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

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

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

Note: Denominator – Transitioned ADF cohort.

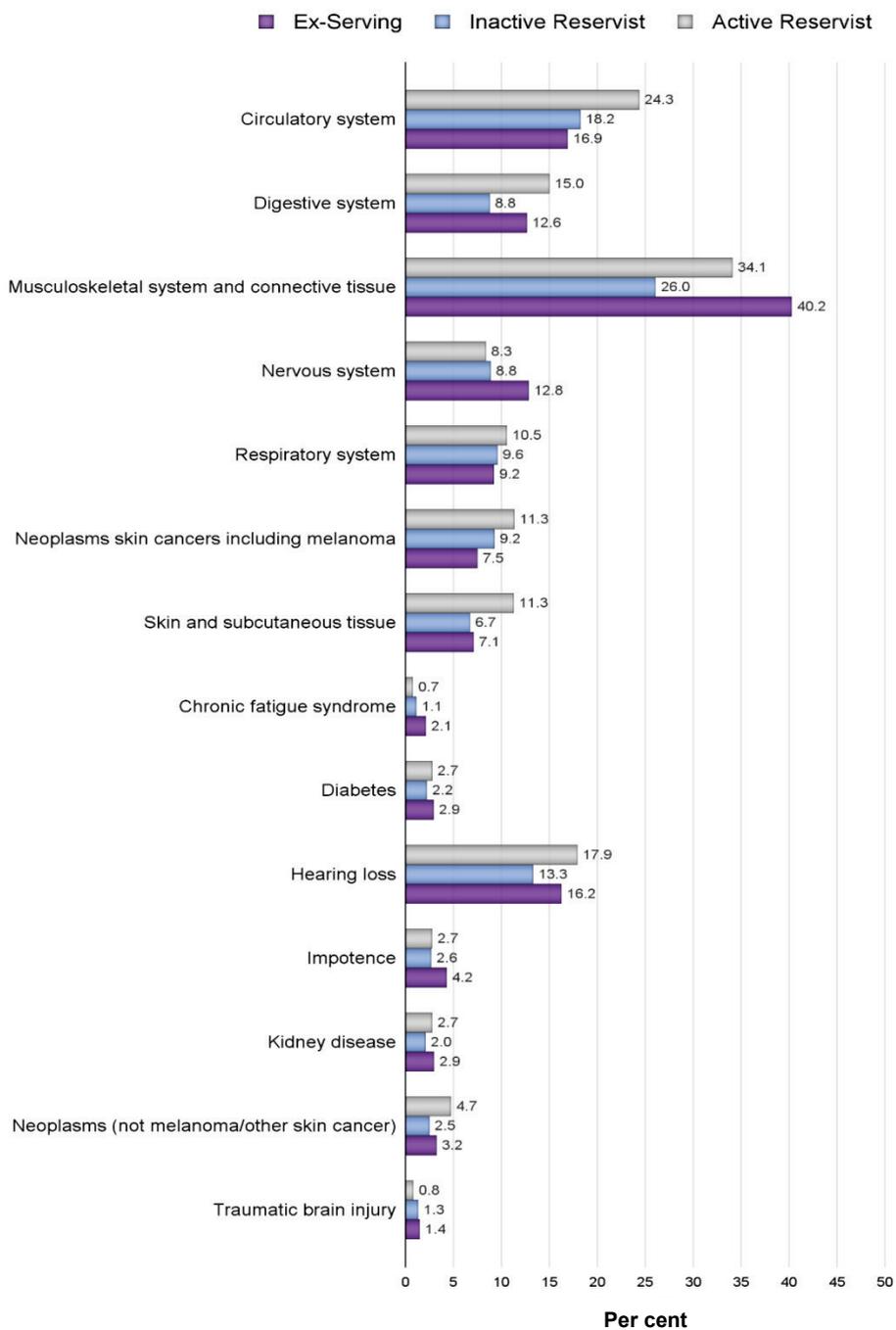
#### 5.1.5 Summary of ever reported doctor-diagnosed conditions

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

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



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



## 5.2 Categories of doctor-diagnosed conditions ever reported

### 5.2.1 Circulatory conditions

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

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

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

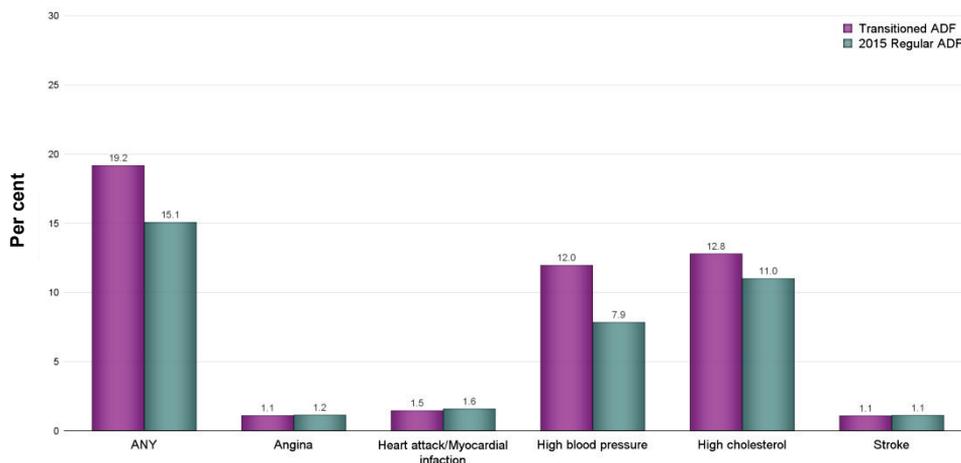
There were no significant differences between the Transitioned ADF and the 2015 Regular ADF in the estimated proportion who reported having a circulatory condition treated in the preceding year or reported having taken medication for a circulatory system condition in the preceding month.

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### **5.2.2 Digestive conditions**

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

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

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

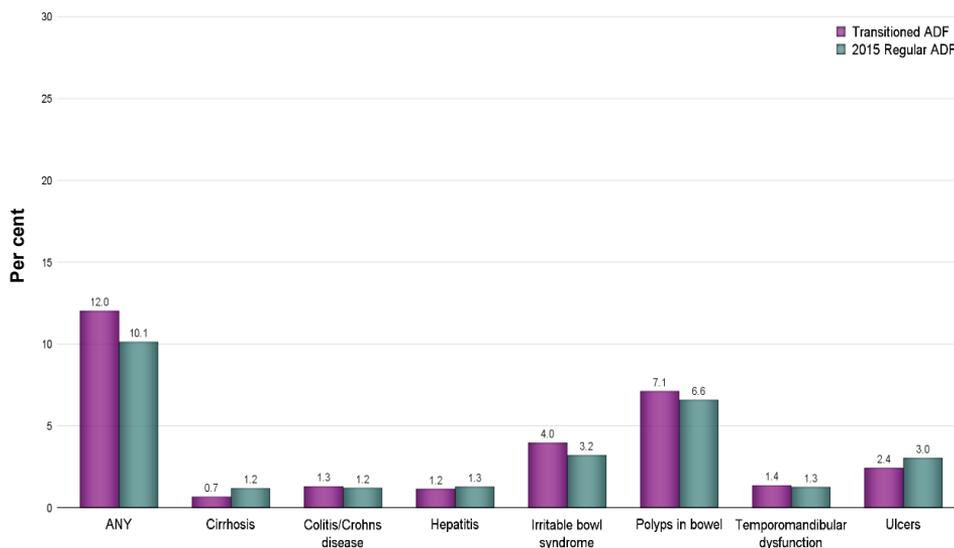
the preceding year or reported having taken medication for a digestive system condition in the preceding month.

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### 5.2.3 Musculoskeletal and connective tissue conditions

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

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

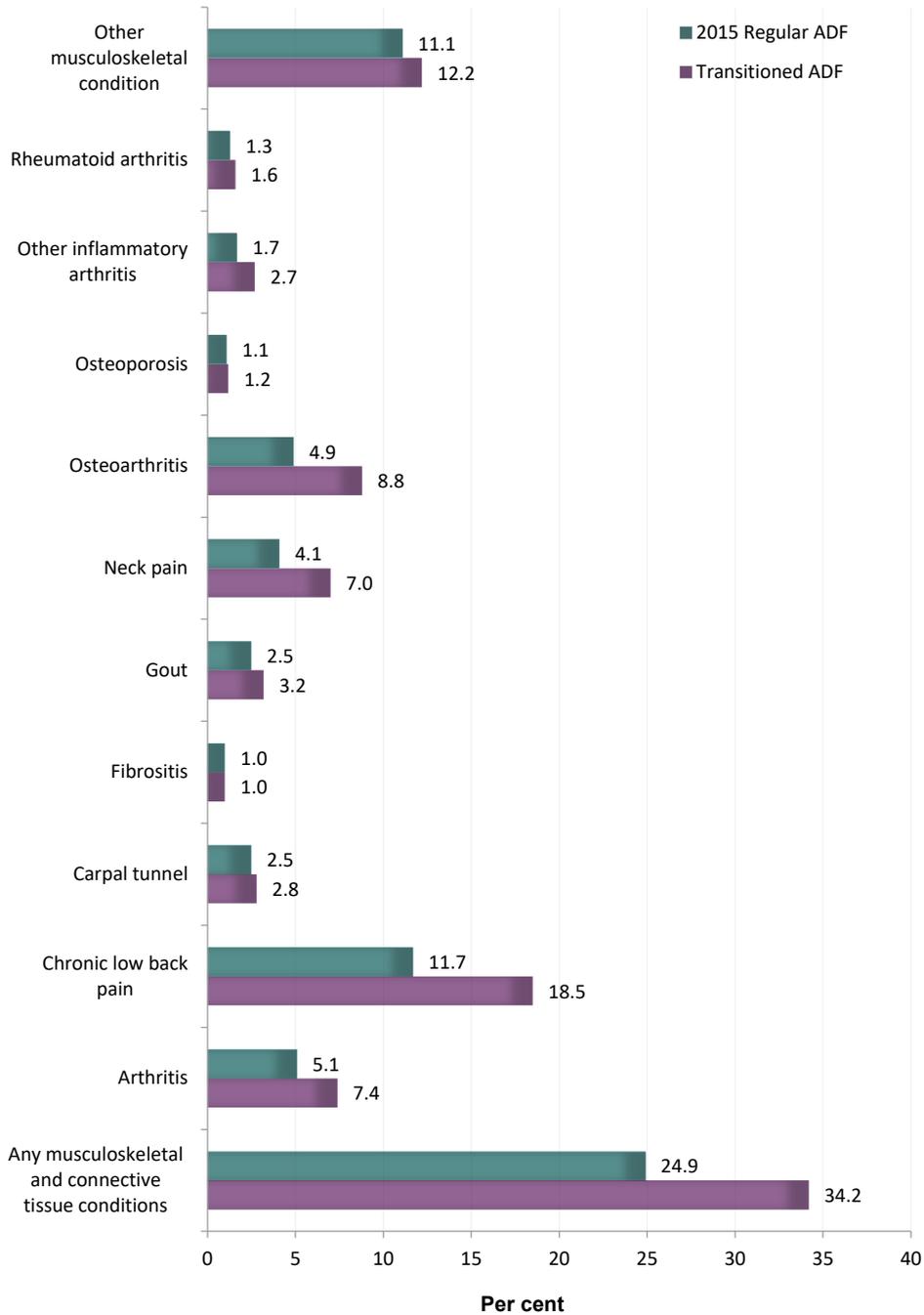
When treatment in the preceding year or medications in the preceding month were examined, Transitioned ADF were significantly more likely than 2015 Regular ADF to have taken medication for musculoskeletal or connective tissue conditions in the preceding month (15.3% vs 10.2%; OR 1.5, 95% CI 1.1, 2.1).

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

#### 5.2.4 Nervous system conditions

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

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

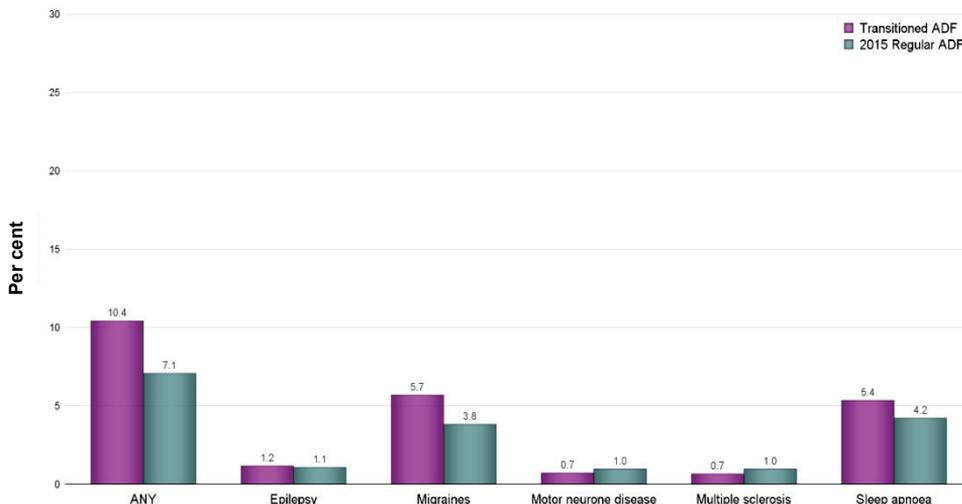
When treatment in the preceding year or medications in the preceding month were examined, Transitioned ADF were significantly more likely to have taken medication for any nervous system condition in the preceding month when compared with 2015 Regular ADF (3.2% vs 1.4%; OR 2.5, 95% CI 1.9, 3.3).

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

a. Cell size too small to be reported.

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

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

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

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

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

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

a. Cell size too small to be reported.

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

## 5.2.5 Respiratory system conditions

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

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

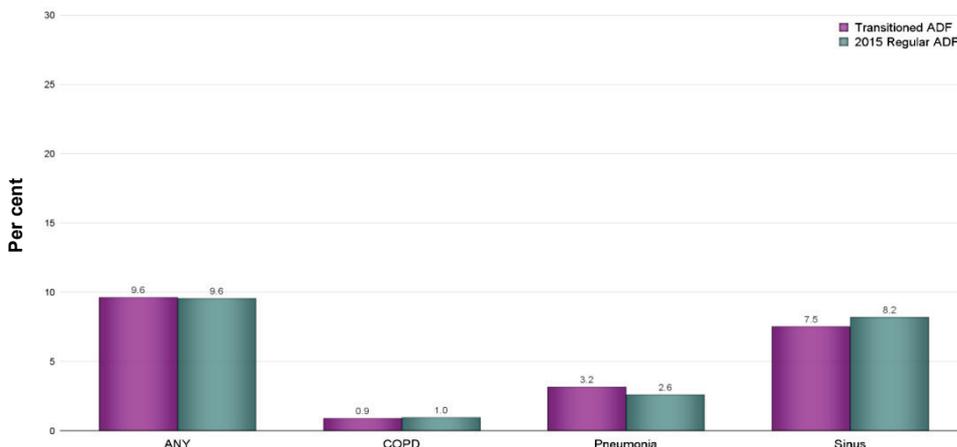
When any respiratory system conditions were examined by treatment in the preceding year or medications in the preceding month, there were no significant differences between Transitioned ADF members and 2015 Regular ADF members.

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

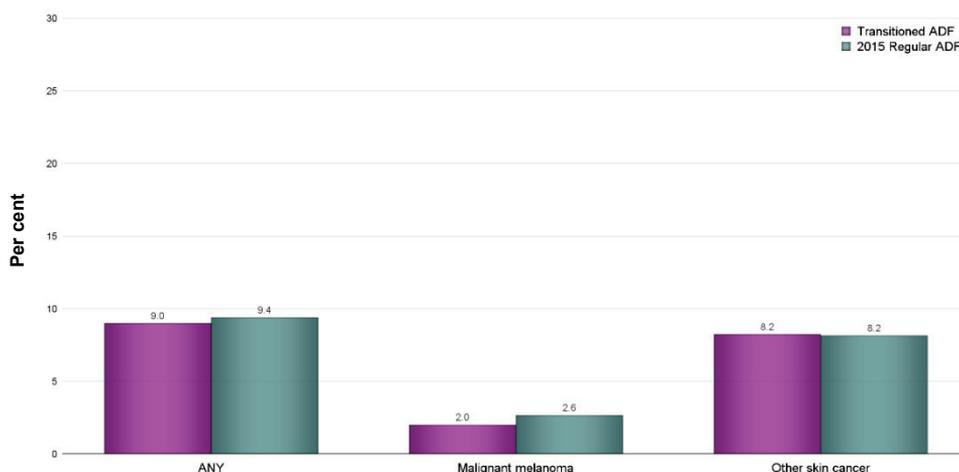
Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

**5.2.7 Skin and subcutaneous tissue conditions**

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

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

When treatment in the preceding year or medications in the preceding month were considered, Transitioned ADF were significantly more likely to have taken medication in the preceding month for a skin or subcutaneous tissue condition (2.7% vs 1.9%; OR 1.6, 95% CI 1.1, 2.2) when compared with 2015 Regular ADF.

**Table 5.28 Estimated prevalence of skin cancers (including melanoma) ever reported by Transitioned ADF, by medical discharge status**

Skin cancer	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Melanoma	22	115	2.3 (1.4, 3.5)	68	381	2.0 (1.4, 2.7)
Other skin cancer	83	370	7.2 (5.8, 9.0)	325	1665	8.5 (7.5, 9.7)
Skin cancers (including melanoma) any	96	436	8.5 (6.9, 10.4)	349	1787	9.2 (8.1, 10.3)
Treated in past year	53	219	4.3 (3.3, 5.5)	170	846	4.3 (3.6, 5.2)
Medications in past month	9	35	0.7 (0.4, 1.2)	28	143	0.7 (0.5, 1.1)

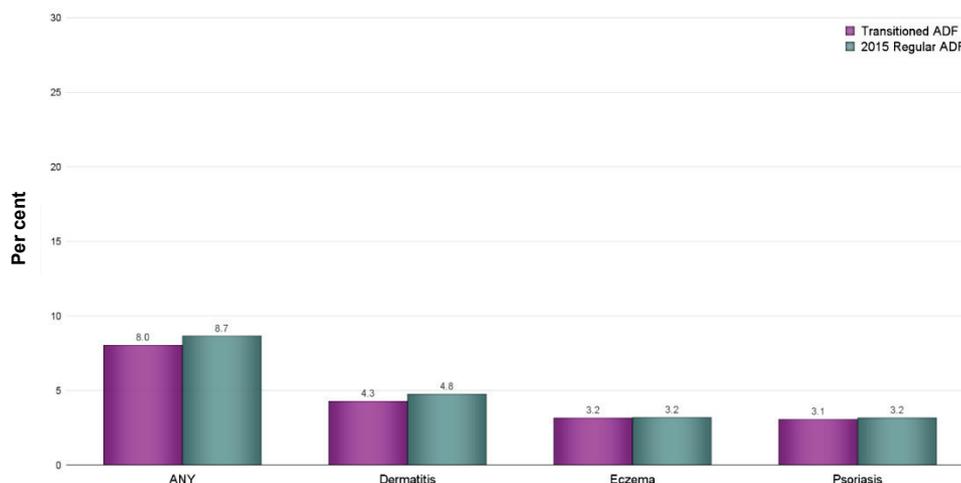
Notes: Denominator – Transitioned ADF cohort. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Table 5.29 Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF**

Condition	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Dermatitis	166	1069	4.3 (3.6, 5.2)	304	2509	4.8 (3.1, 7.4)
Eczema	137	789	3.2 (2.6, 3.9)	273	1683	3.2 (2.0, 5.1)
Psoriasis	126	768	3.1 (2.5, 3.8)	233	1668	3.2 (1.9, 5.2)
Skin and subcutaneous tissue conditions any	334	2007	8.1 (7.1, 9.2)	670	4550	8.7 (6.6, 11.4)
Treated in past year	128	699	2.8 (2.3, 3.4)	276	1646	3.1 (2.0, 4.8)
Medications in past month	117	663	2.7 (2.1, 3.3)	218	1006	1.9 (1.5, 2.4)

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

**Figure 5.11 Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF and 2015 Regular ADF**



***Skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by DVA client status***

Table 5.30 shows the estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF by DVA client status. DVA clients were significantly more likely to report a dermatitis diagnosis than non-DVA clients (5.1% vs 3.4%; OR 1.6, 95% CI 1.0, 2.4).

When treatment in the preceding year or medications in the preceding month were considered, DVA clients were significantly more likely to have been treated for any skin or subcutaneous tissue condition in the preceding year (3.6% vs 2.0%; OR 1.7, 95% CI 1.0, 2.7) when compared with non-DVA clients.

**Table 5.30 Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by DVA client status**

Condition	DVA client (n = 10,615)			Non-DVA client (n = 11,275)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Dermatitis	102	540	5.1 (4.1, 6.3)	44	382	3.4 (2.3, 5.0)
Eczema	70	401	3.8 (2.9, 4.9)	49	311	2.8 (1.9, 3.9)
Psoriasis	67	386	3.6 (2.7, 4.8)	37	266	2.4 (1.5, 3.6)
Skin and subcutaneous tissue conditions any	180	952	9.0 (7.7, 10.5)	109	781	6.9 (5.4, 8.8)
Treated in past year	71	377	3.6 (2.7, 4.7)	39	230	2.0 (1.4, 3.0)
Medications in past month	61	338	3.2 (2.3, 4.3)	37	219	1.9 (1.3, 2.9)

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

***Skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by transition status***

Table 5.31 shows the estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF by transition status. Ex-Serving ADF were significantly less likely to report a psoriasis diagnosis compared with Active Reservists (2.0% vs 4.7%; OR 0.5, 95% CI 0.2, 0.8). There were no significant differences between transition groups in self-reported treatment in the preceding year or medications in the preceding month for skin and subcutaneous tissue conditions.

***Skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by discharge status***

Table 5.32 shows the estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF by medical discharge status. Overall, medically discharged Transitioned ADF were significantly more likely to report any skin conditions compared with Transitioned ADF with another type of discharge (9.5% vs 7.7%; OR 1.4, 95% CI 1.0, 2.0), although this was a weak association. Additionally, those with a medical discharge were significantly more likely to report dermatitis than non-medically discharged members (6.1% vs 3.9%; OR 1.8, 95% CI 1.1, 2.7); this was a moderate association.

When treatment in the preceding year or medications in the preceding month were considered, Transitioned ADF with a medical discharge were significantly more likely to have been treated for any skin or subcutaneous tissue condition in the preceding year (9.5% vs 7.7%; OR 1.9, 95% CI 1.2, 3.1) or to have taken medication in the preceding month (4.2% vs 2.3%; OR 2.0, 95% CI 1.2, 3.3) when compared with those with another type of discharge; both were moderate associations.

**Table 5.31** Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by transition status

Condition	Ex-Serving (n = 10,743)			Inactive Reservists (n = 7709)			Active Reservists (n = 6390)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Dermatitis	72	469	4.4 (3.3, 5.7)	40	291	3.8 (2.6, 5.6)	53	305	4.8 (3.4, 6.7)
Eczema	55	352	3.3 (2.4, 4.5)	25	160	2.1 (1.3, 3.4)	56	272	4.3 (3.3, 5.5)
Psoriasis	39	213	2.0 (1.4, 2.9)	34	251	3.3 (2.1, 5.0)	52	300	4.7 (3.4, 6.5)
Skin and subcutaneous tissue conditions any	124	759	7.1 (5.7, 8.7)	78	515	6.7 (5.1, 8.8)	129	719	11.3 (9.2, 13.7)
Treated in past year	50	277	2.6 (1.9, 3.6)	23	145	1.9 (1.1, 3.2)	52	263	4.1 (3.0, 5.6)
Medications in past month	48	297	2.8 (2.0, 3.9)	26	154	2.0 (1.2, 3.3)	42	207	3.2 (2.3, 4.5)

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

**Table 5.32 Estimated prevalence of skin and subcutaneous tissue conditions ever reported by Transitioned ADF, by medical discharge status**

Condition	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Dermatitis	47	310	6.1 (4.4, 8.3)	117	751	3.9 (3.1, 4.9)
Eczema	32	192	3.8 (2.6, 5.4)	104	592	3.0 (2.4, 3.8)
Psoriasis	27	152	3.0 (2.0, 4.5)	96	600	3.1 (2.4, 4.0)
Skin and subcutaneous tissue conditions any	83	487	9.5 (7.5, 12.0)	246	1495	7.7 (6.6, 8.9)
Treated in past year	39	212	4.1 (2.9, 5.8)	85	470	2.4 (1.9, 3.1)
Medications in past month	36	217	4.2 (2.9, 6.1)	80	441	2.3(1.7, 3.0)

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

## 5.2.8 Other conditions

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

Table 5.33 and Figure 5.12 show the estimated proportions of Transitioned ADF members and 2015 Regular ADF members ever reporting other conditions – chronic fatigue syndrome; diabetes; hearing loss; impotence; kidney disease; other cancer, tumour or malignancy; or traumatic brain injury.

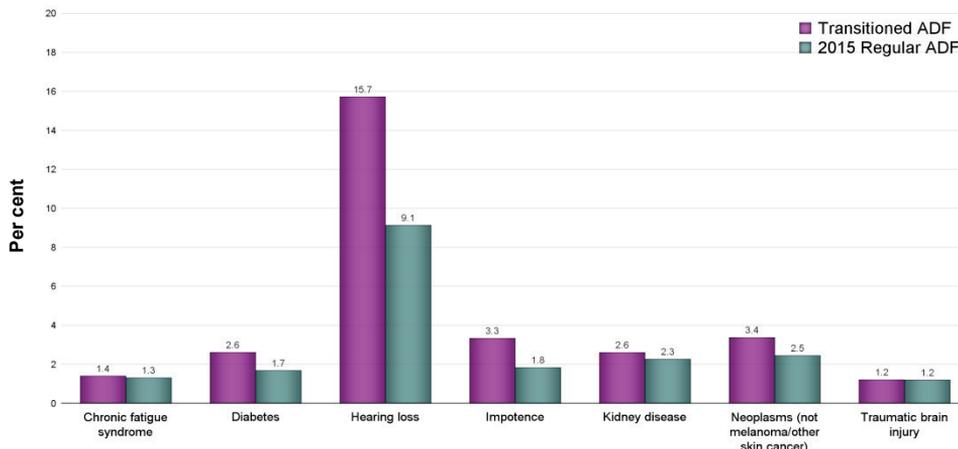
In both cohorts the most commonly reported other condition was hearing loss. Transitioned ADF were significantly more likely to report hearing loss when compared with 2015 Regular ADF (15.7% vs 9.1%; OR 1.7, 95% CI 1.2, 2.5). No other significant differences were found. It is important to note that the estimated prevalence of traumatic brain injury in both groups was low (1.2%).

**Table 5.33 Estimated prevalence of other conditions ever reported by Transitioned ADF and 2015 Regular ADF**

Condition	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Chronic fatigue syndrome	55	351	1.4 (1.0, 1.9)	84	690	1.3 (0.5, 3.5)
Diabetes	128	653	2.6 (2.2, 3.2)	114	887	1.7 (0.8, 3.7)
Hearing loss	714	3922	15.7 (14.5, 17.0)	839	4799	9.1 (7.1, 11.7)
Impotence	157	833	3.3 (2.8, 4.0)	143	964	1.8 (0.9, 3.7)
Kidney disease	115	651	2.6 (2.1, 3.3)	192	1193	2.3 (1.3, 4.1)
Other cancer, tumour or malignancy	163	842	3.4 (2.8, 4.0)	244	1289	2.5 (1.4, 4.2)
Traumatic brain injury	44	302	1.2 (0.8, 1.8)	67	633	1.2 (0.4, 3.5)

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

**Figure 5.12 Estimated prevalence of other conditions ever reported by Transitioned ADF and 2015 Regular ADF**



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

Table 5.34 shows the estimated prevalence of other conditions ever reported by Transitioned ADF by DVA client status. DVA clients were significantly more likely to report hearing loss (26.4% vs 6.7%; OR 3.9, 95% CI 3.0, 5.2), impotence (5.5% vs 1.7%; OR 2.4, 95% CI 1.4, 3.9) and other cancer (5.1% vs 2.0%; OR 1.7, 95% CI 1.1, 2.6) compared with non-DVA clients.

**Table 5.34 Estimated prevalence of other conditions ever reported by Transitioned ADF, by DVA client status**

Other condition	DVA client (n = 10,615)			Non-DVA client (n = 11,275)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Chronic fatigue syndrome	32	186	1.8 (1.2, 2.6)	13	111	1.0 (0.5, 2.0)
Diabetes	77	372	3.5 (2.8, 4.5)	36	207	1.8 (1.2, 2.8)
Hearing loss	530	2800	26.4 (24.1, 28.8)	113	750	6.7 (5.3, 8.4)
Impotence	114	582	5.5 (4.5, 6.7)	29	190	1.7 (1.0, 2.8)
Kidney disease	73	376	3.5 (2.8, 4.5)	34	238	2.1 (1.4, 3.3)
Other cancer, tumour or malignancy	111	543	5.1 (4.2, 6.2)	36	230	2.0 (1.4, 3.0)
Traumatic brain injury	25	178	1.7 (1.1, 2.7)	13	95	0.8 (0.4, 1.8)

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

**Other conditions ever reported in Transitioned ADF, by transition status**

Table 5.35 shows the estimated prevalence of other conditions ever reported by Transitioned ADF by transition status. Ex-Serving ADF were significantly more likely to report chronic fatigue syndrome (2.1% vs 0.7%; OR 3.3, 95% CI 1.7, 6.2) and diabetes (3.0% vs 2.8%; OR 2.0, 95% CI 1.3, 3.2) than Active Reservists. Ex-Serving ADF were also

significantly more likely to report impotence than Active Reservists (4.2% vs 2.7%; OR 2.8, 95% CI 1.8, 4.5) and Inactive Reservists (4.2% vs 2.6%; OR 2.0, 95% CI 1.1, 3.4). Further, Ex-Serving ADF were significantly more likely to report hearing loss than Inactive Reservists (16.2% vs 13.3%; OR 1.4, 95% CI 1.1, 1.9), although this was a weak association.

**Table 5.35 Estimated prevalence of other conditions ever reported by Transitioned ADF, by transition status**

Other condition	Ex-Serving (n = 10,743)			Inactive Reservists (n = 7709)			Active Reservists (n = 6390)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Chronic fatigue syndrome	32	222	2.1 (1.4, 3.1)	12	83	1.1 (0.5, 2.2)	11	46	0.7 (0.4, 1.2)
Diabetes	61	310	3.0 (2.2, 3.9)	29	167	2.2 (1.4, 3.3)	38	176	2.8 (2.0, 3.7)
Hearing loss	295	1744	16.2 (14.2, 18.5)	171	1022	13.3 (11.0, 15.9)	245	1144	17.9 (15.8, 20.2)
Impotence	85	456	4.2 (3.3, 5.4)	35	203	2.6 (1.7, 4.0)	37	174	2.7 (2.0, 3.8)
Kidney disease	46	315	2.9 (2.0, 4.2)	30	158	2.1 (1.3, 3.1)	38	174	2.7 (2.0, 3.8)
Other cancer, tumour or malignancy	64	344	3.2 (2.4, 4.3)	35	189	2.5 (1.6, 3.7)	62	299	4.7 (3.7, 6.0)
Traumatic brain injury	22	155	1.4 (0.9, 2.4)	11	99	1.3 (0.6, 2.7)	11	48	0.8 (0.4, 1.3)

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

***Other conditions ever reported by Transitioned ADF, by discharge status***

Table 5.36 shows the estimated prevalence of other conditions ever reported by Transitioned ADF members by medical discharge status. Compared with non-medically discharged Transitioned ADF members, Transitioned ADF with a medical discharge were significantly more likely to be diagnosed with a number of other conditions.

Medically discharged Transitioned ADF were significantly more likely to report impotence (6.6% vs 2.5%; OR 3.5, 95% CI 2.3, 5.2), chronic fatigue syndrome (3.0% vs 1.0%; OR 2.8, 95% CI 1.5, 5.4), diabetes (4.1% vs 2.3%; OR 2.4, 95% CI 1.5, 3.8), hearing loss (21.8% vs 14.3%; OR 2.1, 95% CI 1.6, 2.7) and kidney disease (3.8% vs 2.3%; OR 1.9, 95% CI 1.1, 3.2) when compared with Transitioned ADF with a non-medical discharge.

**Table 5.36 Estimated prevalence of other conditions ever reported by Transitioned ADF, by medical discharge status**

Other condition	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Chronic fatigue syndrome	23	151	3.0 (1.9, 4.7)	32	200	1.0 (0.7, 1.6)
Diabetes	46	210	4.1 (3.1, 5.5)	82	442	2.3 (1.8, 2.9)
Hearing loss	200	1114	21.8 (18.8, 25.1)	509	2787	14.3 (12.9, 15.8)
Impotence	60	336	6.6 (4.9, 8.7)	96	493	2.5 (2.0, 3.2)
Kidney disease	31	192	3.8 (2.5, 5.6)	83	455	2.3 (1.8, 3.0)
Other cancer, tumour or malignancy	42	210	4.1 (3.0, 5.6)	119	620	3.2 (2.6, 3.9)
Traumatic brain injury	15	104	2.0 (1.1, 3.6)	28	194	1.0 (0.6, 1.6)

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

---

## 6 Respiratory health

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

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

### Among Transitioned ADF members

- Among Transitioned ADF, DVA clients were more likely to report most respiratory symptoms compared with non-DVA clients, but there were no differences in wheeze, nasal allergies or asthma ever.
- Ex-Serving ADF were more likely to report many respiratory symptoms compared with Active and Inactive Reservists but were not more likely to report asthma ever.
- Transitioned ADF who were medically discharged were more likely to report all respiratory symptoms than those who were non-medically discharged but were not more likely to report nasal allergies and asthma ever.
- Transitioned ADF with a medical discharge who had had asthma ever were more likely to report asthma in the preceding year or to have taken asthma medication in the preceding month compared with members with another type of discharge.

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

This chapter deals with self-reported respiratory health among Transitioned ADF members and 2015 Regular ADF members. In addition to a comparison of Transitioned ADF and the 2015 Regular ADF, results are reported according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge).

Self-reported information on respiratory symptoms and conditions was used to assess respiratory health, with each answer categorised as ‘yes’ or ‘no’. Respondents were asked if they had experienced the following respiratory symptoms either in the preceding 12 months or usually (except where otherwise specified):

- wheeze in the last 12 months
- wheeze with breathlessness
- wheeze present but not a cold
- woken by tightness in chest in last 12 months
- attack of shortness of breath in the last 12 months
  - attack of shortness of breath during the day when at rest – that is, spontaneous dyspnoea
  - attack of shortness of breath following strenuous activity – that is, post-exertional dyspnoea
  - woken by attack of shortness of breath – that is, nocturnal dyspnoea
- woken by attack of coughing in the last 12 months – that is, nocturnal cough
- morning cough
- day or night time cough
- morning sputum in winter
- disabled from walking by a condition other than heart or lung disease
- shortness of breath when hurrying on level ground or walking up slight hill
- shortness of breath with other people of the same age on level ground
- have to stop for breath when walking at your own pace on level ground
- any nasal allergies.

Participants also reported whether they had ever had asthma in their lifetime and whether:

- The asthma was confirmed by a doctor.
- They had an asthma attack in the preceding 12 months.
- They were currently taking any asthma medication.

For the purpose of this chapter, a more inclusive definition of ‘asthma ever’ was used: it includes all those who reported ever having had asthma in their lifetime, regardless of whether or not this was confirmed by a doctor. Confirmation by a doctor, having an attack in the preceding 12 months and whether they were taking medication for their asthma were calculated as a proportion of the subpopulation who endorsed ever having had asthma in their lifetime.

Logistic regressions were performed on individual symptoms and asthma ever and were adjusted for sex, age, rank, Service and smoking status. Because of the high number of significant findings, the results presented focus on those differences with the strongest association for the particular group breakdown.

## **6.1 Respiratory symptoms**

### **6.1.1 Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF and 2015 Regular ADF**

Table 6.1 and Figure 6.1 show the estimated prevalence of respiratory symptoms in the preceding 12 months in Transitioned ADF members and 2015 Regular ADF members. A number of symptoms were significantly more likely to be reported by Transitioned ADF compared with 2015 Regular ADF. 'Attack of shortness of breath during the day whilst at rest' was reported by 11.5% of Transitioned ADF compared with 6.9% of the 2015 Regular ADF (OR 1.6, 95% CI 1.0, 2.4). Transitioned ADF were more likely to report being 'woken by attack of shortness of breath' (8.5%) compared with 2015 Regular ADF (3.8%) (OR 2.2, 95% CI 1.4, 3.6). Transitioned ADF were significantly more likely to report 'phlegm from chest during day or at night during winter' than 2015 Regular ADF (16.5% vs 11.2%; OR 1.5, 95% CI 1.1, 2.1). Being 'disabled from walking by condition other than heart/lung disease' was reported by 6.6% of Transitioned ADF and 2.4% of 2015 Regular ADF (OR 2.5, 95% CI 1.3, 4.6). Transitioned ADF were significantly more likely to report 'shortness of breath' than 2015 Regular ADF (9.7% vs 5.1%; OR 1.8, 95% CI 1.1, 2.8) and significantly more likely to report 'Asthma in the last 12 months' than the 2015 Regular ADF (11.5% vs 5.8%; OR 2.5, 95% CI 1.7, 3.5). Transitioned ADF were also significantly more likely to report taking 'Asthma medication currently' than the 2015 Regular ADF (21.4% vs 13.4%; OR 1.9, 95% CI 1.2, 3.0). All the associations just noted were moderate.

### **6.1.2 Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by DVA client status**

Table 6.2 shows respiratory symptoms in the preceding 12 months among the Transitioned ADF according to DVA client status. DVA clients were significantly more likely to experience a number of symptoms when compared with non-DVA clients. The strongest association was found for 'disabled from walking by a condition other than heart/lung disease' (12.0% vs 1.4%; OR 8.3, 95% CI 4.8, 14.5). Numerous moderate associations were found, the strongest of these being reported here. DVA clients were significantly more likely to report being 'woken by attack of shortness of breath' (11.7% vs 5.2%; OR 2.4, 95% CI 1.7, 3.4), 'phlegm from chest in the morning during winter' (23.0% vs 13.4%; OR 2.1, 95% CI 1.6, 2.8) and 'shortness of breath' (14.1% vs 5.9%; OR 2.4, 95% CI 1.8, 3.3) compared with non-DVA clients.

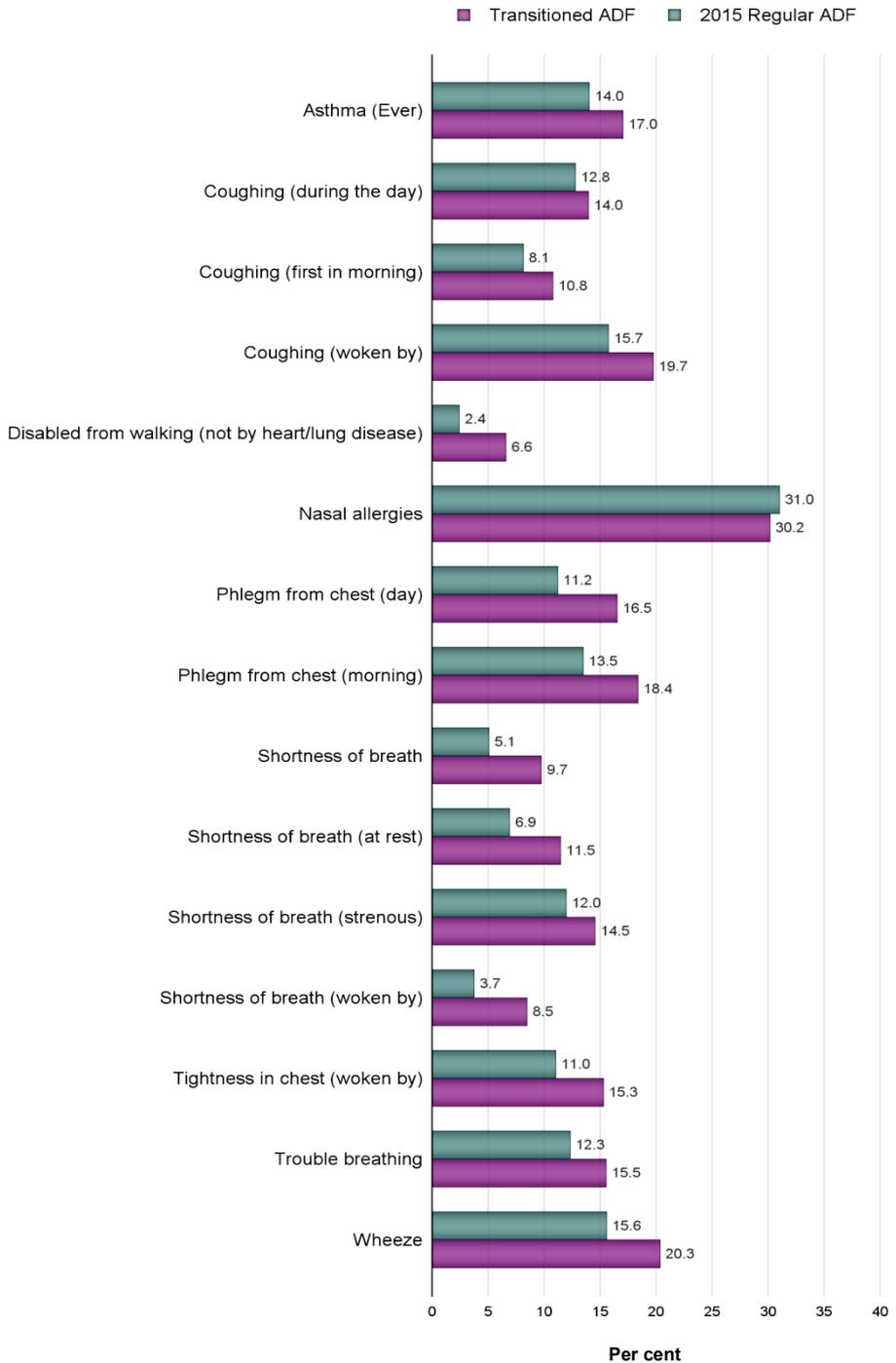
**Table 6.1 Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF and 2015 Regular ADF**

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

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

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

**Figure 6.1** Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF and 2015 Regular ADF



**Table 6.2 Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by DVA client status**

Symptom/condition	DVA client (n = 10,649)			Non- DVA client (n = 11,318)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Wheeze	405	2431	22.8 (20.5,25.3)	237	2075	18.3 (15.8,21.2)
Woken with tightness in chest	363	2070	19.4 (17.4,21.7)	151	1265	11.2 (9.2,13.5)
Attack of shortness of breath during the day whilst at rest	269	1578	14.8 (13.0,16.9)	109	942	8.3 (6.6,10.5)
Attack of shortness of breath following strenuous activity	345	2022	19.0 (16.9,21.3)	152	1269	11.2 (9.2,13.6)
Woken by attack of shortness of breath	215	1249	11.7 (10.1,13.6)	68	587	5.2 (3.9,6.9)
Woken by attack of coughing	458	2538	23.8 (21.6,26.2)	225	1758	15.5 (13.3,18.1)
Cough first thing in the morning	239	1434	13.5 (11.7,15.5)	114	998	8.8 (7.0,11.0)
Cough during the day or at night	316	1861	17.5 (15.5,19.7)	152	1251	11.1 (9.1,13.4)
Phlegm from chest in morning during winter	355	2449	23.0 (20.6,25.6)	177	1517	13.4 (11.2,16.0)
Phlegm from chest during day or at night during winter	336	2219	20.8 (18.5,23.4)	151	1382	12.2 (10.1,14.8)
Trouble breathing	397	2168	20.4 (18.3,22.6)	168	1274	11.3 (9.3,13.5)
Disabled from walking by condition	223	1278	12.0 (10.4,13.8)	23	163	1.4 (0.9,2.4)
Shortness of breath	268	1504	14.1 (12.4,16.1)	94	672	5.9 (4.6,7.6)
Nasal allergies	583	3375	31.7 (29.1,34.4)	436	3331	29.4 (26.4,32.6)
Asthma (ever) <sup>a</sup>	271	1769	16.6 (14.5,18.9)	219	1977	17.5 (15.0,20.3)
Asthma confirmed by doctor	246	1578	89.2 (83.2,93.3)	197	1774	89.7 (83.3,93.9)
Asthma in last 12 months	45	207	11.7 (8.7,15.4)	25	213	10.8 (6.7,16.9)
Asthma medication currently	86	443	25.1 (20.0,30.9)	43	377	19.1 (13.4,26.4)

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

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

### 6.1.3 Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by transition status

Table 6.3 and Figure 6.2 show respiratory symptoms and conditions in the preceding 12 months among Transitioned ADF members according to transition status.

Ex-Serving ADF were significantly more likely to report being 'Disabled from walking by a condition other than heart/lung disease' compared with Active Reservists (11.1% vs 4.1%; OR 4.2, 95% CI 3.0, 5.7) and Inactive Reservists (11.1% vs 2.4%; OR 5.7, 95% CI 3.8, 8.4). Both were strong associations. A number of moderate associations were also observed. Ex-Serving ADF were significantly more likely to report being 'Woken by attack of shortness of breath' than Active Reservists (11.6% vs 6.2%; OR 2.3, 95% CI 1.5, 3.3) and Inactive Reservists (11.6% vs 6.1%; OR 2.0, 95% CI 1.3, 2.9). They were also significantly more likely to report an 'Attack of shortness of breath whilst at rest during the day' compared with Active Reservists (16% vs 7.5%; OR 2.5, 95% CI 1.8, 3.4) and Inactive Reservists (16.0% vs 8.6%; OR 1.9, 95% CI 1.4, 2.7).

**Table 6.3 Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by transition status**

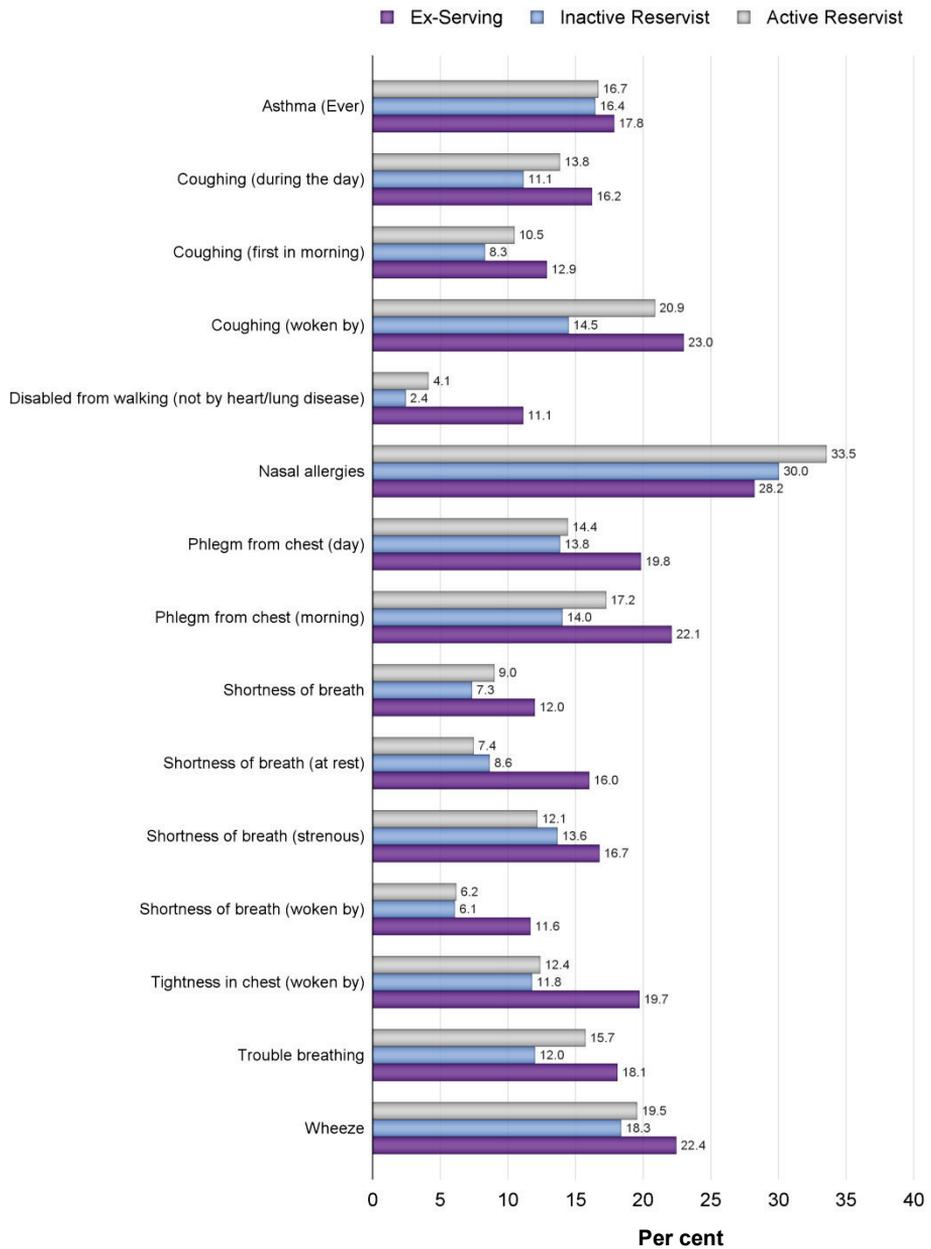
Symptom/condition	Ex-Serving ADF (n = 10,733)			Inactive Reservists (n = 7738)			Active Reservists (n = 6372)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Wheeze <sup>a</sup>	319	2407	22.4 (19.8, 25.3)	178	1419	18.3 (15.4, 21.8)	224	1244	19.5 (17.0, 22.4)
Wheeze with breathlessness	200	1440	59.8 (52.8, 66.5)	81	646	45.6 (36.2, 55.2)	110	658	52.9 (45.3, 60.4)
Wheeze when cold not present	229	1753	72.8 (66.3, 78.5)	103	751	52.9 (43.2, 62.4)	130	704	56.6 (48.8, 64.1)
Woken with tightness in chest	300	2114	19.7 (17.3, 22.4)	127	910	11.8 (9.5, 14.5)	147	788	12.4 (10.4, 14.7)
Attack of shortness of breath during the day whilst at rest	239	1716	16.0 (13.8, 18.5)	92	667	8.6 (6.6, 11.1)	91	474	7.5 (6.0, 9.2)
Attack of shortness of breath following strenuous activity	266	1797	16.8 (14.6, 19.1)	139	1055	13.6 (11.1, 16.7)	144	774	12.1 (10.2, 14.5)
Woken by attack of shortness of breath	182	1250	11.6 (9.8, 13.8)	64	468	6.1 (4.4, 8.2)	72	392	6.2 (4.8, 7.9)
Woken by attack of coughing	345	2466	23.0 (20.4, 25.8)	183	1120	14.5 (12.1, 17.3)	242	1329	20.9 (18.2, 23.7)
Cough first thing in the morning	186	1380	12.9 (10.8, 15.2)	90	641	8.3 (6.4, 10.6)	113	667	10.5 (8.4, 12.9)
Cough during the day or at night	243	1738	16.2 (14.0, 18.7)	134	861	11.1 (9.0, 13.7)	147	881	13.8 (11.5, 16.6)
Phlegm from chest in morning during winter	276	2370	22.1 (19.4, 25.0)	141	1084	14.0 (11.4, 17.1)	181	1099	17.2 (14.6, 20.2)
Phlegm from chest during day or at night during winter	262	2126	19.8 (17.3, 22.6)	140	1071	13.8 (11.3, 16.9)	147	918	14.4 (11.9, 17.3)
Phlegm on most days for as much as 3 months of a year for at least 2 years?	152	1285	60.5 (53.0, 67.5)	67	520	48.6 (38.1, 59.3)	77	474	51.7 (41.5, 61.7)
Trouble breathing <sup>a</sup>	305	1940	18.1 (15.9, 20.5)	134	927	12.0 (9.7, 14.7)	184	1001	15.7 (13.4, 18.3)
Continuous trouble breathing	52	287	14.8 (11.0, 19.7)	13	82	8.8 (4.5, 16.6)	16	75	7.5 (4.7, 11.6)
Repeated trouble breathing, but always gets better	70	497	25.6 (20.0, 32.2)	22	160	17.2 (10.6, 26.8)	25	185	18.5 (11.9, 27.6)
Rare trouble breathing	182	1147	59.1 (52.3, 65.6)	97	657	70.9 (60.1, 79.7)	143	741	74.1 (65.4, 81.2)
Disabled from walking by condition other than heart/lung disease	177	1192	11.1 (9.4, 13.1)	41	188	2.4 (1.8, 3.3)	58	261	4.1 (3.2, 5.2)
Shortness of breath	214	1284	12.0 (10.3, 13.9)	82	567	7.3 (5.6, 9.6)	106	572	9.0 (7.3, 11.0)
Nasal allergies	420	3027	28.2 (25.4, 31.2)	319	2321	30.0 (26.5, 33.8)	392	2136	33.5 (30.3, 36.9)

Symptom/condition	Ex-Serving ADF (n = 10,733)			Inactive Reservists (n = 7738)			Active Reservists (n = 6372)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Asthma (ever) <sup>a</sup>	234	1914	17.8 (15.4, 20.5)	144	1271	16.4 (13.5, 19.8)	175	1062	16.7 (14.2, 19.5)
Asthma confirmed by doctor	206	1633	85.3 (78.3, 90.4)	133	1174	92.3 (84.6, 96.4)	163	1008	94.9 (91.5, 97.0)
Asthma in last 12 months	41	231	12.1 (8.5, 16.8)	15	131	10.3 (5.4, 18.8)	24	128	12.1 (8.0, 17.8)
Asthma medication currently	72	426	22.3 (17.0, 28.6)	26	221	17.4 (10.8, 26.2)	48	263	24.8 (18.7, 32.1)

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

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,733; Active Reservists = 6372; Inactive Reservists = 7738; Unknown = 89). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 6.2 Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by transition status**



#### **6.1.4 Respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by discharge status**

Table 6.4 shows respiratory symptoms in the preceding 12 months in Transitioned ADF by medical discharge status. For all symptoms and conditions except nasal allergies and asthma ever, those with a medical discharge were significantly more likely to report the symptom than those with another type of discharge. Only the strongest associations are described here. Transitioned ADF with a medical discharge were significantly more likely to report being 'Disabled from walking by a condition other than heart/lung disease' (19.4% vs 3.3%; OR 8.0, 95% CI 5.7, 11.3) and 'Shortness of breath' (19.3% vs 7.4%; OR 3.2, 95% CI 2.4, 4.3) compared with those with another type of discharge.

A number of moderate associations were also found. Transitioned ADF with a medical discharge were significantly more likely to report an 'Attack of shortness of breath during the day whilst at rest' (21.8% vs 8.5%; OR 2.7, 95% CI 2.1, 3.6), being 'Woken by attack of shortness of breath' (16.4% vs 6.3%; OR 2.8, 95% CI 2.1, 3.9), 'Trouble breathing' (24.8% vs 13.2%; OR 2.3, 95% CI 1.8, 2.9) and 'Asthma in the last 12 months' (15.2% vs 10.4%; OR 1.9, 95% CI 1.0, 3.5) and to report taking 'Asthma medication currently' (29.0% vs 19.3%; OR 1.9, 95% CI 1.2, 3.1) when compared with those with another type of discharge.

**Table 6.4 Estimated prevalence of respiratory symptoms and conditions in the preceding 12 months in Transitioned ADF, by medical discharge status**

Symptom/condition	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Wheeze	198	1342	26.3 (22.7, 30.3)	515	3650	18.7 (16.9, 20.7)
Woken with tightness in chest	197	1236	24.2 (20.8, 28.0)	373	2525	12.9 (11.4, 14.6)
Attack of shortness of breath during the day whilst at rest	164	1114	21.8 (18.5, 25.6)	252	1664	8.5 (7.3, 9.9)
Attack of shortness of breath following strenuous activity	182	1154	22.6 (19.4, 26.2)	364	2436	12.5 (11.0, 14.1)
Woken by attack of shortness of breath	133	838	16.4 (13.6, 19.7)	181	1221	6.3 (5.2, 7.5)
Woken by attack of coughing	218	1458	28.5 (24.8, 32.6)	546	3376	17.3 (15.7, 19.1)
Cough first thing in the morning	119	820	16.1 (13.1, 19.5)	269	1844	9.4 (8.2, 10.9)
Cough during the day or at night	150	1001	19.6 (16.4, 23.2)	370	2420	12.4 (10.9, 14.0)
Phlegm from chest in morning during winter	177	1473	28.8 (24.9, 33.1)	418	3040	15.6 (13.9, 17.5)
Phlegm from chest during day or at night during winter	173	1336	26.2 (22.4, 30.3)	371	2700	13.8 (12.2, 15.6)
Trouble breathing	210	1268	24.8 (21.5, 28.5)	409	2579	13.2 (11.8, 14.8)
Disabled from walking by condition other than heart/lung disease	150	991	19.4 (16.3, 22.9)	125	647	3.3 (2.7, 4.0)
Shortness of breath	163	988	19.3 (16.3, 22.8)	239	1435	7.4 (6.3, 8.6)
Nasal allergies	249	1577	30.9 (27.2, 34.9)	873	5843	29.9 (27.8, 32.2)
Asthma (ever) <sup>a</sup>	130	941	18.4 (15.3, 22.0)	417	3257	16.7 (14.9, 18.6)
Asthma confirmed by doctor	116	826	87.8 (79.3, 93.2)	380	2940	90.3 (85.7, 93.5)
Asthma in last 12 months	28	143	15.2 (10.1, 22.2)	51	339	10.4 (7.5, 14.3)
Asthma medication currently	47	273	29.0 (21.1, 38.4)	97	629	19.3 (15.3, 24.1)

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

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



---

## 7 Service-related injuries

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

- Transitioned ADF members were slightly more likely to have reported any service-related injury compared with 2015 Regular ADF members. Approximately three-quarters of Transitioned ADF and two-thirds of 2015 Regular ADF reported having had a service-related injury.
- Transitioned ADF reported slightly more service-related injury types compared with 2015 Regular ADF. For example, Transitioned ADF and 2015 Regular ADF similarly reported zero, one and two injury types, whereas a greater proportion of Transitioned ADF reported three and four service-related injury types (4.9% and 1.1% respectively) compared with 2015 Regular ADF (3.2% and 0.3% respectively).
- The two most common service-related injury types reported in Transitioned ADF and 2015 Regular ADF were musculoskeletal injury (64.3% and 58.6%) and fracture/broken bone (30.0% and 27.9%).
- Overall, the pattern of service-related injury types in Transitioned ADF and 2015 Regular ADF was similar. Transitioned ADF were, however, significantly more likely to have reported heat stress, exhaustion or dehydration or a burn injury compared with 2015 Regular ADF members.
- In general, service-related injuries were more likely to have been sustained during training as opposed to on deployment.

### Among Transitioned ADF members

- The most common musculoskeletal injury sites reported (>20%) for Transitioned ADF were knee, spine, ankle, shoulder, neck and foot.
- Ex-Serving ADF were more likely to report any service-related injury than Active Reservists and were more likely to report three injury types compared with Inactive Reservists.
- DVA clients were more likely to report sustaining any type of injury and multiple injury types compared with non-DVA clients.
- Transitioned ADF who were medically discharged were more likely to report any injury and two or three injury types than those with another type of discharge.
- With the exception of burn injuries, Transitioned ADF who were medically discharged were more likely to experience every injury type than those with another type of discharge.

### Among the 2015 Regular ADF members

- The most common service-related musculoskeletal injury sites (reported by >20%) in 2015 Regular ADF were knee, shoulder, ankle, spine and neck.

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

This chapter looks at the different types of service-related injuries sustained during members' military career, as reported by Transitioned ADF members and 2015 Regular ADF members. Service-related injuries were assessed using five self-report items relating to different injury types: fractures; musculoskeletal injuries; heat stress, exhaustion and dehydration; effects of cold or exposure; and burn injuries (excluding sunburn). Respondents were asked whether they had ever reported and required time off work for each service-related injury type during their military career and, if so, how many times while on deployment and how many times while in training (these two categories were not mutually exclusive). The number of service-related injury types reported ever was also summed to provide a 'number of service-related injury types' summary variable ranging from zero to five.

The number of service-related injury types is reported first, then follows an examination of each injury type more specifically, including whether it occurred during deployment and/or training. In addition to comparing the Transitioned ADF and the 2015 Regular ADF, results are reported for Transitioned ADF according to DVA client status (DVA client, non-DVA client), transition status (Ex-Serving, Inactive Reservist, Active Reservist) and medical discharge status (medical discharge, non-medical discharge). Between-group comparisons were adjusted for sex, age, rank and Service.

## 7.1 Number of service-related injury types sustained during military career

### 7.1.1 Number of service-related injury types sustained during military career in Transitioned ADF compared with 2015 Regular ADF

Table 7.1 and Figure 7.1 show the number of service-related injury types sustained during their military career, as reported by Transitioned ADF members and 2015 Regular ADF members. The mean number of service-related injury types reported by Transitioned ADF was 1.11 (SE 0.02); for the 2015 Regular ADF it was 0.96 (SE 0.03). Similar proportions were reported for zero, one and two injury types. In contrast, a higher proportion of Transitioned ADF reported three and four service-related injury types (4.9% and 1.1% respectively) compared with 2015 Regular ADF (3.2% and 0.3% respectively).

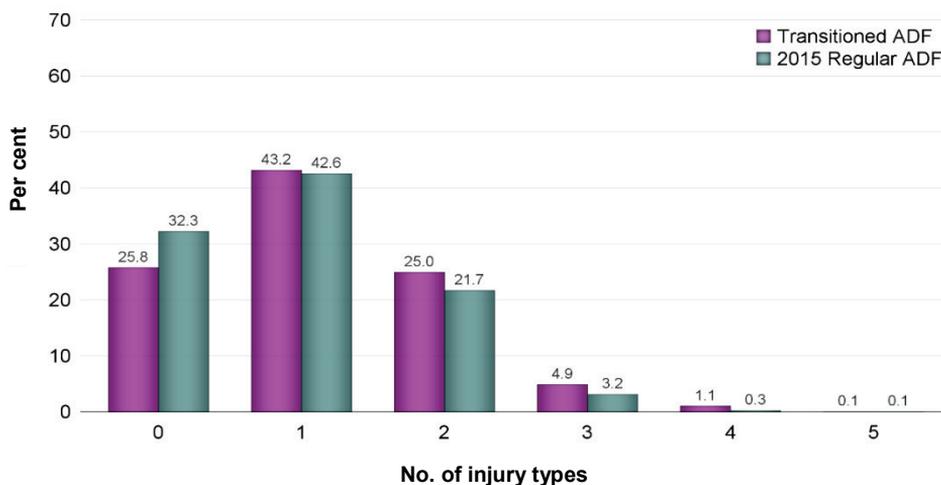
**Table 7.1** Estimated number of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF

Number	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
0	745	6434	25.8 (23.9, 27.8)	1886	16,941	32.3 (28.4, 36.4)
1	1495	10,768	43.2 (41.1, 45.3)	3185	22,354	42.6 (38.4, 46.8)
2	979	6226	25.0 (23.3, 26.7)	1836	11,390	21.7 (18.5, 25.2)
3	213	1220	4.9 (4.2, 5.7)	327	1654	3.2 (2.7, 3.7)
4	46	268	1.1 (0.8, 1.5)	45	133	0.3 (0.2, 0.3)
5	a	..	..	a	..	..

a. Cell size too small to be reported.

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

**Figure 7.1** Estimated number of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF



**7.1.2** Number of service-related injury types sustained during military career in Transitioned ADF, by DVA client status

Table 7.2 shows the number of service-related injury types sustained during their military career, as reported by Transitioned ADF, according to DVA client status. DVA clients were less likely to report no service-related injuries (12.1%) compared with non-DVA clients (39.0%). Similarly, DVA clients were more likely to report two (34.3%) and three service-related injury types (7.0%) compared with non-DVA clients (two service-related injury types, 16.9%; three, 2.4%).

**Table 7.2 Estimated number of service-related injury types sustained during military career in Transitioned ADF, by DVA client status**

Number	DVA client (n = 10,643)			Non-DVA client (n = 11,251)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
0	182	1284	12.1 (10.2, 14.3)	472	4388	39.0 (35.6, 42.5)
1	766	4800	45.1 (42.3, 48.0)	559	4604	40.9 (37.6, 44.4)
2	609	3654	34.3 (31.7, 37.1)	270	1897	16.9 (14.6, 19.4)
3	144	746	7.0 (5.9, 8.4)	41	271	2.4 (1.7, 3.5)
4	31	147	1.4 (1.0, 2.0)	9	91	0.8 (0.4, 1.8)

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

### 7.1.3 Number of service-related injury types sustained during military career in Transitioned ADF, by transition status

Table 7.3 and Figure 7.2 show the number of service-related injury types sustained during their military career, as report by Transitioned ADF, according to transition status. There was little difference in the numbers reported by Ex-Serving, Inactive Reservists and Active Reservists overall, the only difference being observed for three injury types. Ex-Serving ADF (6.0%) were more likely to report three injury types compared with Inactive Reservists (3.2%).

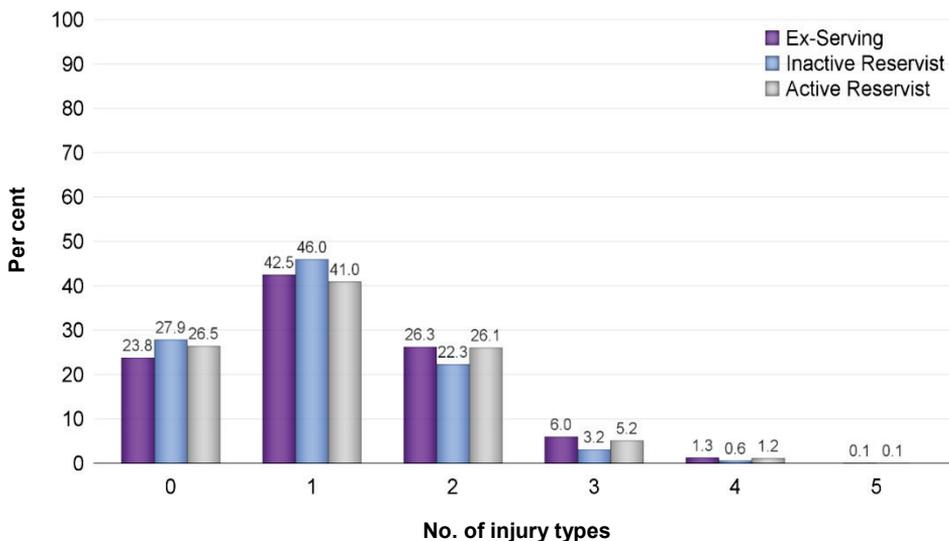
**Table 7.3 Estimated number of service-related injury types sustained during military career in the Transitioned ADF, by transition status**

Number	Ex-Serving ADF (n = 10,748)			Inactive Reservists (n = 7732)			Active Reservists (n = 6363)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
0	252	2559	23.8 (20.9, 27.0)	227	2157	27.9 (24.2, 31.9)	263	1686	26.5 (23.3, 30.0)
1	542	4567	42.5 (39.2, 45.9)	444	3557	46.0 (41.9, 50.1)	505	2607	41.0 (37.7, 44.3)
2	394	2824	26.3 (23.6, 29.2)	268	1725	22.3 (19.3, 25.6)	313	1661	26.1 (23.3, 29.2)
3	103	645	6.0 (4.8, 7.5)	48	244	3.2 (2.3, 4.3)	61	328	5.2 (3.9, 6.8)
4	24	141	1.3 (0.8, 2.1)	7	50	0.6 (0.2, 1.7)	15	77	1.2 (0.8, 2.0)
5	a	--	--	a	--	--	a	--	--

a. Cell size too small to be reported.

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,748; Active Reservists = 6363; Inactive Reservists = 7732; Unknown = 88). Unknown are not included.

**Figure 7.2** Estimated proportions of number of service-related injury types sustained during military career in Transitioned ADF, by transition status



**7.1.4** Number of service-related injury types sustained during military career in Transitioned ADF, by discharge status

Table 7.4 shows the number of service-related injury types sustained during their military career, as reported by Transitioned ADF, according to medical discharge status. Transitioned ADF who were medically discharged were less likely to report no service-related injuries (11.6%) and were more likely to report two (31.3%) or three (9.0%) service-related injury types compared with those who had another type of discharge (zero injury types, 29.5%; two injury types, 23.3%; three injury types 3.7%).

**Table 7.4** Estimated number of service-related injury types sustained during military career in Transitioned ADF, by discharge status

Number	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
0	77	593	11.6 (8.9, 14.8)	662	5755	29.5 (27.3, 31.9)
1	314	2358	45.9 (41.6, 50.3)	1167	8307	42.6 (40.2, 45.1)
2	238	1609	31.3 (27.5, 35.4)	731	4542	23.3 (21.4, 25.3)
3	77	462	9.0 (7.0, 11.5)	134	729	3.7 (3.1, 4.5)
4	20	104	2.0 (1.2, 3.3)	25	160	0.8 (0.5, 1.3)
5	a	--	--	a	--	--

a. Cell size too small to be reported.  
 Note: Denominator – Transitioned ADF cohort.

## 7.2 Types of service-related injury

### 7.2.1 Type of service-related injury sustained during military career in Transitioned ADF compared with 2015 Regular ADF

Table 7.5 and Figure 7.3 show the types of service-related injury sustained during their military career requiring time off work among Transitioned ADF members compared with the 2015 Regular ADF and the proportions that occurred on deployment and in training.

#### ***Any service-related injury***

Transitioned ADF were significantly more likely to have reported any service-related injury compared with the 2015 Regular ADF, although the association was weak (74.2% vs 67.7%; OR 1.4, 95% CI 1.0, 1.8).

#### ***Fracture/broken bone***

Overall, there were no significant differences between Transitioned ADF and 2015 Regular ADF in sustaining any type of fracture. Both groups reported more fractures during training (Transitioned ADF, 45.1%; 2015 Regular ADF, 42.7%) than while on deployment (Transitioned ADF, 12.6%; 2015 Regular ADF, 11.4%).

#### ***Musculoskeletal injury***

Transitioned ADF were more likely to experience a musculoskeletal injury of the foot (21.8%), pelvis (4.7%) and spine (44.5%) compared with the 2015 Regular ADF (foot, 17.3%; pelvis, 2.9%; spine, 36.8%). Regression analyses revealed, however, that, overall, there were no differences between Transitioned ADF and 2015 Regular ADF in the rates of any type of musculoskeletal injury. Again, both groups reported sustaining more musculoskeletal injuries during training (Transitioned ADF, 59.5%; 2015 Regular ADF, 55.6%) than while on deployment (Transitioned ADF, 27.8%; 2015 Regular ADF, 26.5%).

#### ***Heat stress, exhaustion, dehydration***

Transitioned ADF were significantly more likely to have reported heat stress, exhaustion or dehydration compared with the 2015 Regular ADF (12.1% vs 6.1%; OR 2.2, 95% CI 1.5, 3.1); this was a moderate association. Once again, both groups were more likely to experience this type of injury during training (Transitioned ADF, 60.6%; 2015 Regular ADF, 65.9%) than while on deployment (Transitioned ADF, 29.4%; 2015 Regular ADF, 31.7%).

**Table 7.5 Estimated proportions of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF**

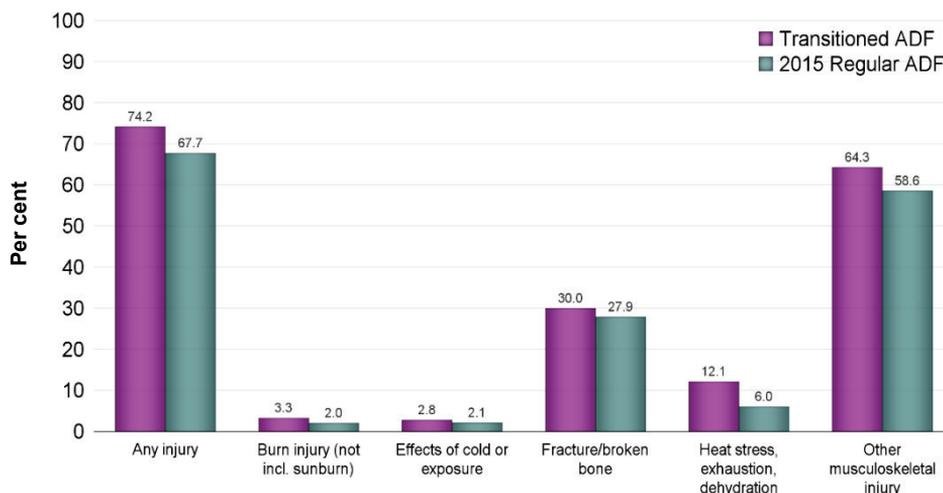
Injury type	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Any injury <sup>a</sup>	2737	18,498	74.2 (72.2, 76.1)	5398	35,559	67.7 (63.6, 71.6)
Fracture/broken bone	1183	7475	30.0 (28.2, 31.9)	2305	14,644	27.9 (24.4, 31.7)
Ankle	294	1744	23.3 (20.5, 26.4)	554	3257	22.2 (17.8, 27.5)
Elbow	133	781	10.5 (8.5, 12.8)	229	1181	8.1 (6.2, 10.4)
Femur	32	205	2.7 (1.8, 4.2)	42	170	1.2 (0.8, 1.7)
Foot	270	1713	22.9 (20.1, 26.0)	532	3131	21.4 (17.4, 26.0)
Head	140	770	10.3 (8.5, 12.4)	236	1232	8.4 (6.5, 10.9)
Hip	40	276	3.7 (2.6, 5.3)	56	232	1.6 (1.1, 2.3)
Knee	297	1910	25.6 (22.5, 28.8)	501	2661	18.2 (13.6, 23.8)
Neck	84	457	6.1 (4.8, 7.8)	108	755	5.2 (2.9, 8.9)
Pelvis	22	155	2.1 (1.3, 3.34)	36	151	1.0 (0.7, 1.5)
Shoulder	228	1199	16.0 (13.8, 18.5)	420	2378	16.2 (11.8, 21.9)
Spine	165	927	12.4 (10.4, 14.7)	197	1986	13.6 (8.2, 21.6)
Other	131	844	11.3 (9.2, 13.8)	304	1317	9.0 (7.5, 10.8)
Fracture/broken bone sustained						
During deployment	175	945	12.6 (10.8, 14.8)	270	1675	11.4 (7.3, 17.4)
During training	542	3375	45.1 (41.6, 48.7)	990	6257	42.7 (35.8, 50.0)
Musculoskeletal Injury	2423	16,019	64.3 (62.2, 66.3)	4714	30,757	58.6 (54.4, 62.7)
Ankle	1175	7128	44.5 (42.1, 47.0)	2247	13,210	43.0 (37.9, 48.2)
Elbow	403	2355	14.7 (13.1, 16.5)	666	3653	11.9 (9.4, 15.0)
Femur	73	461	2.9 (2.2, 3.8)	125	669	2.2 (1.5, 3.3)
Foot	600	3489	21.8 (19.9, 23.8)	1016	5314	17.3 (14.9, 19.9)
Head	294	1637	10.2 (8.9, 11.7)	397	2675	8.7 (6.2, 12.1)
Hip	316	2008	12.5 (11.0, 14.2)	513	2739	8.9 (6.3, 12.5)
Knee	1528	9324	58.2 (55.7, 60.7)	2898	18,669	60.7 (55.4, 65.8)
Neck	722	3805	23.8 (21.9, 25.7)	1214	7181	23.4 (19.2, 28.1)
Pelvis	116	753	4.7 (3.8, 5.8)	197	897	2.9 (2.4, 3.5)
Shoulder	1124	6723	42.0 (39.6, 44.4)	2107	13,685	44.5 (39.2, 49.9)
Spine	1176	7123	44.5 (42.0, 46.9)	1962	11,313	36.8 (32.2, 41.7)
Other	167	1185	7.4 (6.2, 8.9)	299	2960	9.6 (6.4, 14.3)
Musculoskeletal Injury sustained						
During deployment	708	4456	27.8 (25.7, 30.1)	1329	8152	26.5 (22.2, 31.3)
During training	1444	9531	59.5 (57.0, 61.9)	2666	17,087	55.6 (50.1, 60.9)
Heat stress, exhaustion, dehydration	447	3021	12.1 (10.9, 13.5)	593	3174	6.1 (4.7, 7.8)
Sustained during deployment	125	888	29.4 (24.2, 35.2)	173	1005	31.7 (22.3, 42.9)
Sustained during training	269	1829	60.6 (54.8, 66.0)	378	2093	65.9 (55.2, 75.3)
Effects of cold or exposure	115	697	2.8 (2.3, 3.5)	210	1127	2.2 (1.6, 2.9)
Sustained during deployment	20	97	13.9 (8.9, 21.2)	32	163	14.5 (8.8, 22.8)
Sustained during training	72	414	59.4 (48.2, 69.8)	116	586	52.0 (37.6, 66.1)

Injury type	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Burn injury (excl. sunburn)	128	821	3.3 (2.7, 4.1)	221	1070	2.0 (1.7, 2.4)
Sustained during deployment	21	158	19.3 (11.8, 29.8)	39	196	18.3 (12.4, 26.3)
Sustained during training	53	318	38.7 (29.0, 49.5)	78	375	35.0 (27.6, 43.3)

a. Groups are not mutually exclusive and therefore do not sum to 100%.

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

**Figure 7.3** Estimated proportions of service-related injury types sustained during military career in Transitioned ADF and 2015 Regular ADF



### **Cold/exposure**

There were no significant differences between Transitioned ADF and 2015 Regular ADF in relation to the effects of cold and exposure. Both groups were more likely to experience this type of injury during training (Transitioned ADF, 59.4%; 2015 Regular ADF, 52.0%) than during deployment (Transitioned ADF, 13.9%; 2015 Regular ADF, 14.5%).

### **Burn injury**

Transitioned ADF were 80% more likely to have reported a burn injury compared with 2015 Regular ADF (3.3% vs 2.0%; OR 1.8, 95% CI 1.4, 2.4); this was a moderate association. There was little difference in the rates of burn injury during training (Transitioned ADF, 38.7%; 2015 Regular ADF, 35.0%) compared with during deployment (Transitioned ADF, 19.3%; 2015 Regular ADF, 18.3%).

### 7.2.2 Types of service-related injuries sustained during military career in Transitioned ADF, by DVA client status

Table 7.6 shows the types of service-related injuries sustained during their military career among Transitioned ADF according to DVA client status. Only the strongest associations determined by logistic regression analyses are reported. DVA clients were significantly more likely to report sustaining any type of injury compared with non-DVA clients (87.9% vs 61.0%; OR 4.0, 95% CI 3.1, 5.2) and, more specifically, were also more likely to report a musculoskeletal injury compared with non-DVA clients (79.0% vs 49.7%; OR 3.4, 95% CI 2.7, 4.2).

**Table 7.6 Estimated proportions of service-related injury types sustained during military career in Transitioned ADF, by DVA client status**

Injury type	DVA client (n = 10,643)			Non-DVA client (n = 11,251)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Any injury	1553	9359	87.9 (85.7, 89.9)	879	6863	61.0 (57.5, 64.4)
Fracture/broken bone	713	4086	38.4 (35.7, 41.2)	335	2460	21.9 (19.3, 24.7)
Sustained during deployment	119	595	5.6 (4.6, 6.8)	35	239	2.1 (1.4, 3.2)
Sustained during training	351	2074	19.5 (17.3, 21.8)	130	917	8.2 (6.6, 10.1)
Musculoskeletal Injury	1410	8413	79.0 (76.5, 81.4)	742	5594	49.7 (46.3, 53.2)
Sustained during deployment	463	2621	24.6 (22.3, 27.1)	164	1242	11.0 (9.1, 13.3)
Sustained during training	889	5375	50.5 (47.7, 53.4)	402	3042	27.0 (24.1, 30.2)
Heat stress, exhaustion, dehydration	274	1596	15.0 (13.2, 17.0)	125	1048	9.3 (7.5, 11.5)
Sustained during deployment	89	516	4.9 (3.8, 6.2)	28	301	2.7 (1.7, 4.3)
Sustained during training	167	973	9.1 (7.7, 10.8)	74	604	5.4 (4.0, 7.1)
Effects of cold or exposure	72	400	3.8 (2.9, 4.9)	27	206	1.8 (1.2, 2.9)
Sustained during deployment	15	65	0.6 (0.4, 1.0)	a	--	--
Sustained during training	44	240	2.3 (1.7, 3.1)	19	126	1.1 (0.7, 1.9)
Burn injury (excl. sunburn)	86	499	4.7 (3.7, 6.0)	29	266	2.4 (1.5, 3.7)
Sustained during deployment	13	93	0.9 (0.5, 1.7)	8	66	0.6 (0.3, 1.3)
Sustained during training	40	229	2.2 (1.5, 3.1)	12	85	0.8 (0.4, 1.5)

a. Cell size too small to be reported.

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

### 7.2.3 Service-related injury types sustained during military career in Transitioned ADF, by transition status

Table 7.7 and Figure 7.4 show service-related injury types sustained during their military career among Transitioned ADF according to transition status. A number of associations were found, but only the strongest of these are reported here.

**Table 7.7** Estimated proportions of service-related injury types sustained during military career in Transitioned ADF, by transition status

Injury type	Ex-Serving (n = 10,748)			Inactive Reservists (n = 7732)			Active Reservists (n = 6363)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Any injury	1066	8190	76.2 (73.0, 79.1)	767	5575	72.1 (68.1, 75.8)	895	4677	73.5 (70.0, 76.7)
Fracture/broken bone	460	3199	29.8 (26.9, 32.8)	339	2217	28.7 (25.3, 32.3)	378	2023	31.8 (28.7, 35.0)
Ankle	136	809	25.3 (20.9, 30.3)	65	439	19.8 (14.8, 25.9)	93	496	24.5 (20.0, 29.7)
Elbow	42	255	8.0 (5.5, 11.4)	38	252	11.3 (7.7, 16.4)	51	266	13.2 (9.6, 17.7)
Femur	19	133	4.2 (2.4, 7.0)	7	49	2.2 (0.8, 5.9)	6	22	1.1 (0.6, 2.2)
Foot	116	825	25.8 (21.1, 31.1)	82	513	23.1 (17.9, 29.3)	71	370	18.3 (14.3, 23.1)
Head	58	315	9.9 (7.5, 13.0)	36	222	10.0 (6.7, 14.8)	45	229	11.3 (8.3, 15.2)
Hip	21	143	4.5 (2.8, 7.1)	13	96	4.3 (2.1, 8.7)	6	37	1.8 (0.8, 4.3)
Knee	136	919	28.7 (23.9, 34.1)	70	499	22.5 (17.0, 29.2)	89	474	23.4 (18.8, 28.7)
Neck	40	191	6.0 (4.3, 8.3)	20	143	6.5 (3.6, 11.3)	23	120	5.9 (4.0, 8.6)
Pelvis	11	67	2.1 (1.1, 3.9)	#	--	--	6	47	2.3 (1.0, 5.3)
Shoulder	92	508	15.9 (12.4, 20.1)	59	318	14.4 (10.6, 19.2)	76	370	18.3 (14.5, 22.7)
Spine	84	484	15.1 (11.9, 19.0)	35	200	9.0 (6.0, 13.3)	45	240	11.9 (8.5, 16.3)
Other	47	328	10.3 (7.2, 14.4)	36	261	11.8 (7.9, 17.1)	47	251	12.4 (9.0, 17.0)
Fracture/broken bone									
Sustained during deployment	85	428	13.4 (10.5, 16.9)	44	268	12.1 (8.4, 17.1)	44	240	11.8 (8.9, 15.6)
Sustained during training	222	1509	47.2 (41.4, 53.0)	164	1055	47.6 (40.6, 54.7)	156	811	40.1 (34.3, 46.2)
Musculoskeletal Injury	955	7168	66.7 (63.3, 69.9)	653	4647	60.1 (56.0, 64.1)	808	4167	65.5 (61.9, 68.9)
Ankle	457	2988	41.7 (38.0, 45.5)	313	2155	46.4 (41.4, 51.4)	402	1972	47.3 (43.4, 51.3)
Elbow	156	1033	14.4 (11.9, 17.3)	96	583	12.6 (9.8, 16.0)	151	738	17.7 (15.0, 20.8)
Femur	37	313	4.4 (3.0, 6.4)	18	74	1.6 (1.1, 2.4)	18	74	1.8 (1.2, 2.7)
Foot	250	1533	21.4 (18.6, 24.5)	149	943	20.3 (16.7, 24.4)	201	1013	24.3 (21.1, 27.8)
Head	136	755	10.5 (8.6, 12.8)	67	423	9.1 (6.7, 12.2)	91	458	11.0 (8.8, 13.6)
Hip	153	1131	15.8 (13.2, 18.8)	67	413	8.9 (6.6, 11.9)	95	459	11.0 (8.9, 13.6)

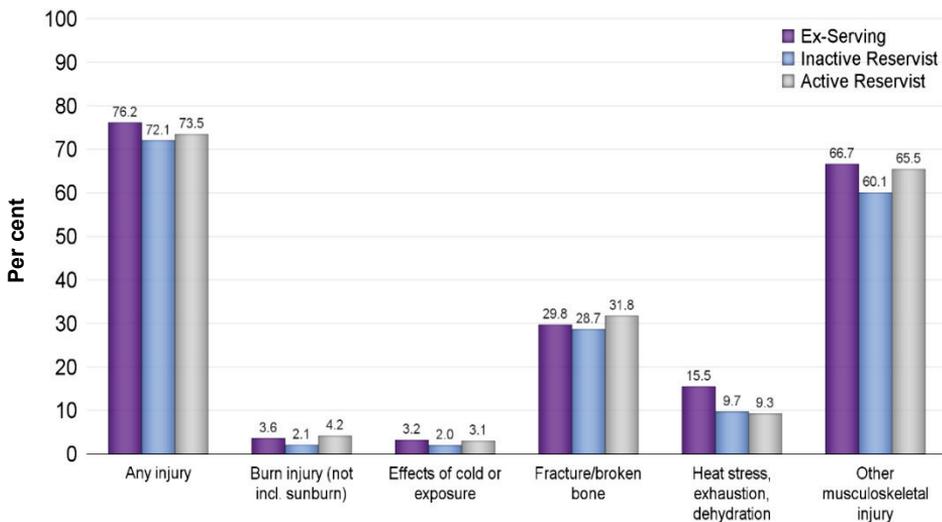
Injury type	Ex-Serving (n = 10,748)			Inactive Reservists (n = 7732)			Active Reservists (n = 6363)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Knee	598	4069	56.8 (52.8, 60.7)	395	2545	54.8 (49.6, 59.8)	528	2672	64.1 (60.2, 67.9)
Neck	294	1594	22.2 (19.6, 25.1)	171	986	21.2 (17.7, 25.3)	257	1225	29.4 (26.2, 32.8)
Pelvis	53	371	5.2 (3.8, 7.1)	36	235	5.1 (3.3, 7.6)	27	147	3.5 (2.3, 5.4)
Shoulder	455	2999	41.8 (38.1, 45.7)	297	1890	40.7 (35.9, 45.6)	369	1823	43.7 (39.9, 47.7)
Spine	493	3254	45.4 (41.6, 49.3)	306	2031	43.7 (38.8, 48.7)	373	1813	43.5 (39.7, 47.4)
Other	79	579	8.1 (6.2, 10.4)	38	295	6.4 (4.2, 9.50)	50	311	7.5 (5.4, 10.3)
Musculoskeletal Injury									
Sustained during deployment	296	1894	26.4 (23.2, 29.9)	185	1387	29.8 (25.3, 34.9)	224	1163	27.9 (24.4, 31.7)
Sustained during training	612	4507	62.9 (58.9, 66.7)	386	2783	59.9 (54.8, 64.8)	444	2224	53.4 (49.3, 57.4)
Heat stress, exhaustion, dehydration	227	1671	15.5 (13.4, 18.0)	108	753	9.7 (7.7, 12.3)	110	591	9.3 (7.6, 11.4)
Sustained during deployment	60	411	24.6 (18.3, 32.2)	31	274	36.4 (24.7, 50.1)	33	199	33.7 (23.2, 46.1)
Sustained during training	141	1041	62.3 (54.1, 69.9)	69	472	62.7 (49.8, 73.9)	58	313	53.0 (42.4, 63.3)
Effects of cold or exposure	51	349	3.2 (2.3, 4.5)	28	154	2.0 (1.3, 3.0)	36	194	3.1 (2.1, 4.5)
Sustained during deployment	7	40	0.6 (0.2, 1.3)	6	26	0.4 (0.2, 0.8)	a	..	..
Sustained during training	30	200	57.2 (40.2, 72.7)	16	89	57.8 (36.8, 76.3)	26	126	64.7 (41.8, 82.4)
Burn injury (excl. sunburn)	57	389	3.6 (2.6, 5.0)	24	165	2.1 (1.3, 3.6)	47	267	4.2 (3.1, 5.7)
Sustained during deployment	10	77	19.8 (9.4, 37.2)	a	..	..	8	47	17.8 (9.0, 32.1)
Sustained during training	23	129	33.0 (20.6, 48.4)	13	115	69.9 (47.5, 85.6)	17	74	27.9 (17.1, 42.0)

a. Cell size too small to be reported.

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,748; Active Reservists = 6363; Inactive Reservists = 7732; Unknown = 88). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

Overall, Ex-Serving ADF were significantly more likely to report any injury than Active Reservists (76.2% vs 73.5%; OR 1.5, 95% CI 1.2, 2.0). More specifically, Ex-Serving ADF were also significantly more likely to have reported heat stress, exhaustion or dehydration than Active Reservists (15.5% vs 9.3%; OR 1.9, 95% CI 1.4, 2.6) and Inactive Reservists (9.7%; OR 1.7, 95% CI 1.3, 2.4). Finally, Ex-Serving ADF were significantly more likely to have reported cold or exposure than Inactive Reservists (3.2% vs 2.0%; OR 1.8, 95% CI 1.1, 2.9).

**Figure 7.4** Estimated proportions of types of service-related injuries sustained during military career in Transitioned ADF, by transition status



#### 7.2.4 Service-related injury types sustained during military career in Transitioned ADF, by discharge status

Table 7.8 shows service-related injury types in Transitioned ADF by medical discharge status. Those who were medically discharged were more likely to experience any injury than those who were not medically discharged (88.5% vs 70.5%; OR 3.4 95% CI 2.5, 4.8).

A number of moderate associations in relation to specific injury types were also found. Compared with those who were non-medically discharged, Transitioned ADF with a medical discharge were significantly more likely to have reported a fracture/broken bone (35.9% vs 28.3%; OR 1.6, 95% CI 1.2, 1.9), a musculoskeletal injury (79.6% vs 60.3%; OR 2.8, 95% CI 2.1, 3.6), heat stress, exhaustion or dehydration (20.5% vs 9.8%; OR 2.3, 95% CI 1.8, 3.1) and cold or exposure (3.1% vs 2.4%; OR 2.1, 95% CI 1.3, 3.4).

**Table 7.8 Estimated proportions of service-related injury types sustained during military career in Transitioned ADF, by medical discharge status**

Injury type	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Any injury	652	4545	88.5 (85.2, 91.1)	2058	13,742	70.5 (68.1, 72.8)
Fracture/broken bone	288	1844	35.9 (32.0, 40.0)	880	5508	28.3 (26.2, 30.4)
Sustained during deployment	56	285	15.5 (11.6, 20.2)	116	641	11.6 (9.5, 14.1)
Sustained during training	144	912	49.5 (42.7, 56.2)	389	2369	43.0 (38.9, 47.2)
Musculoskeletal Injury	592	4087	79.6 (75.7, 82.9)	1810	11,750	60.3 (57.8, 62.7)
Sustained during deployment	186	1077	26.3 (22.6, 30.5)	514	3292	16.9 (15.3, 18.7)
Sustained during training	387	2661	65.1 (60.4, 69.6)	1042	6735	57.3 (54.4, 60.2)
Heat stress, exhaustion, dehydration	161	1053	20.5 (17.3, 24.1)	279	1919	9.8 (8.5, 11.4)
Sustained during deployment	42	245	23.3 (16.7, 31.6)	81	613	32.0 (25.2, 39.6)
Sustained during training	101	689	65.4 (56.4, 73.4)	163	1121	58.4 (50.9, 65.6)
Effects of cold or exposure	88	596	3.1 (2.4, 4.0)	79	463	2.4 (1.8, 3.1)
Sustained during deployment	6	35	15.3 (6.1, 33.3)	14	62	13.4 (8.2, 21.2)
Sustained during training	21	142	61.8 (42.0, 78.3)	50	269	57.9 (44.4, 70.4)
Burn injury (excl. sunburn)	40	225	4.4 (3.1, 6.2)	88	596	3.1 (2.4, 4.0)
Sustained during deployment	6	35	15.7 (6.5, 33.4)	15	123	20.6 (11.6, 34.1)
Sustained during training	18	103	46.1 (29.5, 63.6)	35	215	36.0 (24.6, 49.3)

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



---

## 8 Pain intensity and disability

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

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

### Among Transitioned ADF members

- In total, 7.6% of DVA clients reported being pain free compared with 15.8% of non-DVA clients. DVA clients were significantly more likely to report high pain intensity and disability as opposed to no pain when compared with non-DVA clients.
- Ex-Serving ADF members were significantly more likely to report high pain intensity and disability as opposed to no pain when compared with both Active Reservists and Inactive Reservists.
- Being pain free was reported by 6.0% of medically discharged Transitioned ADF and 13.4% of those discharged for another reason. Medically discharged ADF reported greater levels of pain at the higher end of the spectrum: 19.9% reported Grade III 'high disability – moderately limiting' (compared with 9.0% among those who were discharged for another reason) and 25.9% reported Grade IV 'high disability – severely limiting' (compared with 3.8% among those who were discharged for another reason). Those with a medical discharge were significantly more likely to report high pain intensity and disability as opposed to no pain compared with those who were discharged for another reason.

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

The following chapter examines pain intensity and disability in the Transitioned ADF and the 2015 Regular ADF. In addition to comparing the Transitioned ADF and the 2015 Regular ADF, results are reported according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge). Between-group comparisons were adjusted for sex, age, rank and Service.

Chronic pain intensity in the preceding six months was assessed with three items rated on a 10-point scale. A further three items assessed the degree of disability associated with that pain (also rated on a 10-point scale) and one item measured the number of days in the preceding six months in which pain resulted in functional impairment. Based on an algorithm developed by Von Korff et al. (1992), scores on these seven items were categorised into the following grades of pain intensity and disability:

- Grade 0 – ‘pain free’
- Grade I – ‘low disability – low intensity’
- Grade II – ‘low disability – high intensity’
- Grade III – ‘high disability – moderately limiting’
- Grade IV – ‘high disability – severely limiting’.

For the purpose of between-group logistic regression analysis, these grades were further collapsed into ‘high’ (Grades IV or III), ‘low’ (Grades II or I) and ‘none’ (Grade 0).

### **8.1 Pain intensity and disability in the preceding six months in Transitioned ADF members compared with 2015 Regular ADF members**

Table 8.1 and Figures 8.1 and 8.2 show the proportion of responses across the pain intensity and disability grades in the preceding six months among Transitioned ADF and 2015 Regular ADF. Similar proportions of Transitioned ADF (11.8%) and 2015 Regular ADF (10.1%) reported being pain free (Grade 0). Overall, however, a greater proportion of Transitioned ADF scored in the higher pain intensity and disability categories (Grade II, 12.0%; Grade III, 11.4%; Grade IV, 8.3%) than the 2015 Regular ADF cohort (Grade II, 9.0%; Grade III, 8.7%; Grade IV, 5.4%).

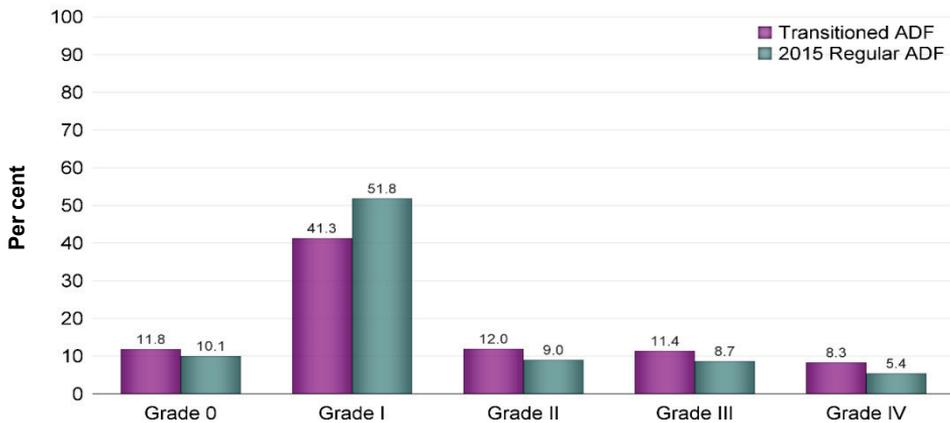
When the pain index was collapsed into three categories there were no significant differences between the Transitioned ADF and the 2015 Regular ADF.

**Table 8.1 Estimated pain intensity and disability in the preceding six months in the Transitioned ADF and 2015 Regular ADF cohorts**

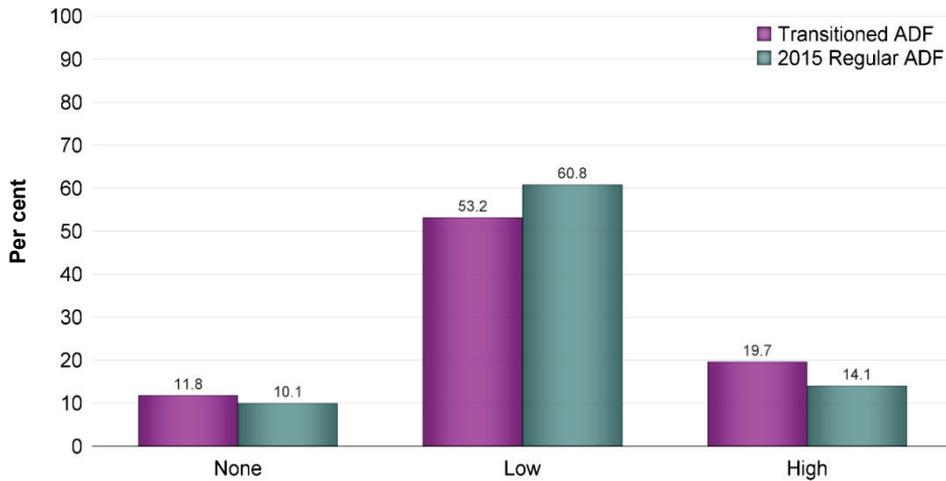
Grade	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Grade 0 - 'pain free'	360	2946	11.8 (10.4, 13.3)	711	5279	10.1 (7.7, 13.1)
Grade I - 'low disability – low intensity'	1488	10,285	41.3 (39.2, 43.3)	3907	27,209	51.8 (47.8, 55.8)
Grade II - 'low disability – high intensity'	448	2981	12.0 (10.7, 13.4)	778	4735	9.0 (7.0, 11.6)
Grade III - 'high disability – moderately limiting'	401	2837	11.4 (10.1, 12.8)	627	4557	8.7 (6.5, 11.6)
Grade IV - 'high disability – severely limiting'	321	2069	8.3 (7.4, 9.4)	377	2845	5.4 (3.9, 7.5)
<b>Collapsed grouping</b>						
None – Grade 0	360	2946	11.8 (10.4, 13.3)	711	5279	10.1 (7.7, 13.1)
Low – Grade II or Grade I	1936	13,266	53.2 (51.1, 55.3)	4685	31,944	60.9 (56.7, 64.8)
High – Grade IV or Grade III	722	4906	19.7 (18.2, 21.3)	1004	7402	14.1 (11.4, 17.3)

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 11,688 (weighted) participants (2015 Regular ADF = 7874; Transitioned ADF = 3814) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 8.1 Estimated pain intensity and disability in the preceding six months in the Transitioned ADF and 2015 Regular ADF cohorts**



**Figure 8.2** Estimated pain severity in the preceding six months in the Transitioned ADF and 2015 Regular ADF cohorts



## 8.2 Transitioned ADF members, by DVA client status

Table 8.2 shows estimates of pain intensity and disability in the preceding six months for Transitioned ADF members according to DVA client status. DVA clients were less likely to report being pain free (Grade 0 – 7.6%) compared with non-DVA clients (15.8%). Similarly, DVA clients were less likely to report Grade I disability (34.1%) than non-DVA clients (50.4%). For the Grade II, III and IV categories the reverse was observable: compared with non-DVA clients, DVA clients were more likely to report Grade II pain intensity and disability (15.8% vs 7.9%), Grade III pain intensity and disability (16.0% vs 6.5%) and Grade IV pain intensity and disability (13.4% vs 2.5%).

Logistic regression using the collapsed pain intensity and disability variables showed DVA clients were significantly more likely to report high pain intensity than non-DVA clients (29.4% vs 9.0%; OR 6.3, 95% CI 4.2, 9.5).

**Table 8.2 Estimated pain intensity and disability in the preceding six months in Transitioned ADF by DVA client status**

Grade	DVA client (n = 10,670)			Non-DVA client (n = 11,265)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Grade 0 – ‘pain free’	107	805	7.6 (6.0, 9.5)	209	1774	15.8 (13.4, 18.4)
Grade I – ‘low disability – low intensity’	629	3640	34.1 (31.5, 36.8)	716	5675	50.4 (46.9, 53.9)
Grade II – ‘low disability – high intensity’	282	1681	15.8 (13.8, 17.9)	116	894	7.9 (6.3, 10.0)
Grade III – ‘high disability – moderately limiting’	275	1708	16.0 (14.0, 18.2)	78	736	6.5 (5.0, 8.6)
Grade IV – ‘high disability – severely limiting’	244	1431	13.4 (11.7, 15.3)	34	282	2.5 (1.7, 3.7)
Collapsed grouping						
None – Grade 0	107	805	7.6 (6.0, 9.5)	209	1774	15.8 (13.4, 18.4)
Low – Grade II or Grade I	911	5320	49.9 (47.0, 52.7)	832	6569	58.3 (54.8, 61.7)
High – Grade IV or Grade III	519	3139	29.4 (27.0, 32.0)	112	1019	9.0 (7.2, 11.3)

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

### 8.3 Transitioned ADF members, by transition status

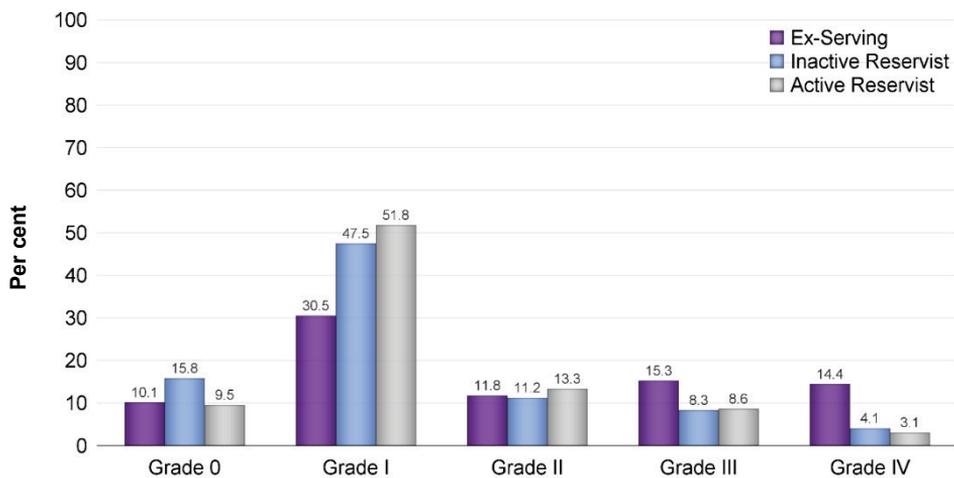
Table 8.3 and Figures 8.3 and 8.4 show self-reported pain intensity and disability in the preceding six months among Transitioned ADF members by transition status. A greater proportion of Ex-Serving ADF members (14.4%) reported Grade IV pain intensity and disability than Active Reservists (3.1%) and Inactive Reservists (4.1%). Logistic regression analysis using the collapsed grouping showed that, compared with Active Reservists (11.7%), Ex-Serving ADF members (29.7%) were significantly more likely to report high-intensity pain (Grade III or IV) as opposed to no pain (Grade 0) (OR 2.9, 95% CI 2.0, 4.3). This was a moderate association. Ex-Serving ADF (29.7%) were also significantly more likely to report high pain as opposed to no pain compared with Inactive Reservists (12.4%) (OR 4.2, 95% CI 2.8, 6.4). This was a strong association (see Annex B for detailed description of the strength of the association and individual odds ratios).

**Table 8.3 Estimated pain intensity and disability in the preceding six months in Transitioned ADF, by transition status**

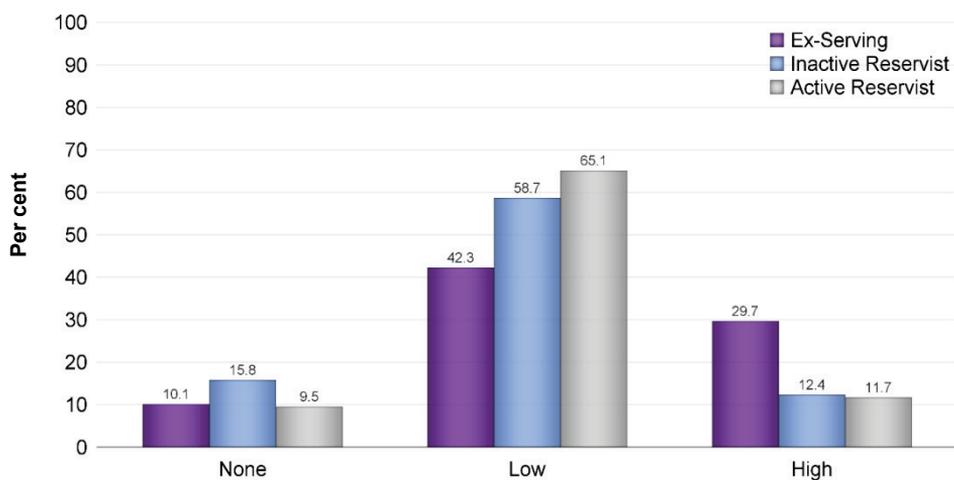
Grade	Ex-Serving ADF (n = 10,904)			Inactive Reservists (n = 7509)			Active Reservists (n = 6401)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Grade 0 'pain free'	115	1094	10.1 (8.2, 12.5)	131	1218	15.8 (12.9, 19.2)	112	607	9.5 (7.7, 11.8)
Grade I – 'low disability – low intensity'	392	3292	30.5 (27.5, 33.8)	486	3660	47.5 (43.4, 51.6)	603	3295	51.8 (48.1, 55.4)
Grade II – 'low disability – high intensity'	165	1267	11.8 (9.8, 14.1)	128	865	11.2 (9.0, 13.9)	155	849	13.3 (11.1, 16.0)
Grade III – 'high disability – moderately limiting'	204	1645	15.3 (13.0, 17.8)	85	640	8.3 (6.3, 10.8)	111	550	8.6 (7.1, 10.5)
Grade IV – 'high disability – severely limiting'	235	1557	14.4 (12.5, 16.6)	47	313	4.1 (2.8, 5.8)	38	195	3.1 (2.2, 4.3)
Collapsed grouping									
None – Grade 0	115	1094	10.1 (8.2, 12.5)	131	1218	15.8 (12.8, 19.3)	112	607	9.5 (7.7, 11.8)
Low – Grade II or Grade I	557	4559	42.3 (39.0, 45.7)	614	4525	58.7 (54.4, 62.8)	758	4143	65.1 (61.6, 68.5)
High – Grade IV or Grade III	439	3201	29.7 (26.9, 32.7)	132	953	12.4 (9.9, 15.2)	149	744	11.7 (9.9, 13.7)

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,904; Active Reservists = 6401; Inactive Reservists = 7509; Unknown = 118). Unknown are not included. A total of 1018 (weighted) participants (Ex-Serving ADF = 441, Active = 260, Inactive = 309) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 8.3** Estimated pain intensity and disability in the preceding six months in Transitioned ADF, by transition status



**Figure 8.4** Estimated pain severity in the preceding six months in Transitioned ADF, by transition status



## 8.4 Transitioned ADF, by discharge status

Table 8.4 shows estimates of pain intensity and disability in Transitioned ADF in the preceding six months by medical discharge status. Transitioned ADF with a medical discharge (6.0%) were less likely to report no pain (Grade 0) when compared with Transitioned ADF with another type of discharge (13.4%). This was also the case for participants reporting Grade I pain and disability (medical discharge, 18.2%; non-medical discharge, 47.4%). For the higher grades, the trend was reversed: Transitioned ADF with a medical discharge were more likely to report Grade III pain and disability (19.9% vs 9.0%) or Grade IV pain and disability (25.9% vs 3.8%) compared with those with another type of discharge.

Logistic regression analysis using the collapsed grouping variables showed that medically discharged Transitioned ADF were significantly more likely to report high pain as opposed to no pain when compared with non-medically discharged Transitioned ADF (45.8% vs 12.8%; OR 8.2, 95% CI 5.3, 12.8). This was a strong association.

**Table 8.4 Estimated pain intensity and disability in the preceding six months in Transitioned ADF, by medical discharge status**

Grade	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Grade 0 – 'pain free'	38	307	6.0 (4.3, 8.4)	320	2609	13.4 (11.7, 15.2)
Grade I – 'low disability – low intensity'	146	935	18.2 (15.2, 21.7)	1325	9246	47.4 (45.0, 49.9)
Grade II – 'low disability – high intensity'	93	594	11.6 (9.1, 14.6)	354	2384	12.2 (10.8, 13.9)
Grade III – 'high disability – moderately limiting'	137	1022	19.9 (16.6, 23.7)	261	1763	9.0 (7.8, 10.5)
Grade IV – 'high disability – severely limiting'	200	1328	25.9 (22.4, 29.8)	120	733	3.8 (3.1, 4.6)
<b>Collapsed grouping</b>						
None – Grade 0	38	307	6.0 (4.3, 8.4)	320	2609	13.4 (11.7, 15.2)
Low – Grade II or Grade I	239	1529	29.8 (26.1, 33.8)	1679	11,630	59.6 (57.2, 62.0)
High – Grade IV or Grade III	337	2350	45.8 (41.6, 50.2)	381	2496	12.8 (11.3, 14.4)

Notes: Denominator – Transitioned ADF cohort. A total of 3712 (weighted) participants (medical discharge = 942; other = 2770) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

---

## 9 Insomnia severity

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

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

### Among Transitioned ADF members

- Over one-third (37.0%) of Transitioned ADF members who were DVA clients and more than half (58.3%) of non-DVA clients reported no clinically significant insomnia.
- DVA clients were significantly more likely to report insomnia than non-DVA clients.
- More than one-third of Ex-Serving ADF (37.6%) and more than half of Inactive Reservists (54.0%) and Active Reservists (56.1%) reported no clinically significant insomnia.
- Ex-Serving ADF were significantly more likely to report insomnia than Active Reservists and Inactive Reservists.
- About one-fifth (21.1%) of medically discharged and half (54.1%) of non-medically discharged Transitioned ADF reported no clinically significant insomnia.
- Transitioned ADF who were medically discharged were significantly more likely to report insomnia compared with those who were non-medically discharged.

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

This chapter reports the estimated prevalence of current insomnia (in the preceding two weeks) among Transitioned ADF members and 2015 Regular ADF members. In addition to comparing the results for these two cohorts, results are reported for Transitioned ADF according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge). Between-group comparisons were adjusted for sex, age, rank and Service.

Self-perceived insomnia was assessed using the Insomnia Severity Index (Bastien et al., 2001). This index comprises seven items assessing the severity of sleep-onset and sleep-maintenance difficulties, satisfaction with current sleep pattern, interference with daily functioning, noticeability of impairment attributed to the sleep problem, and degree of distress or concern caused by the sleep problem.

The type and severity of insomnia in the preceding two weeks were assessed using three items rated on a five-point scale with the response options of none, mild, moderate, severe and very severe:

- difficulty falling asleep
- difficulty staying asleep
- problems waking up too early.

The severity of impairment associated with insomnia was assessed using four items scored on five-point scales:

- satisfaction with current sleep pattern
- interference with daily functioning
- noticeability to others of sleep-related impairment
- level of worry/distress regarding the current sleep problems.

Self-reported insomnia severity was calculated as the sum of all seven items, with totals ranging from zero to 28. The total scores were then categorised as 'No clinically significant insomnia' (0–7), 'sub-threshold insomnia' (8–14), 'Clinical insomnia (moderate severity)' (15–21) or 'Clinical insomnia (severe)' (22–28) (Morin et al., 2011).

For the purpose of analysis, these categories were further dichotomised into 'No insomnia' (no clinically significant insomnia or sub-threshold insomnia) or 'Insomnia' (clinical insomnia (moderate severity) or clinical insomnia (severe)).

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

Table 9.1 and Figure 9.1 show the estimated proportions of Transitioned ADF members and 2015 Regular ADF members in each insomnia severity category in the preceding two weeks. Overall, 2015 Regular ADF members were more likely to report no clinically significant insomnia (58.0%) than Transitioned ADF members (47.3%) and Transitioned ADF were more likely to report clinical insomnia (moderate severity) (16.2%) or clinical insomnia (severe) (5.6%) than 2015 Regular ADF (7.9% and 1.6% respectively).

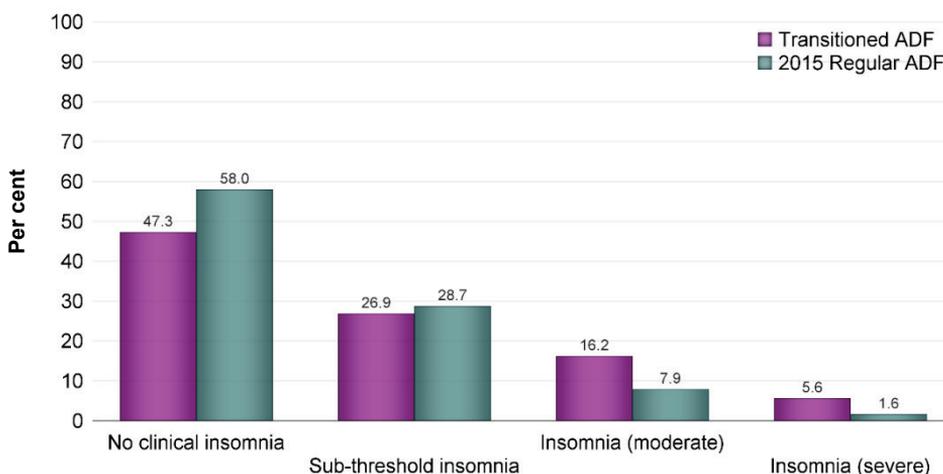
Logistic regressions examining the dichotomised insomnia severity variable showed that Transitioned ADF were significantly more likely to report insomnia than 2015 Regular ADF (21.8% vs 9.5%; OR 2.5, 95% CI 1.8, 3.5). This was a moderate association.

**Table 9.1 Estimated insomnia severity in the preceding two weeks in the Transitioned ADF and 2015 Regular ADF cohorts**

Severity	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
0–7 = No clinically significant insomnia	1916	11,783	47.3 (45.5, 49.1)	4954	30,438	58.0 (54.3, 61.6)
8–14 = Sub-threshold insomnia	1151	6695	26.9 (25.3, 28.5)	2235	15,071	28.7 (25.4, 32.2)
15–21 = Clinical insomnia (moderate severity)	678	4039	16.2 (14.9, 17.6)	656	4153	7.9 (6.2, 10.1)
22–28 = Clinical insomnia (severe)	252	1398	5.6 (4.9, 6.4)	122	843	1.6 (0.8, 3.1)
<b>Dichotomised grouping</b>						
No insomnia = no clinically significant insomnia or sub-threshold insomnia	3067	18,477	74.1 (72.5, 75.7)	7189	45,509	86.7 (83.9, 89.1)
Insomnia = clinical insomnia (moderate severity) or clinical insomnia (severe)	930	5437	21.8 (20.4, 23.3)	778	4996	9.5 (7.5, 12.0)

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 3013 (weighted) participants (2015 Regular ADF=1995; Transitioned ADF = 1018) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 9.1 Estimated insomnia severity in the preceding two weeks in the Transitioned ADF and 2015 Regular ADF cohorts**



## 9.2 Transitioned ADF, by DVA client status

Table 9.2 shows insomnia severity in the preceding two weeks for Transitioned ADF by DVA client status. DVA clients were more likely to report sub-threshold clinical insomnia (29.8%) compared with non-DVA clients (24.3%). They were also more likely to report clinical insomnia (moderate severity) (20.2%) and clinical insomnia (severe) (9.6%) compared with non-DVA clients (10.9% and 1.6% respectively). Non-DVA clients, however, were more likely to report no clinically significant insomnia (58.3%) compared with DVA clients (37.0%).

Logistic regression analysis showed that DVA clients were significantly more likely to report insomnia than non-DVA clients (30.0% vs 12.5%; OR 3.1, 95% CI 2.4, 3.8). This was a strong association.

**Table 9.2 Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by DVA client status**

Severity	DVA client (n = 10,670)			Non-DVA client (n = 11,265)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
0–7 = No clinically significant insomnia	727	3802	37.0 (34.6, 39.5)	970	6582	58.3 (55.3, 61.2)
8–14 = Sub-threshold insomnia	596	3058	29.8 (27.5, 32.2)	407	2746	24.3 (21.8, 27.0)
15–21 = Clinical insomnia (moderate severity)	420	2078	20.2 (18.3, 22.3)	157	1230	10.9 (9.1, 13.0)
22–28 = Clinical insomnia (severe)	190	989	9.6 (8.3, 11.2)	30	182	1.6 (1.1, 2.5)
<b>Dichotomised grouping</b>						
No insomnia = no clinically significant insomnia or sub-threshold insomnia	1323	6859	66.8 (64.4, 69.1)	1377	9328	82.6 (80.1, 84.8)
Insomnia = clinical insomnia (moderate severity) or clinical insomnia (severe)	610	3067	30.0 (27.7, 32.2)	187	1412	12.5 (10.6, 14.7)

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

## 9.3 Transitioned ADF, by transition status

Table 9.3 and Figure 9.2 show self-reported insomnia severity in the preceding two weeks in Transitioned ADF by transition status. There were no differences between the groups in the proportion reporting sub-threshold insomnia, but Ex-Serving ADF members (31.3%) were more likely to report moderate or severe insomnia than Inactive Reservists (14.5%) and Active Reservists (14.1%).

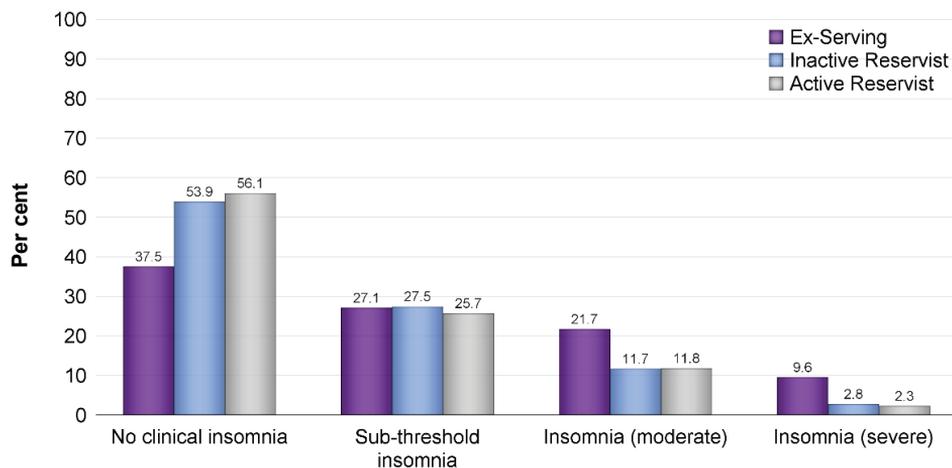
Logistic regressions performed on the dichotomised groupings showed moderate to strong effects: Ex-Serving ADF members were significantly more likely to report any insomnia compared with Active Reservists (31.3% vs 14.1%; OR 3.0, 95% CI 2.3, 3.9) and Inactive Reservists (14.5%; OR 2.8, 95% CI 2.2, 3.5).

**Table 9.3 Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by transition status**

Severity	Ex-Serving ADF (n = 10,904)			Inactive Reservists (n = 7509)			Active Reservists (n = 6401)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
No clinically significant insomnia	529	4094	37.6 (34.7, 40.5)	629	4051	54.0 (50.4, 57.5)	753	3591	56.1 (53.0, 59.2)
Sub-threshold insomnia	446	2955	27.1 (24.6, 29.8)	331	2061	27.5 (24.4, 30.7)	367	1646	25.7 (23.2, 28.4)
Clinical insomnia (moderate severity)	392	2371	21.8 (19.5, 24.1)	144	880	11.7 (9.7, 14.2)	138	755	11.8 (9.8, 14.2)
Clinical insomnia (severe)	181	1042	9.6 (8.1, 11.2)	37	207	2.8 (1.9, 4.0)	34	149	2.3 (1.7, 3.2)
Dichotomised grouping									
No insomnia	975	7049	64.7 (61.9, 67.3)	960	6112	81.4 (78.5, 84.0)	1120	5237	81.8 (79.1, 84.2)
Insomnia	573	3414	31.3 (28.8, 33.9)	181	1087	14.5 (12.2, 17.1)	172	904	14.1 (12.0, 16.6)

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,904; Active Reservists = 6401; Inactive Reservists = 7509; Unknown = 118). Unknown are not included. A total of 1018 (weighted) participants (Ex-Serving ADF = 441; Active = 260 Inactive = 309) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 9.2 Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by transition status**



## 9.4 Transitioned ADF, by discharge status

Table 9.4 shows insomnia severity in Transitioned ADF by medical discharge status. Transitioned ADF with a medical discharge were less likely (21.1%) to report no clinically significant insomnia when compared with those with another type of discharge (54.1%). Sub-threshold insomnia did not differ between groups, although those with a medical discharge were more likely to report moderate severity clinical insomnia (30.9%) or severe clinical insomnia (17.2%) than those without a medical discharge (12.3% and 2.5% respectively).

Logistic regression analysis showed that medically discharged Transitioned ADF were significantly more likely to report any insomnia than those discharged for another reason (48.1% vs 14.8%; OR 5.3, 95% CI 4.3, 6.5). This was a strong association.

**Table 9.4 Estimated insomnia severity in the preceding two weeks in Transitioned ADF, by discharge status**

Severity	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
No clinically significant insomnia	169	1084	21.1 (18.1, 24.5)	1725	10,510	54.1 (52.0, 56.3)
Sub-threshold insomnia	246	1455	28.3 (25.0, 31.9)	893	5162	26.6 (24.8, 28.5)
Clinical insomnia (moderate severity)	287	1587	30.9 (27.6, 34.4)	383	2395	12.3 (11.0, 13.9)
Clinical insomnia (severe)	154	885	17.2 (14.6, 20.3)	96	483	2.5 (2.0, 3.1)
<b>Dichotomised grouping</b>						
No insomnia	415	2540	49.4 (45.7, 53.2)	2618	15,672	80.7 (79.0, 82.4)
Insomnia	441	2473	48.1 (44.4, 51.9)	479	2878	14.8 (13.4, 16.4)

Notes: Denominator – Transitioned ADF cohort. A total of 1018 (weighted) participants (Medical discharge = 125; Other = 863) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

---

## 10 Lifestyle risk factors

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

- Nearly half of Transitioned ADF members (45.5%) and 2015 Regular ADF (49.1%) members reported a body mass index in the pre-obese range, and about one-quarter of Transitioned ADF (26.8%) and 2015 Regular ADF (27.5%) reported a BMI in the obese range.
- About one-quarter of Transitioned ADF (26.1%) and 2015 Regular ADF (27.4%) reported a BMI within the normal range.
- Transitioned ADF members were significantly less likely to be physically active at a health-enhancing level compared with 2015 Regular ADF members.
- Similar proportions of Transitioned ADF (15.2%) and 2015 Regular ADF (14.1%) were current smokers.

### Among Transitioned ADF members

- A greater proportion of Transitioned ADF members who were DVA clients were classified as being obese and being less active than non-DVA clients.
- A greater proportion of Ex-Serving ADF were classified as being obese and being current smokers than Active and Inactive Reservists; they were also more likely to be physically inactive than Active Reservists.
- A greater proportion of Transitioned ADF members with a medical discharge were classified as obese, being inactive or minimally active, and being a current smoker compared with those with a non-medical discharge.

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

This chapter discusses a range of health risk behaviours and factors among Transitioned ADF members and 2015 Regular ADF members. In addition to a comparison of these two cohorts, results are reported for Transitioned ADF according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge). Where logistic regression models were used they were adjusted for sex, age, rank and Service.

Three self-report indicators of current and future health were assessed: self-reported BMI to assess healthy weight, self-reported physical activity, and self-reported smoking.

## 10.1 Body mass index

BMI was calculated as a function of respondents' self-reported weight and height – weight (kg) / (height (m)<sup>2</sup>). Based on guidelines from the Australian Government Department of Health (Department of Health, 2017), BMI scores were categorised as underweight (<18.5 kg/m<sup>2</sup>), normal (18.5–24.9 kg/m<sup>2</sup>), pre-obese (25–29.9 kg/m<sup>2</sup>), obese class 1 (30–34.9 kg/m<sup>2</sup>), obese class 2 (35–39.9 kg/m<sup>2</sup>) and obese class 3 (>40 kg/m<sup>2</sup>). For the purpose of regression analysis, these categories were collapsed into normal/underweight, pre-obese or obese (obese classes 1, 2 and 3).

### 10.1.1 Current BMI in Transitioned ADF members compared with 2015 Regular ADF members

Table 10.1 and Figures 10.1 and 10.2 show the estimated proportions of Transitioned ADF and 2015 Regular ADF currently in each BMI category. The proportion categorised as underweight was very low, although there were more Transitioned ADF members (0.7%) than 2015 Regular ADF members (0.1%) in this category. The two groups had similar proportions in the normal range (Transitioned ADF, 26.1%; 2015 Regular ADF, 27.4%) and in the pre-obese range, but Transitioned ADF members were more likely to be categorised as obese class 2 (6.1%) or class 3 (1.1%) than 2015 Regular ADF members (2.6% and 0.1%, respectively).

Logistic regression models showed that there were no significant differences between Transitioned ADF and 2015 Regular ADF in BMI overall.

**Table 10.1 Estimated proportions of current classification of body mass index in Transitioned ADF and 2015 Regular ADF**

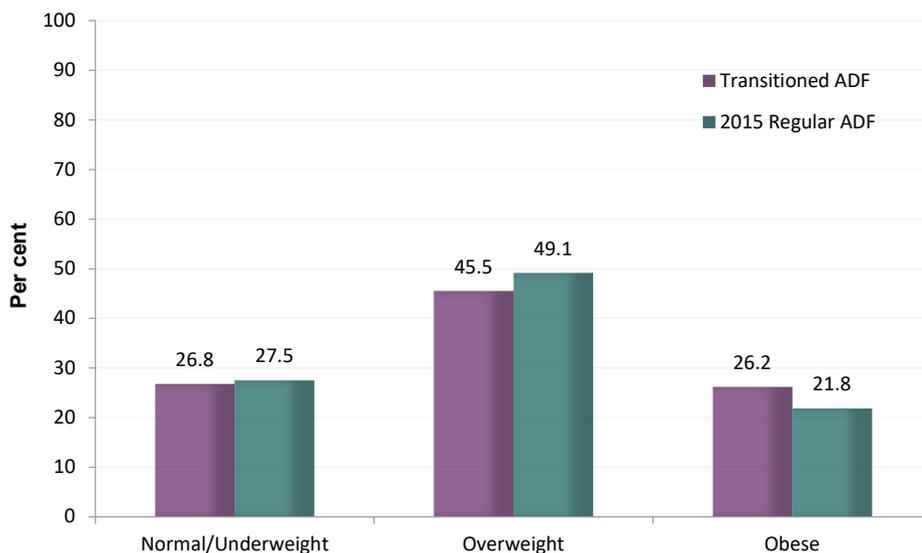
BMI category	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Underweight	15	168	0.7 (0.4, 1.2)	13	65	0.1 (0.1, 0.3)
Normal	795	6510	26.1 (24.2, 28.1)	1876	14,373	27.4 (23.6, 31.5)
Pre-obese	1542	11,345	45.5 (43.3, 47.7)	3506	25,772	49.1 (44.8, 53.4)
Obese class 1	728	4730	19.0 (17.4, 20.6)	1414	10,023	19.1 (16.0, 22.7)
Obese class 2	212	1512	6.1 (5.1, 7.2)	187	1371	2.6 (1.7, 4.0)
Obese class 3	43	285	1.1 (0.8, 1.7)	20	68	0.1 (0.1, 0.2)
<b>Collapsed grouping</b>						
Normal/underweight	810	6678	26.8 (24.9, 28.8)	1889	14,438	27.5 (23.7, 31.6)
Pre-obese	1542	11,345	45.5 (43.3, 47.7)	3506	25,772	49.1 (44.8, 53.4)
Obese	983	6527	26.2 (24.4, 28.0)	1621	11,461	21.8 (18.6, 25.5)

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 1,211 (weighted) participants (Transitioned ADF = 382; 2015 Regular ADF = 829) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 10.1** Estimated proportions of classification of current body mass index in Transitioned ADF and 2015 Regular ADF



**Figure 10.2** Estimated proportions of classification of current BMI in Transitioned ADF and 2015 Regular ADF, using collapsed grouping



### 10.1.2 Current body mass index in Transitioned ADF, by DVA client status

Table 10.2 shows current BMI by DVA client status for Transitioned ADF. Non-DVA clients were more likely to be classified as normal (31.7%) than DVA clients (19.1%). DVA clients were more likely to be classified as obese class 1 and obese class 2 (23.4% and 8.1% respectively) than non-DVA clients (obese class 1, 14.9%; obese class 2, 4.0%).

Overall, DVA clients were significantly more likely to be classified as obese (32.9%) than non-DVA clients (19.8%) (OR 2.2, 95% CI 1.7, 2.9) but were less likely to be normal/underweight (19.6%) than non-DVA clients (32.6%).

**Table 10.2 Estimated proportions of current classification of body mass index in Transitioned ADF, by DVA client status**

BMI category	DVA client (n = 10,776)			Non-DVA client (n = 11,249)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Underweight	7	55	0.5 (0.2, 1.2)	6	100	0.9 (0.4, 2.1)
Normal range	311	2062	19.1 (16.9, 21.6)	374	3567	31.7 (28.5, 35.2)
Pre-obese	764	4895	45.4 (42.5, 48.4)	616	5270	46.8 (43.3, 50.4)
Obese class 1	441	2524	23.4 (21.2, 25.8)	222	1675	14.9 (12.7, 17.4)
Obese class 2	130	871	8.1 (6.6, 9.9)	65	450	4.0 (2.9, 5.5)
Obese class 3	26	152	1.4 (0.9, 2.2)	11	100	0.9 (0.4, 1.9)
<b>Collapsed grouping</b>						
Normal/underweight	318	2116	19.6 (17.4, 22.1)	380	3667	32.6 (29.3, 36.1)
Pre-obese	764	4895	45.4 (42.5, 48.4)	616	5270	46.8 (43.3, 50.4)
Obese	597	3547	32.9 (30.3, 35.6)	298	2224	19.8 (17.2, 22.6)

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

### 10.1.3 Current body mass index in Transitioned ADF, by transition status

Table 10.3 and Figures 10.3 and 10.4 show current BMI in the Transitioned ADF cohort by transition status. Few Transitioned ADF members scored in the underweight category, but a larger proportion of Inactive Reservists (1.2%) were underweight compared with Ex-Serving ADF (0.5%) and Active Reservists (0.4%). Similar proportions of each transition group reported a normal BMI (Ex-Serving ADF, 26.8%; Active Reservists, 25.6%; Inactive Reservists, 25.8%). A smaller proportion of Ex-Serving ADF (40.6%) were pre-obese compared with Active (49.3%) and Inactive Reservists (48.9%), but Ex-Serving ADF members were more likely to score in the obese class 2 category (9.3%) and obese class 3 category (1.9%) than Active (2.6% and 0.3%) and Inactive Reservists (4.6% and 0.8%).

Logistic regression models applied to the collapsed grouping variables found that Ex-Serving ADF were significantly more likely to be obese than Active Reservists (30.1% vs 22.5%; OR 2.1, 95% CI 1.5, 2.8) and Inactive Reservists (23.8%; OR 1.4, 95% CI 1.1, 2.0).

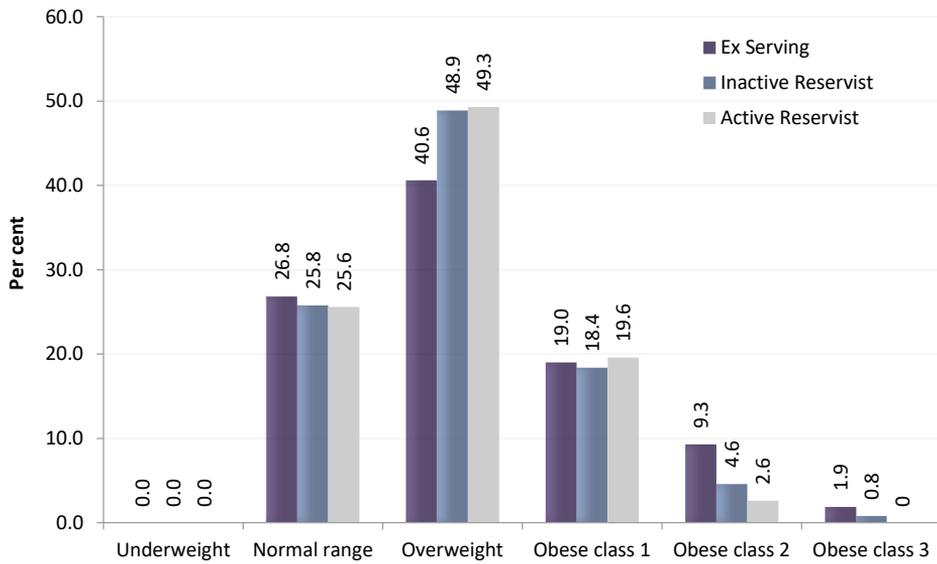
**Table 10.3** Estimated proportions of current classification of body mass index in Transitioned ADF cohort, by transition status

BMI category	Ex-Serving ADF (n = 10,663)			Inactive Reservists (n = 7779)			Active Reservists (n = 6396)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Underweight	a	--	--	a	--	--	a	..	..
Normal range	297	2857	26.8 (23.7, 30.1)	234	2004	25.8 (22.2, 29.7)	262	1639	25.6 (22.5, 29.1)
Pre-obese	497	4332	40.6 (37.2, 44.1)	476	3802	48.9 (44.7, 53.1)	563	3154	49.3 (45.8, 52.9)
Obese class 1	288	2021	19.0 (16.6, 21.6)	195	1433	18.4 (15.5, 21.7)	242	1254	19.6 (17.1, 22.3)
Obese class 2	132	988	9.3 (7.5, 11.4)	46	357	4.6 (3.1, 6.7)	33	163	2.6 (1.8, 3.6)
Obese class 3	31	203	1.9 (1.2, 2.9)	7	61	0.8 (0.3, 2.1)	a	..	..
<b>Collapsed grouping</b>									
Normal/underweight	302	2905	27.2 (24.2, 30.6)	239	2097	27.0 (23.3, 31.0)	267	1667	26.1 (22.9, 29.5)
Pre-obese	497	4332	40.6 (37.2, 44.1)	476	3802	48.9 (44.7, 53.1)	563	3154	49.3 (45.8, 52.9)
Obese	451	3212	30.1 (27.2, 33.2)	248	1851	23.8 (20.5, 27.4)	280	1438	22.5 (19.9, 25.3)

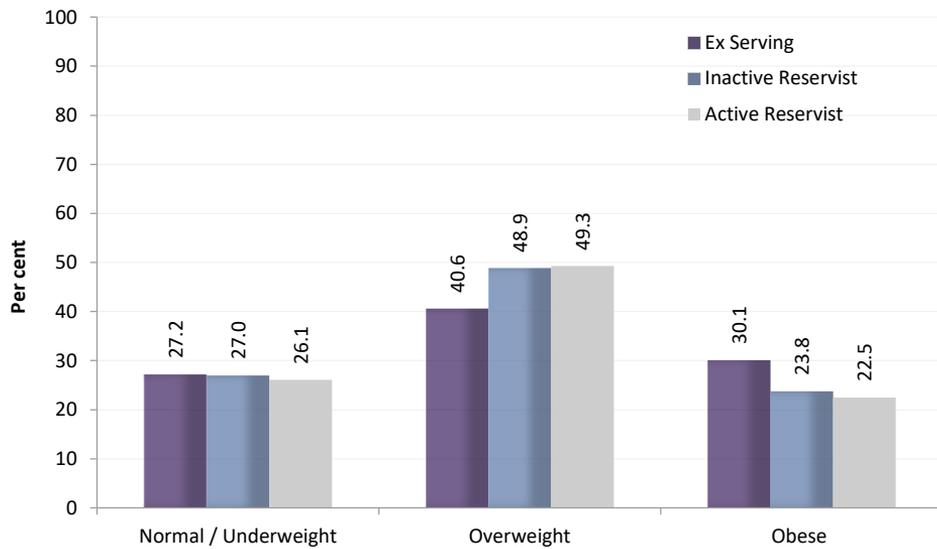
a. Cell size too small to be reported.

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

**Figure 10.3** Estimated proportions of current classification of body mass index in Transitioned ADF, by transition status



**Figure 10.4** Estimated proportions of current classification of BMI in Transitioned ADF, by transition status



### 10.1.4 Current body mass index in Transitioned ADF, by discharge status

Table 10.4 shows current BMI among Transitioned ADF for those with a medical discharge and those with another type of discharge. The latter were more likely to fall within a normal-range BMI (27.5% vs 20.0%) or be classified as pre-obese (47.5% vs 37.8%) than those with a medical discharge. Those with a medical discharge were more likely to be obese class 2 (12.9%) and obese class 3 (3.2%) than those with another type of discharge (4.3% and 0.6% respectively).

When examined according to the collapsed grouping categories, Transitioned ADF with a medical discharge were significantly more likely to be obese than those with another type of discharge (39.2% vs 22.9%; OR 1.6, 95% CI 1.2, 2.2).

**Table 10.4 Estimated proportions of current BMI in Transitioned ADF, by medical discharge status**

BMI category	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Underweight	a	--	--	12	128	0.7 (0.3, 1.3)
Normal range	140	1031	20.0 (16.8, 23.7)	648	5362	27.5 (25.3, 29.9)
Pre-obese	253	1946	37.8 (33.6, 42.2)	1270	9256	47.5 (45.0, 50.1)
Obese class 1	181	1183	23.0 (19.6, 26.8)	541	3500	18.0 (16.3, 19.8)
Obese class 2	90	665	12.9 (10.2, 16.2)	121	843	4.3 (3.4, 5.5)
Obese class 3	27	167	3.2 (2.1, 4.9)	16	118	0.6 (0.3, 1.2)
<b>Collapsed grouping</b>						
Normal/underweight	143	1070	20.8 (17.5, 24.5)	660	5490	28.2 (25.9, 30.6)
Pre-obese	253	1946	37.8 (33.6, 42.2)	1270	9256	47.5 (45.0, 50.1)
Obese	298	2014	39.2 (35.0, 43.5)	678	4461	22.9 (21.0, 25.0)

a. Cell size too small to be reported.

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

## 10.2 Physical activity

Self-reported level of physical exercise in the preceding seven days was assessed using the International Physical Activity Questionnaire, a three-item scale measuring the number of days exercised in the preceding week, as well as the number of minutes on those days during which respondents engaged in walking, moderate exercise and vigorous exercise.

The responses were converted into a single score using the algorithm recommended for the use of this scale

([http://www.institutferran.org/documentos/scoring\\_short\\_ipaq\\_april04.pdf](http://www.institutferran.org/documentos/scoring_short_ipaq_april04.pdf)). Scores on the scale are categorised as inactive (insufficiently active), minimally active (sufficiently active) or HEPA (health-enhancing physical activity) active.

- *Inactive (Category 1)*. This is the lowest level of physical activity. Individuals who do not meet the criteria for Category 2 or Category 3 are considered ‘insufficiently active’.
- *Minimally active (Category 2)*. The minimum pattern of activity to be classified as ‘sufficiently active’ is any one of three criteria:
  - three or more days of vigorous activity of at least 20 minutes per day
  - or
  - five or more days of moderate-intensity activity or walking of at least 30 minutes per day
  - or
  - five or more days of any combination of walking, moderate-intensity activity or vigorous-intensity activity achieving a minimum of at least 600 MET (metabolic equivalent) minutes per week.
- *HEPA active (Category 3)*. There are two criteria for classification as HEPA active:
  - vigorous-intensity activity on at least three days achieving a minimum of at least 1500 MET minutes per week
  - or
  - seven or more days of any combination of walking, moderate-intensity activity or vigorous-intensity activity achieving a minimum of at least 3000 MET minutes per week.

### **10.2.1 Physical activity in the preceding seven days in Transitioned ADF compared with 2015 Regular ADF**

Table 10.5 and Figure 10.5 show levels of physical activity in the preceding seven days reported by Transitioned ADF members and 2015 Regular ADF members. A greater proportion of 2015 Regular ADF members (56.4%) were classed as HEPA active compared with Transitioned ADF members (47.5%). More Transitioned ADF (19.7%) were ‘inactive’ than 2015 Regular ADF (15.1%). Similar proportions of 2015 Regular (21.6%) and Transitioned ADF members (20.9%) were minimally active.

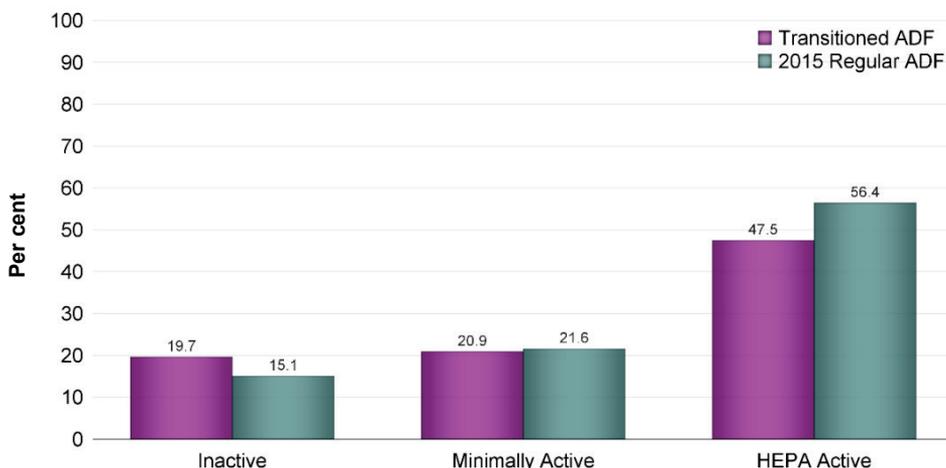
Logistic regression analysis showed that Transitioned ADF were significantly more likely to be inactive than HEPA active when compared with 2015 Regular ADF (19.7% vs 15.1%; OR 1.6, 95% CI 1.2, 2.3); this was a moderate association.

**Table 10.5 Estimated prevalence of physical activity in the preceding seven days in Transitioned ADF and 2015 Regular ADF**

Categorised physical activity level	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Inactive	752	4909	19.7 (18.1, 21.4)	1181	7930	15.1 (12.4, 18.3)
Minimally active	828	5213	20.9 (19.3, 22.6)	1791	11,351	21.6 (18.5, 25.2)
HEPA active	1506	11,840	47.5 (45.4, 50.0)	3871	29,630	56.4 (52.3, 60.5)

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 6,560 (weighted) participants (2015 Regular ADF = 3,590; Transitioned ADF = 2,970) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 10.5 Estimated prevalence of physical activity in the preceding seven days in Transitioned ADF and 2015 Regular ADF**



### 10.2.2 Physical activity level in the preceding seven days in Transitioned ADF, by DVA client status

Table 10.6 shows physical activity levels in the preceding seven days among Transitional ADF members by DVA client status. Non-DVA clients were more likely to be classified as HEPA active (52.4%) than DVA clients (42.2%).

Logistic regression analysis performed on the collapsed grouping variables for inactive as opposed to HEPA active members by DVA client status found no significant differences other than Transitioned ADF DVA clients being slightly more likely to be inactive (as opposed to HEPA active) compared with non-DVA clients (22.4% vs 18.2%; OR 1.3, 95% CI 1.0, 1.6).

**Table 10.6 Estimated physical activity level in preceding seven days in Transitioned ADF, by DVA client status**

Categorised physical activity level	DVA client (n = 10,656)			Non-DVA client (n = 11,268)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Inactive	425	2388	22.4 (20.2, 24.8)	255	2053	18.2 (15.7, 21.0)
Minimally active	402	2205	20.7 (18.6, 22.9)	339	2370	21.0 (18.5, 23.8)
HEPA active	675	4494	42.2 (39.3, 45.1)	657	5898	52.4 (48.9, 55.8)

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

### 10.2.3 Physical activity level in the preceding seven days in Transitioned ADF, by transition status

Table 10.7 and Figure 10.6 show levels of physical activity in the preceding seven days in Transitioned ADF members by transition status. Overall, levels of physical activity were similar among the three transitioned groups. Highly comparable proportions of all three groups were classed as inactive (Ex-Serving ADF, 19.7%; Inactive Reservists, 19.7%; Active Reservists, 19.9%). Slightly greater proportions of Active (48.7%) and Inactive Reservists (49.9%) were HEPA active compared with Ex-Serving ADF (45.3%). Finally, Active Reservists (23.6%) were marginally more likely to be minimally active compared with Ex-Serving ADF members (19.0%) and Inactive Reservists (20.9%).

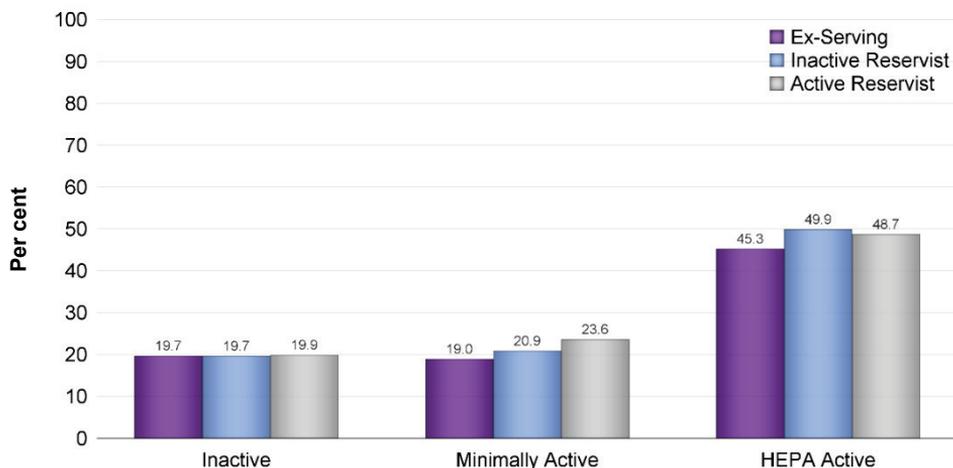
While similar proportions of Ex-Serving ADF (19.7%) and Active Reservists (19.9%) were classed as inactive (as opposed to HEPA active), logistic regression analysis adjusted for sex, age, rank and Service showed Ex-Serving ADF were significantly more likely to be inactive (as opposed to HEPA active) than Active Reservists (OR 1.4, 95% CI 1.1, 1.9). This was a weak association.

**Table 10.7 Estimated prevalence of physical activity level in the preceding seven days in Transitioned ADF, by transition status**

Categorised physical activity level	Ex-Serving ADF (n = 10,800)			Inactive Reservists (n = 7651)			Active Reservists (n = 6370)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Inactive	290	2129	19.7 (17.3, 22.4)	214	1506	19.7 (16.7, 23.1)	247	1269	19.9 (17.4, 22.7)
Minimally active	292	2047	19.0 (16.6, 21.6)	222	1600	20.9 (17.9, 24.3)	308	1505	23.6 (21.1, 26.3)
HEPA active	528	4891	45.3 (42.0, 48.7)	457	3818	49.9 (45.8, 54.0)	517	3104	48.7 (45.3, 52.2)

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,800; Active Reservists = 6370; Inactive Reservists = 7651; Unknown = 111). Unknown are not included. A total of 2970 (weighted) participants (Ex-Serving ADF = 1733; Active = 492; Inactive = 727; Unknown = 18) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 10.6** Estimated prevalence of physical activity in the preceding seven days in Transitioned ADF, by transition status



#### 10.2.4 Physical activity level in the preceding seven days in Transitioned ADF, by discharge status

Table 10.8 shows physical activity levels in the preceding seven days among Transitioned ADF by medical discharge status. Those with another type of discharge were more likely to be classified as HEPA active (50.72%) than those with a medical discharge (34.4%). Those with a medical discharge were more likely to be classified as inactive (24.3%) relative to those with another type of discharge (18.7%).

Logistic regressions using collapsed grouping variables found that medically discharged members were significantly more likely to be inactive (as opposed to HEPA active) than non-medically discharged members (24.3% vs 18.7%; OR 2.0, 95% CI 1.5, 2.7); this was a moderate association. While a slightly smaller proportion of medically discharged members (20.0%) were classified as minimally active compared with non-medically discharged members (21.0%), logistic regression analysis adjusted for sex, age, rank and Service showed Ex-Serving ADF were significantly more likely to be minimally active (as opposed to HEPA active) than non-medically discharged members (OR 1.6, 95% CI 1.2, 2.1). This was a moderate association.

**Table 10.8 Estimated physical activity level in the preceding seven days in Transitioned ADF, by medical discharge status**

Categorised physical activity level	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Inactive	189	1240	24.3 (20.8, 28.1)	561	3651	18.7 (17.0, 20.6)
Minimally active	165	1021	20.0 (16.9, 23.4)	655	4097	21.0 (19.2, 22.9)
HEPA active	224	1755	34.4 (30.3, 38.7)	1261	9890	50.7 (48.3, 53.1)

Notes: Denominator – Transitioned ADF cohort. A total of 2955 (weighted) participants (medical discharge = 1092; other = 1863) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

## 10.3 Smoking status

Smoking status was assessed with four items covering whether the respondent currently smoked, had ever tried smoking, ever smoked a full cigarette, cigar or pipe, and had smoked the equivalent of 100 cigarettes in their lifetime. Participants were classed as a ‘current smoker’, ‘former smoker’ (had smoked at least 100 cigarettes in their lifetime but does not currently smoke), ‘tried smoking’ (had smoked a full cigarette or equivalent but had not smoked at least 100 cigarettes) or ‘non-smoker’ (had never smoked a full cigarette or equivalent).

### 10.3.1 Smoking status in Transitioned ADF compared with 2015 Regular ADF

Table 10.9 and Figures 10.7 and 10.8 show smoking status among Transitioned ADF members and 2015 Regular ADF members. Similar proportions of Transitioned ADF and 2015 Regular ADF were current smokers (15.2% and 14.1% respectively) or had tried smoking (23.1% and 24.4% respectively). A slightly greater proportion of Transitioned ADF compared with 2015 Regular ADF (30.8% vs 27.1%) were former smokers, and 2015 Regular ADF members (33.9%) were more likely to be non-smokers than Transitioned ADF members (29.5%).

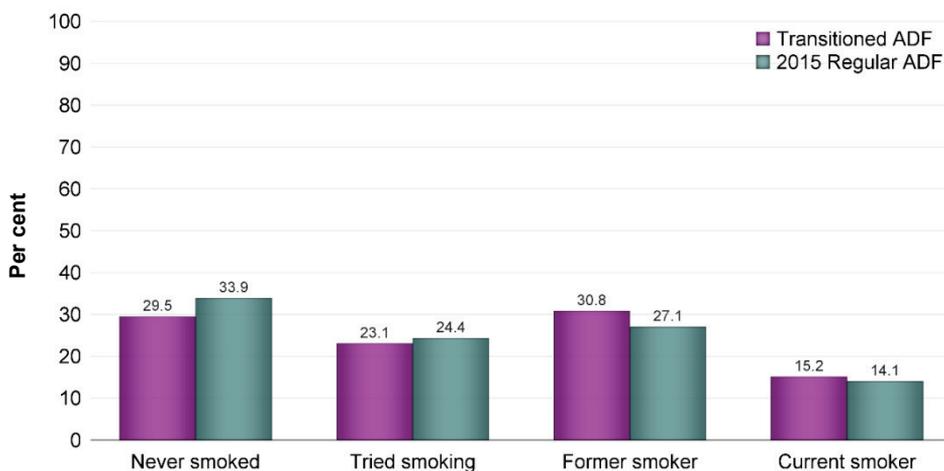
Logistic regression using the collapsed groupings found no significant differences between Transitioned ADF and 2015 Regular ADF in smoking status.

**Table 10.9 Estimated prevalence of smoking in Transitioned ADF and 2015 Regular ADF**

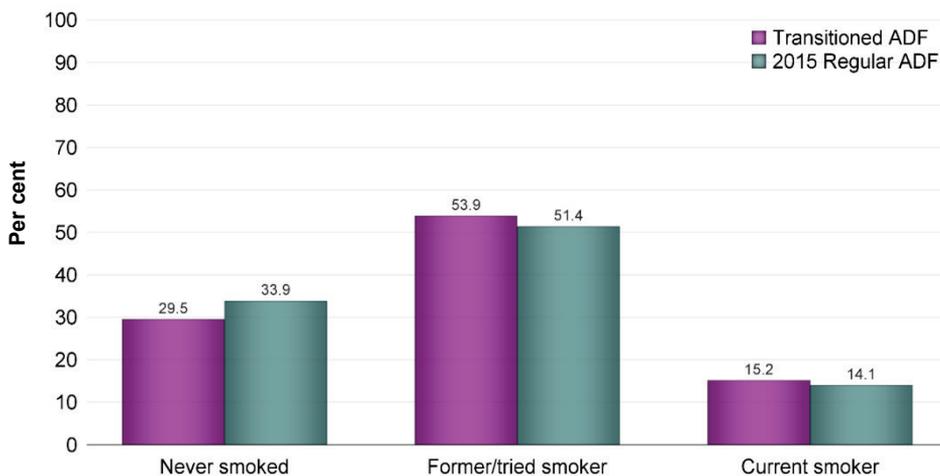
Smoking status	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Current smoker	546	3783	15.2 (13.8,16.7)	931	7377	14.1 (11.5,17.1)
Former smoker	1282	7687	30.8 (29.1,32.6)	2299	14,203	27.1 (24.0,30.4)
Tried smoking	821	5756	23.1 (21.4,24.8)	1934	12,784	24.4 (21.4,27.6)
Never smoker	1200	7364	29.5 (27.1,31.3)	2655	17,791	33.9 (30.4,37.5)
<b>Collapsed grouping</b>						
Current smoker	546	3783	15.2 (13.8,16.7)	931	7377	14.1 (11.5,17.1)
Former smoker/tried smoking	2103	13,443	53.9 (52.0,55.9)	4233	26,987	51.4 (47.7,55.1)
Never smoker	1200	7364	29.5 (27.8,31.3)	2655	17,791	33.9 (30.4,37.5)

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

**Figure 10.7** Estimated prevalence of smoking in Transitioned ADF and 2015 Regular ADF



**Figure 10.8** Estimated prevalence of smoking status in Transitioned ADF and 2015 Regular ADF (using categorised grouping)



### 10.3.2 Smoking status in Transitioned ADF, by DVA client status

Table 10.10 shows smoking status among Transitioned ADF members by DVA client status. There were no differences in smoking status between DVA clients and non-DVA clients. Logistic regression analysis using the collapsed variables also found no significant between-group differences.

**Table 10.10 Estimated prevalence of smoking status in Transitioned ADF and 2015 Regular ADF, by DVA client status**

Smoking status	DVA client (n = 10,435)			Non-DVA client (n = 11,155)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Current smoker	299	1692	16.2 (14.4, 18.2)	187	1613	14.5 (12.3, 17.0)
Former smoker	658	3460	33.2 (30.7, 35.7)	470	3277	29.4 (26.6, 32.3)
Tried smoking	362	2253	21.6 (19.4, 24.0)	366	2806	25.2 (22.5, 28.1)
Never smoker	562	2911	27.9 (25.6, 30.3)	474	3288	29.5 (26.7, 32.4)
<b>Collapsed grouping</b>						
Current smoker	299	1692	16.2 (14.4, 18.2)	187	1613	14.5 (12.3, 17.0)
Former smoker/tried smoking	1020	5713	54.7 (52.1, 57.4)	836	6082	54.5 (51.3, 57.7)
Never smoker	562	2911	27.9 (25.6, 30.3)	474	3288	29.5 (26.7, 32.4)

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

### 10.3.3 Smoking status in Transitioned ADF, by transition status

Table 10.11 and Figures 10.9 and 10.10 show smoking status in Transitioned ADF by transition status. Overall, a higher proportion of Ex-Serving ADF members (18.4%) were current smokers compared with Inactive (13.9%) and Active Reservists (10.7%). Ex-Serving ADF were also slightly more likely to be non-smokers (29.7%) compared with Inactive Reservists (27.1%), but they were slightly less likely to be non-smokers compared with Active Reservists (32.3%).

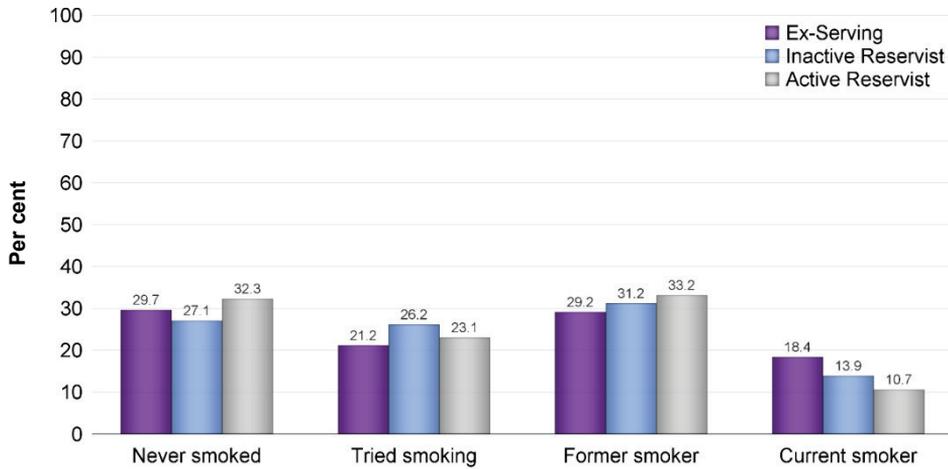
Logistic regression analysis found Ex-Serving ADF were significantly more likely to be current smokers (as opposed to never smokers) compared with Active Reservists (18.4% vs 10.7%; OR 1.7, 95% CI 1.2, 2.4); this was a moderate association.

**Table 10.11 Estimated prevalence of smoking status in Transitioned ADF, by transition status**

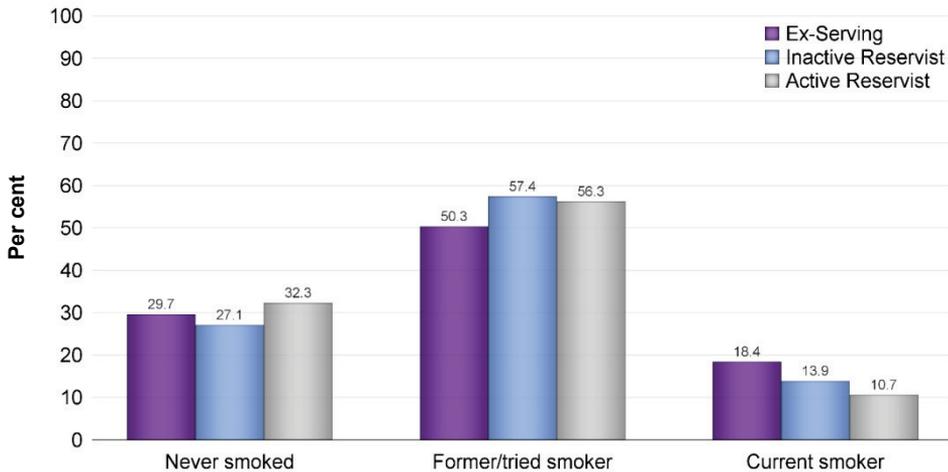
Smoking status	Ex-Serving ADF (n = 10,910)			Inactive Reservists (n = 7478)			Active Reservists (n = 6427)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Current smoker	271	2008	18.4 (16.1, 20.9)	145	1039	13.9 (11.5, 16.8)	126	684	10.7 (8.8, 12.8)
Former smoker	473	3181	29.2 (26.5, 32.0)	366	2335	31.2 (27.9, 34.8)	437	2133	33.2 (30.3, 36.2)
Tried smoking	286	2312	21.2 (18.7, 23.9)	260	1957	26.2 (22.9, 29.7)	274	1482	23.1 (20.3, 26.1)
Never smoker	452	3236	29.7 (26.9, 32.6)	320	2027	27.1 (24.0, 30.5)	424	2078	32.3 (29.4, 35.4)
<b>Collapsed grouping</b>									
Current smoker	271	2008	18.4 (16.1, 20.9)	145	1039	13.9 (11.5, 16.8)	126	684	10.7 (8.8, 12.8)
Former smoker/Tried smoking	759	5493	50.4 (47.3, 53.4)	626	4293	57.4 (53.7, 61.0)	711	3616	56.3 (53.0, 59.4)
Never smoker	452	3q236	29.7 (26.9, 32.6)	320	2027	27.1 (24.0, 30.5)	424	2078	32.3 (29.4, 35.4)

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,910; Active Reservists = 6427; Inactive Reservists = 7478; Unknown = 117). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 10.9 Estimated prevalence of smoking in Transitioned ADF, by transition status**



**Figure 10.10 Estimated prevalence of smoking status in Transitioned ADF, by transition status (using categorised grouping)**



### 10.3.4 Smoking status in Transitioned ADF, by discharge status

Table 10.12 shows smoking status among Transitioned ADF members by medical discharge status. Transitioned ADF with a medical discharge were more likely to be current smokers than those who had another type of discharge (22.2% vs 13.1%). In the case of the collapsed groupings, overall those with a medical discharge (46.5%) were less likely to report being a former smoker or having tried smoking than those without a medical discharge (55.8%).

Logistic regression analysis performed on the collapsed groupings found that medically discharged Transitioned ADF members were significantly more likely to be current smokers (as opposed to never having smoked) than non-medically discharged members (22.2% vs 13.1%; OR 1.6, 95% CI 1.2, 2.2); this was a moderate association.

**Table 10.12 Estimated prevalence of smoking in Transitioned ADF, by medical discharge status**

Smoking status	Medical Discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Current smoker	172	1155	22.2 (19.0, 25.8)	364	2533	13.1 (11.6, 14.7)
Former smoker	247	1433	27.6 (24.2, 31.2)	1021	6147	31.7 (29.7, 33.8)
Tried smoking	142	984	18.9 (16.0, 22.3)	668	4665	24.1 (22.2, 26.1)
Never smoked	258	1573	30.2 (26.7, 34.0)	933	5739	29.6 (27.6, 31.7)
<b>Collapsed grouping</b>						
Current smoker	172	1155	22.2 (19.0, 25.8)	364	2533	13.1 (11.6, 14.7)
Former smoker/Tried smoking	389	2418	46.5 (42.6, 50.4)	1689	10,812	55.8 (53.6, 58.1)
Never smoked	258	1573	30.2 (26.7, 34.0)	933	5739	29.6 (27.6, 31.7)

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



---

## 11 Self-perceived health and quality of life

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

- More than one-third of Transitioned ADF members (35.0%) and almost one-quarter of 2015 Regular ADF members (23.7%) perceived their health to be fair–poor. Transitioned ADF were significantly more likely to perceive their health as fair–poor compared with 2015 Regular ADF.
- Transitioned ADF were significantly more likely to report dissatisfaction with their health (40.1%) compared with 2015 Regular ADF (30.1%).
- Approximately two-thirds (62.8%) of Transitioned ADF rated their quality of life as good – very good compared with 72.0% of 2015 Regular ADF. Transitioned ADF were significantly more likely to perceive their quality of life as poor compared with 2015 Regular ADF.
- For self-perceived satisfaction with life, there were no differences between Transitioned ADF and 2015 Regular ADF.
- Nearly half of Transitioned ADF members (48.7%) and 58.2% of 2015 Regular ADF members reported their physical health as good–excellent. Reporting poor–fair physical health as opposed to good–excellent was significantly higher among Transitioned ADF compared with 2015 Regular ADF.

### Among Transitioned ADF members

- Compared with non-DVA clients, Transitioned ADF members who were DVA clients were more likely to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poor–fair physical health and lower quality of life.
- Ex-Serving ADF were more likely to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poor–fair physical health, and lower quality of life compared with Active and Inactive Reservists.
- Medically discharged Transitioned ADF members were more likely to report lower self-perceived health, dissatisfaction with health, dissatisfaction with life, poor–fair physical health and lower quality of life compared with non-medically discharged members.

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

This chapter explores overall self-perceived health and quality of life among Transitioned ADF members and 2015 Regular ADF members, using five items – self-perceived health, satisfaction with health, quality of life, satisfaction with life in the preceding year, and self-reported physical health in the preceding year.

In addition to this comparison of Transitioned ADF and 2015 Regular ADF, further results are reported for Transitioned ADF according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge). Between-group comparisons were adjusted for sex, age, rank and Service.

## 11.1 Self-perceived health in general

Self-perceived health in general was assessed with a single survey question – ‘In general, how would you say your health is?’ – that was scored on a five-point scale (excellent to poor). For the purpose of analysis, the five-point scale was dichotomised into ‘excellent–good’ versus ‘fair–poor’.

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

Table 11.1 and Figure 11.1 show the estimated prevalence of each level of self-perceived health in general in Transitioned ADF members compared with the 2015 Regular ADF members. The majority of both Transitioned ADF (64.9%) and 2015 Regular ADF (76.3%) reported their health to be excellent, very good or good. The 2015 Regular ADF were more likely to report that their health was very good (31.3%) or good (35.9%) compared with the Transitioned ADF (26.4% very good, 29.6% good). Transitioned ADF members were more likely to perceive their health as poor (11.2%) compared with 2015 Regular ADF (2.9%).

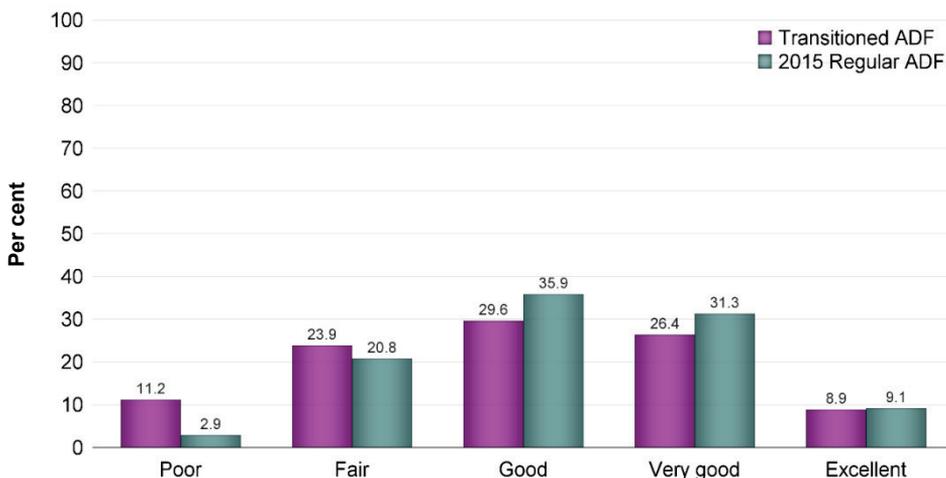
Logistic regression analysis performed on the dichotomised self-perceived health grouping revealed a moderate association, Transitioned ADF being significantly more likely to report fair–poor self-perceived health (as opposed to excellent–good) compared with 2015 Regular ADF (35.0% vs 23.7%; OR 1.5, 95% CI 1.2, 1.9).

**Table 11.1 Estimated prevalence of self-perceived health in general in Transitioned ADF and 2015 Regular ADF**

Health status	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Excellent	332	2216	8.9 (7.8, 10.1)	764	4794	9.1 (7.4, 11.2)
Very good	1067	6577	26.4 (24.8, 28.1)	2880	16,415	31.3 (28.3, 34.4)
Good	1204	7389	29.6 (28.0, 31.4)	2905	18,825	35.9 (32.4, 39.4)
Fair	1056	5949	23.9 (22.4, 25.4)	1416	10,913	20.8 (17.7, 24.2)
Poor	494	2780	11.2 (10.1, 12.3)	260	1528	2.9 (2.0, 4.3)
<b>Dichotomised grouping</b>						
Excellent–good	2603	16,182	64.9 (63.3, 66.5)	6549	40,034	76.3 (72.8, 79.4)
Fair–poor	1550	8729	35.0 (33.4, 36.6)	1676	12,441	23.7 (20.5, 27.2)

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 46 (weighted) participants (2015 Regular ADF = 25; Transitioned ADF = 21) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 11.1** Estimated prevalence of self-perceived health in general in Transitioned ADF and 2015 Regular ADF



**11.1.2 Self-perceived health in general in Transitioned ADF, by DVA client status**

Table 11.2 shows self-perceived health in general in Transitioned ADF members by DVA client status. DVA clients were less likely to report their health as excellent (3.9%) compared with non-DVA clients (14.2%). DVA clients were also more likely to perceive their health as poor (16.2%) compared with non-DVA clients (4.7%).

Logistic regression on the dichotomised grouping showed a strong association: DVA clients were significantly more likely to report low self-perceived health (fair–poor) than non-DVA clients (50.4% vs 19.5%; OR 4.2, 95% CI 3.4, 5.0).

**Table 11.2** Estimated prevalence of self-perceived health in general in Transitioned ADF, by DVA client status

Self-perceived health	DVA client (n = 10,266)			Non-DVA client (n = 11,293)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Excellent	76	399	3.9 (3.0, 5.1)	223	1598	14.2 (12.1, 16.4)
Very good	369	1919	18.7 (16.8, 20.8)	575	3955	35.0 (32.2, 38.0)
Good	544	2775	27.0 (24.8, 29.3)	500	3517	31.2 (28.4, 34.0)
Fair	666	3508	34.2 (31.8, 36.6)	259	1671	14.8 (12.9, 17.0)
Poor	345	1666	16.2 (14.6, 18.0)	71	533	4.7 (3.6, 6.2)
<b>Dichotomised grouping</b>						
Excellent–good	989	5093	49.6 (47.1, 52.1)	1298	9071	80.3 (77.9, 82.6)
Fair–poor	1011	5173	50.4 (47.9, 52.9)	330	2204	19.5 (17.3, 21.9)

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

### **11.1.3 Self-perceived health in general in Transitioned ADF, by transition status**

Table 11.3 and Figure 11.2 show responses for the estimated prevalence of self-perceived health in general among the Transitioned ADF by transition status. Ex-Serving ADF were more likely to perceive their health as poor (19.6%) compared with Active (3.5%) and Inactive Reservists (5.2%).

Logistic regression analysis performed on the dichotomised grouping of self-perceived health showed Ex-Serving ADF were significantly more likely to report low self-perceived health (fair–poor) compared with Active Reservists (50.5% vs 20.6%; OR 5.2, 95% CI 4.2, 6.3) and significantly more likely than Inactive Reservists to report such a perception (24.7%; OR 3.6, 95% CI 2.9, 4.4). Both were strong associations.

### **11.1.4 Self-perceived health in general in Transitioned ADF, by discharge status**

Table 11.4 shows responses for self-perceived health in general in Transitioned ADF by discharge status (medical discharge or other type of discharge). Transitioned respondents who were medically discharged were more likely to report their health as poor (34.2%) and less likely to report their health as excellent (1.1%) compared with those with another type of discharge (5.2% poor, 11.0% excellent).

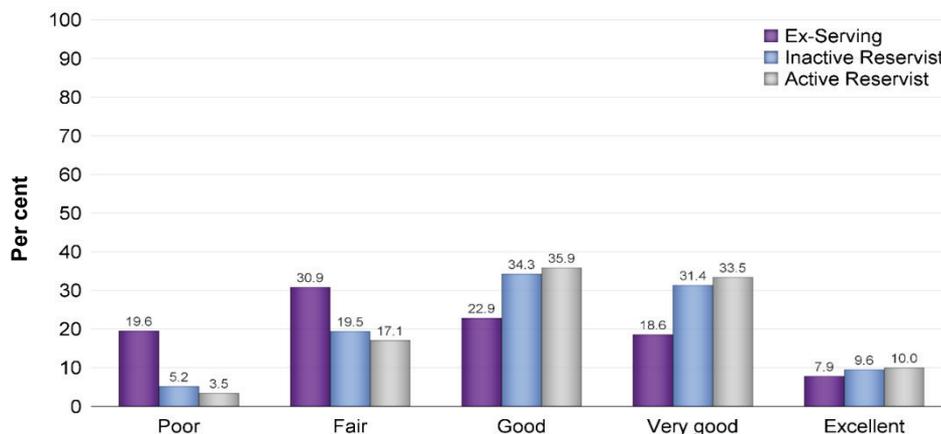
Logistic regression analysis performed on the dichotomised grouping showed a strong association: medically discharged ADF were significantly more likely to report low self-perceived health (fair–poor) than those with another type of discharge (73.6% vs 25.1%; OR 9.3, 95% CI 7.5, 11.5).

**Table 11.3 Self-perceived health in general in Transitioned ADF, by transition status**

Health status	Ex-Serving ADF (n = 10,904)			Inactive Reservists (n = 7509)			Active Reservists (n = 6401)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Excellent	97	857	7.9 (6.3, 9.8)	110	717	9.6 (7.6, 11.9)	125	642	10.0 (8.2, 12.2)
Very good	252	2029	18.6 (16.3, 21.1)	358	2358	31.4 (28.1, 34.9)	452	2142	33.5 (30.6, 36.5)
Good	340	2497	22.9 (20.5, 25.5)	396	2575	34.3 (31.0, 37.8)	463	2299	35.9 (33.0, 39.0)
Fair	542	3367	30.9 (28.3, 33.6)	253	1462	19.5 (16.9, 22.3)	256	1096	17.1 (15.2, 19.3)
Poor	378	2135	19.6 (17.6, 21.8)	66	394	5.2 (3.9, 7.0)	47	221	3.5 (2.5, 4.8)
<b>Dichotomised grouping</b>									
Excellent–good	689	5383	49.4 (46.5, 52.2)	864	5649	75.2 (72.2, 78.1)	1040	5084	79.4 (77.1, 81.6)
Fair–poor	920	5503	50.5 (47.6, 53.3)	319	1856	24.7 (21.9, 27.8)	303	1317	20.6 (18.4, 22.9)

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,904; Active Reservists = 6401; Inactive Reservists = 7509; Unknown = 118). Unknown are not included. A total of 21 (weighted) participants (Ex-Serving ADF = 18; Inactive = 3) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 11.2** Estimated proportions of self-perceived health in general in Transitioned ADF, by transition status



**Table 11.4** Estimated prevalence of self-perceived health in general in Transitioned ADF, by discharge status

Self-perceived health status	Medical discharge (n = 5138)			Non-medical discharge (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Excellent	8	56	1.1 (0.5, 2.4)	320	2130	11.0 (9.6, 1.5)
Very good	43	255	5.0 (3.6, 6.9)	1006	6185	32.0 (29.9, 33.9)
Good	154	1043	20.3 (17.3, 23.7)	1033	6212	32.0 (30.0, 34.0)
Fair	361	2028	39.5 (35.9, 43.2)	687	3865	19.9 (18.3, 21.6)
Poor	316	1756	34.2 (30.7, 37.8)	173	999	5.2 (4.3, 6.1)
<b>Dichotomised grouping</b>						
Excellent–good	205	1354	26.4 (23.1, 29.9)	2359	14,528	74.8 (73.0, 76.6)
Fair–poor	677	3783	73.6 (70.1, 76.9)	860	4864	25.1 (23.3, 26.9)

Notes: Denominator – Transitioned ADF cohort. A total of 21 (weighted) participants (medical discharge = 0; other = 21) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

## 11.2 Self-perceived satisfaction with health

Self-perceived satisfaction with health was assessed by a single item – ‘How satisfied are you with your health?’ – scored on a five-point scale ranging from ‘very dissatisfied’ to ‘very satisfied’. Responses were collapsed into ‘dissatisfied’, ‘neither’ and ‘satisfied’ for the purpose of logistic regression analysis.

### 11.2.1 Satisfaction with health in Transitioned ADF members compared with 2015 Regular ADF members

Table 11.5 and Figure 11.3 show the estimated proportions of self-perceived satisfaction with health among Transitioned ADF members and 2015 Regular ADF members. Transitioned ADF were more likely to report that they were very dissatisfied

with their health (12.9%) compared with 2015 Regular ADF (4.2%). A higher proportion of 2015 Regular ADF were satisfied with their health (39.9%) compared with Transitioned ADF (30.8%). All other response categories were similar for the two groups.

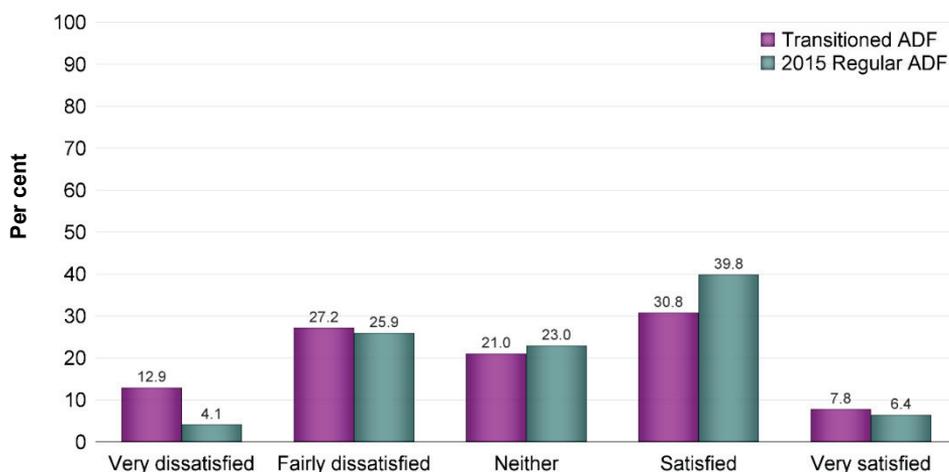
Regression analysis of the collapsed grouping revealed a weak association. Transitioned ADF were significantly more likely to report dissatisfaction with their health (as opposed to satisfaction) compared with 2015 Regular ADF (40.1% vs 30.1%; OR 1.4, 95% CI 1.2, 1.8).

**Table 11.5 Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF and 2015 Regular ADF**

Satisfaction level	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Very dissatisfied	553	3222	12.9 (11.8, 14.1)	387	2177	4.2 (3.0, 5.8)
Fairly dissatisfied	1204	6775	27.2 (25.6, 28.8)	2027	13,617	25.9 (22.8, 29.3)
Neither	836	5241	21.0 (19.5, 22.6)	1716	12,052	23.0 (19.9, 26.3)
Satisfied	1247	7677	30.8 (29.1, 32.5)	3383	20,919	39.9 (36.5, 43.3)
Very satisfied	301	1944	7.8 (6.8, 8.9)	687	3384	6.5 (5.3, 7.8)
<b>Collapsed grouping</b>						
Dissatisfied	1757	9997	40.1 (38.4, 41.8)	2414	15,794	30.1 (26.8, 33.5)
Neither	836	5241	21.0 (19.5, 22.6)	1716	12,052	23.0 (19.9, 26.3)
Satisfied	1548	9621	38.6 (36.8, 40.4)	4070	24,303	46.3 (42.8, 49.8)

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 424 (weighted) participants (2015 Regular ADF = 351; Transitioned ADF = 73) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 11.3 Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF and 2015 Regular ADF**



### 11.2.2 Self-perceived satisfaction with health in Transitioned ADF, by DVA client status

Table 11.6 shows self-perceived satisfaction with health in Transitioned ADF by DVA client status. DVA clients were more likely to report being very dissatisfied with their health (17.6%) compared with non-DVA clients (7.1%). DVA clients were also less likely to report being very satisfied with their health (4.4%) compared with non-DVA clients (11.2%).

Analysis of the collapsed grouping showed a strong association. Transitioned ADF members who were DVA clients were significantly more likely to report dissatisfaction with their health (as opposed to satisfaction) than non-DVA clients (52.5% vs 27.4%; OR 3.4, 95% CI 2.8, 4.2).

**Table 11.6 Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF, by DVA client status**

Satisfaction level	DVA client (n = 10,266)			Non-DVA client (n = 11,293)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Satisfaction with health						
Very dissatisfied	356	1809	17.6 (15.8, 19.6)	109	798	7.1 (5.6, 8.8)
Fairly dissatisfied	701	3585	34.9 (32.6, 37.4)	357	2297	20.3 (18.1, 22.8)
Neither	388	1994	19.4 (17.5, 21.5)	337	2472	21.9 (19.5, 24.6)
Satisfied	460	2397	23.4 (21.2, 25.6)	644	4416	39.1 (36.2, 42.1)
Very satisfied	87	454	4.4 (3.4, 5.7)	177	1267	11.2 (9.4, 13.3)
<b>Collapsed grouping</b>						
Dissatisfied	1057	5394	52.5 (50.1, 55.0)	466	3096	27.4 (24.9, 30.1)
Neither	388	1994	19.4 (17.5, 21.5)	337	2472	21.9 (19.5, 24.6)
Satisfied	547	2851	27.8 (25.5, 30.1)	821	5683	50.3 (47.3, 53.3)

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

### 11.2.3 Self-perceived satisfaction with health in Transitioned ADF, by transition status

Table 11.7 and Figure 11.4 show the estimated prevalence proportions of self-perceived satisfaction with health in Transitioned ADF by transition status. A larger proportion of Ex-Serving ADF (20.9%) were very dissatisfied with their health compared with Inactive (7.7%) and Active Reservists (5.5%).

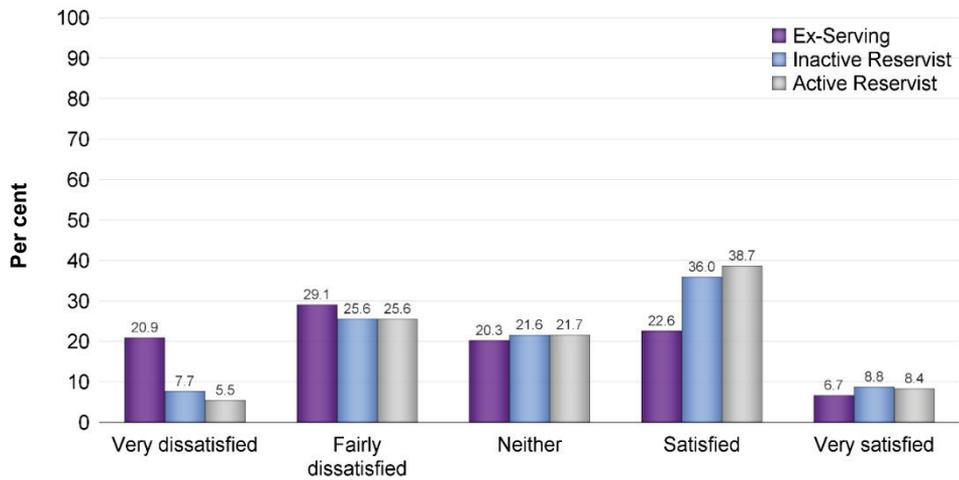
Logistic regression analysis was performed on the collapsed grouping variables. Ex-Serving ADF were significantly more likely to report dissatisfaction with their health (as opposed to satisfaction) when compared with Active Reservists (50.1% vs 31.1%; OR 3.1, 95% CI 2.5, 3.8) and Inactive Reservists (33.3%; OR 2.5, 95% CI 2.0, 3.2) (see Annex B for a detailed description of the strength of the associations and individual odds ratios).

**Table 11.7 Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF, by transition status**

Satisfaction level	Ex-Serving ADF (n = 10,904)			Inactive Reservists (n = 7509)			Active Reservists (n = 6401)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Very dissatisfied	387	2283	20.9 (18.8, 23.2)	87	578	7.7 (6.0, 9.9)	78	349	5.5 (4.3, 6.9)
Fairly dissatisfied	517	3177	29.1 (26.7, 31.7)	330	1924	25.6 (22.7, 28.8)	350	1640	25.6 (23.1, 28.4)
Neither	291	2208	20.3 (17.9, 22.8)	259	1624	21.6 (18.9, 24.7)	282	1387	21.7 (19.2, 24.4)
Satisfied	318	2466	22.6 (20.2, 25.3)	405	2700	36.0 (32.6, 39.5)	519	2477	38.7 (35.7, 41.8)
Very satisfied	89	732	6.7 (5.3, 8.5)	100	658	8.8 (6.9, 11.1)	111	536	8.4 (6.8, 10.2)
<b>Collapsed grouping</b>									
Dissatisfied	904	5460	50.1 (47.3, 52.9)	417	2502	33.3 (30.1, 36.7)	428	1990	31.1 (28.4, 34.0)
Neither	291	2208	20.3 (17.9, 22.8)	259	1624	21.6 (18.9, 24.7)	282	1387	21.7 (19.2, 24.4)
Satisfied	407	3198	29.3 (26.7, 32.2)	505	3358	44.7 (41.2, 48.3)	630	3013	47.1 (44.0, 50.2)

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,904; Active Reservists = 6401; Inactive Reservists = 7509; Unknown = 118). Unknown are not included. A total of 73 (weighted) participants (Ex-Serving ADF = 37; Active Reservists = 11; Inactive Reservists = 25) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 11.4 Self-perceived satisfaction with health in Transitioned ADF, by transition status**



**11.2.4 Self-perceived satisfaction with health in Transitioned ADF, by discharge status**

Table 11.8 shows self-perceived satisfaction with health in Transitioned ADF by discharge status. Those with a medical discharge were more likely to report being very dissatisfied with their health (34.0%) compared with those with another type of discharge (7.5%).

Logistic regression analysis performed on the collapsed grouping variables found that Transitioned ADF with a medical discharge were significantly more likely to report dissatisfaction with their health (as opposed to satisfaction) than non-medically discharged ADF (72.4% vs 31.7%; OR 10.0, 95% CI 7.6, 13.2). This was a strong association.

**Table 11.8 Estimated prevalence of self-perceived satisfaction with health in Transitioned ADF, by discharge status**

Satisfaction level	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Very dissatisfied	316	1748	34.0 (30.6, 37.6)	232	1449	7.5 (6.4, 8.7)
Fairly dissatisfied	333	1972	38.4 (34.8, 42.1)	855	4696	24.2 (22.5, 26.0)
Neither	136	847	16.5 (13.8, 19.6)	691	4331	22.3 (20.6, 24.2)
Satisfied	82	493	9.6 (7.6, 12.1)	1148	7038	36.3 (34.2, 38.4)
Very satisfied	11	64	1.3 (0.6, 2.5)	287	1846	9.5 (8.3, 10.9)
<b>Collapsed grouping</b>						
Dissatisfied	649	3720	72.4 (68.9, 75.7)	1087	6145	31.7 (29.7, 33.6)
Neither	136	847	16.5 (13.8, 19.6)	691	4331	22.3 (20.6, 24.2)
Satisfied	93	557	10.9 (8.7, 13.5)	1435	8885	45.8 (43.6, 47.9)

Notes: Denominator – Transitioned ADF cohort. A total of 73 (weighted) participants (medical discharge = 13; other = 53) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

### 11.3 Self-perceived quality of life

Self-perceived quality of life was assessed by a single survey item – ‘How would you rate your quality of life?’ – scored on a five-point scale ranging from ‘very poor’ to ‘very good’. For the purpose of analyses, responses were further collapsed into ‘poor’, ‘neither’ and ‘good’.

#### 11.3.1 Self-perceived quality of life in Transitioned ADF members compared with 2015 Regular ADF members

Table 11.9 and Figure 11.5 show the estimated proportions of self-perceived quality of life among Transitioned ADF members and 2015 Regular ADF members. Transitioned ADF were more likely to perceive their quality of life as very poor (3.8%) compared with 2015 Regular ADF (0.7%). A higher proportion of 2015 Regular ADF perceived their quality of life as good (55.2%) compared with the Transitioned ADF (47.2%). All other response categories were similar for the two groups.

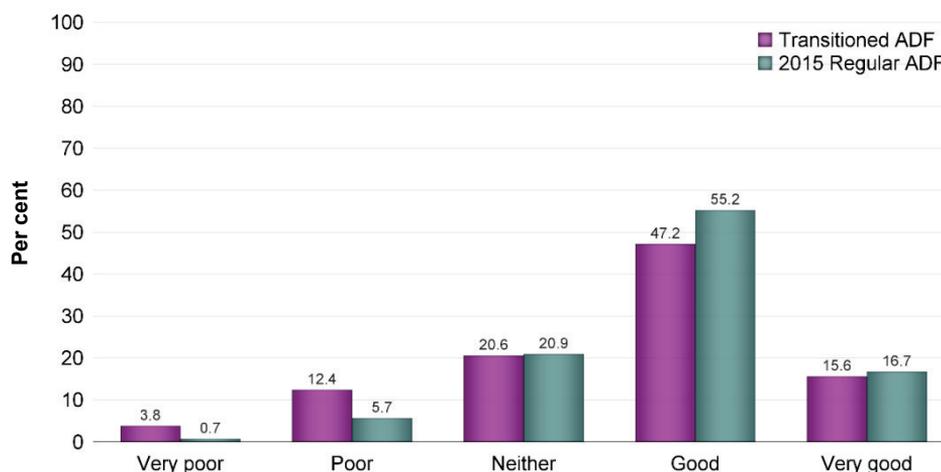
Logistic regression analysis of the collapsed grouping showed a moderate association. Transitioned ADF were significantly more likely to report poor self-perceived quality of life (as opposed to good) compared with 2015 Regular ADF (16.2% vs 6.4%; OR 2.6, 95% CI 1.7, 3.9).

**Table 11.9 Self-perceived quality of life in Transitioned ADF and 2015 Regular ADF**

Quality of life	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Very poor	144	950	3.8 (3.2, 4.6)	71	367	0.7 (0.4, 1.2)
Poor	505	3095	12.4 (11.3, 13.6)	382	2971	5.7 (4.0, 8.0)
Neither good nor poor	843	5126	20.6 (19.1, 22.1)	1310	10,970	20.9 (17.8, 24.4)
Good	1956	11,764	47.2 (45.4, 49.0)	4828	28,999	55.2 (51.7, 58.7)
Very good	690	3896	15.6 (14.4, 17.0)	1600	8786	16.7 (14.3, 19.5)
<b>Collapsed grouping</b>						
Poor	649	4045	16.2 (15.0, 17.6)	453	3338	6.4 (4.6, 8.7)
Neither	843	5126	20.6 (19.1, 22.1)	1310	10,970	20.9 (17.8, 24.4)
Good	2646	15,661	62.8 (61.1, 64.5)	6428	37,785	72.0 (68.4, 75.3)

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 507 (weighted) participants (2015 Regular ADF = 407; Transitioned ADF = 100) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 11.5 Self-perceived quality of life in Transitioned ADF and 2015 Regular ADF**



### 11.3.2 Self-perceived quality of life in Transitioned ADF, by DVA client status

Table 11.10 shows the estimated proportions for self-perceived quality of life among Transitioned ADF members by DVA client status. DVA clients were more likely to perceive their quality of life as very poor (5.4%) or poor (17.9%) compared with non-DVA clients (very poor, 1.3%; poor, 7.0%). They were also less likely to perceive their quality of life as good (40.1%) or very good (10.4%) compared with non-DVA clients (good, 53.4%; very good, 22.3%).

Regression analysis on the three-group self-perceived quality of life variable showed a strong association among Transitioned ADF, whereby DVA clients were significantly more likely to report poor self-perceived quality of life (as opposed to good) when compared with non-DVA clients (23.3% vs 8.3%; OR 5.0, 95% CI 3.7, 6.6).

**Table 11.10 Self-perceived quality of life in Transitioned ADF, by DVA client status**

Quality of life	DVA client (n = 10,266)			Non-DVA client (n = 11,293)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Very poor	101	557	5.4 (4.4, 6.7)	15	145	1.3 (0.7, 2.3)
Poor	340	1837	17.9 (16.1, 19.9)	93	786	7.0 (5.5, 8.8)
Neither good nor poor	505	2656	25.9 (23.7, 28.2)	228	1743	15.4 (13.3, 17.8)
Good	830	4121	40.1 (37.7, 42.6)	874	6027	53.4 (50.4, 56.4)
Very good	216	1068	10.4 (9.0, 12.1)	411	2522	22.3 (20.0, 24.9)
<b>Collapsed grouping</b>						
Poor	441	2394	23.3 (21.3, 25.4)	108	932	8.3 (6.6, 10.2)
Neither	505	2656	25.9 (23.7, 28.2)	228	1743	15.4 (13.3, 17.8)
Good	1046	5189	50.5 (48.1, 53.0)	1285	8549	75.7 (72.9, 78.2)

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

### 11.3.3 Self-perceived quality of life in Transitioned ADF, by transition status

Table 11.11 and Figure 11.6 show the estimated proportions for self-perceived quality of life among Transitioned ADF members by transition status. A larger proportion of Ex-Serving ADF (7.1%) perceived their quality of life as very poor compared with Inactive Reservists (1.1%) and Active Reservists (1.3%). A similar pattern was apparent for the ‘poor’ category, there being a higher proportion in the Ex-Serving ADF (20.2%) compared with Inactive (7.4%) and Active Reservists (4.7%).

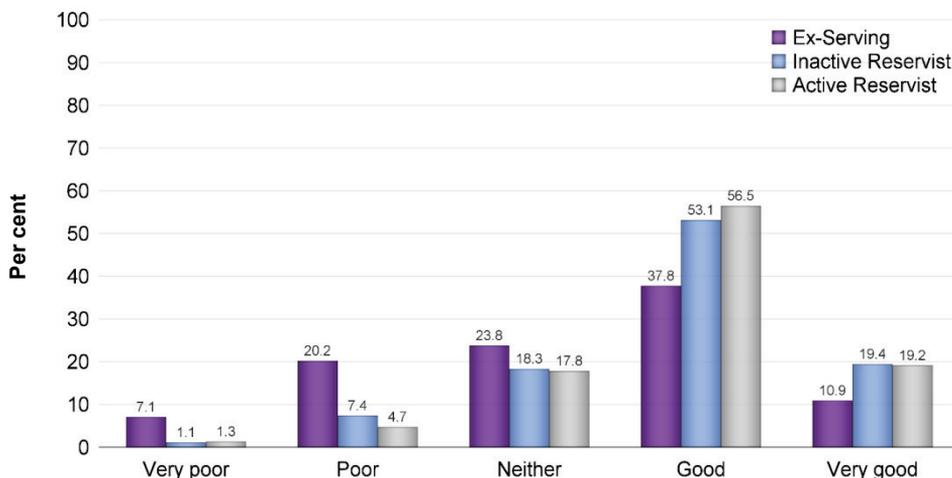
Logistic regression analysis models showed that Ex-Serving ADF were significantly more likely to report poor self-perceived quality of life (as opposed to good) compared with Active Reservists (27.3% vs 6.1%; OR 6.7, 95% CI 4.8, 9.4) and Inactive Reservists (8.5%; OR 4.9, 95% CI 3.6, 6.6). Both were strong associations.

**Table 11.11 Self-perceived quality of life in Transitioned ADF, by transition status**

Quality of life	Ex-Serving ADF (n = 10,904)			Inactive Reservists (n = 7509)			Active Reservists (n = 6401)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Very poor	119	771	7.1 (5.8, 8.6)	12	82	1.1 (0.6, 2.1)	12	86	1.3 (0.7, 2.6)
Poor	350	2205	20.2 (18.1, 22.6)	90	557	7.4 (5.8, 9.5)	61	304	4.7 (3.6, 6.3)
Neither good nor poor	407	2593	23.8 (21.4, 26.3)	211	1377	18.3 (15.7, 21.3)	221	1142	17.8 (15.5, 20.5)
Good	570	4118	37.8 (35.0, 40.7)	620	3990	53.1 (49.6, 56.7)	759	3615	56.5 (53.4, 59.5)
Very good	158	1188	10.9 (9.1, 13.0)	247	1459	19.4 (16.8, 22.4)	283	1227	19.2 (17.0, 21.5)
<b>Collapsed grouping</b>									
Poor	469	2975	27.3 (24.9, 29.8)	102	639	8.5 (6.8, 10.7)	73	389	6.1 (4.7, 7.9)
Neither	407	2593	23.8 (21.4, 26.3)	211	1377	18.3 (15.7, 21.3)	221	1142	17.8 (15.5, 20.5)
Good	728	5306	48.7 (45.8, 51.5)	867	5450	72.6 (69.3, 75.7)	1042	4842	75.6 (72.8, 78.3)

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,904; Active Reservists = 6401; Inactive Reservists = 7509; Unknown = 118). Unknown are not included. A total of 100 (weighted) participants (Ex-Serving ADF = 29; Active Reservists = 28; Inactive Reservists = 43) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 11.6 Self-perceived quality of life in Transitioned ADF, by transition status**



**11.3.4 Self-perceived quality of life in Transitioned ADF, by discharge status**

Table 11.12 shows the estimated proportions for self-perceived quality of life in Transitioned ADF members by discharge status. Transitioned ADF who were medically discharged were more likely to perceive their quality of life as very poor (13.1%) or poor (31.5%) compared with those with another type of discharge (very poor, 1.4%; poor, 7.4%). They were also more likely to respond ‘neither good nor poor’ (27.8%) compared with non-medically discharged members (18.7%). Medically discharged Transitioned ADF were much less likely to perceive their quality of life as good (24.6%) or very good (2.8%) than those not medically discharged (good, 53.2%; very good, 19.0%).

When quality of life was collapsed into three groups logistic regression analysis showed that among Transitioned ADF members those with a medical discharge were significantly more likely to report low self-perceived quality of life than non-medically discharged members (44.6% vs 8.7%; OR 13.2, 95% CI 10.2, 17.1). This was a strong association

**Table 11.12 Self-perceived quality of life in Transitioned ADF, by discharge status**

Quality of life	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Very poor	106	671	13.1 (10.6, 15.9)	37	268	1.4 (0.9, 2.0)
Poor	279	1620	31.5 (28.1, 35.1)	219	1429	7.4 (6.3, 8.6)
Neither good nor poor	258	1430	27.8 (24.6, 31.3)	577	3622	18.7 (17.0, 20.4)
Good	209	1262	24.6 (21.4, 28.0)	1721	10,327	53.2 (51.1, 55.3)
Very good	26	144	2.8 (1.8, 4.3)	655	3683	19.0 (17.4, 20.7)
<b>Collapsed grouping</b>						
Poor	385	2290	44.6 (40.9, 48.4)	256	1697	8.7 (7.6, 10.1)
Neither	258	1430	27.8 (24.6, 31.3)	577	3622	18.7 (17.0, 20.4)
Good	235	1405	27.4 (24.1, 30.9)	2376	14,010	72.2 (70.2, 74.1)

Notes: Denominator – Transitioned ADF cohort. A total of 100 (weighted) participants (medical discharge = 12; other = 84) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

## 11.4 Satisfaction with life in the preceding year

Self-perceived satisfaction with life in the preceding year was assessed by a single item on a seven-point scale. Respondents were asked, ‘How do you feel about your life as a whole, taking into account what has happened last year and what you expect to happen in the future?’. Scaled responses ranged from ‘delighted’ to ‘terrible’. For the purpose of analysis, the seven-point scale was also collapsed into dissatisfied (mixed–terrible) and satisfied (mostly satisfied–delighted).

### 11.4.1 Self-perceived satisfaction with life in the preceding year in Transitioned ADF compared with 2015 Regular ADF

Table 11.13 and Figure 11.7 show the estimated prevalence of self-perceived satisfaction with life during the preceding year in Transitioned ADF members and 2015 Regular ADF members. Transitioned ADF were more likely to report their life was unhappy (7.3%) or terrible (2.5%) compared with 2015 Regular ADF (unhappy, 3.4%; terrible, 0.3%).

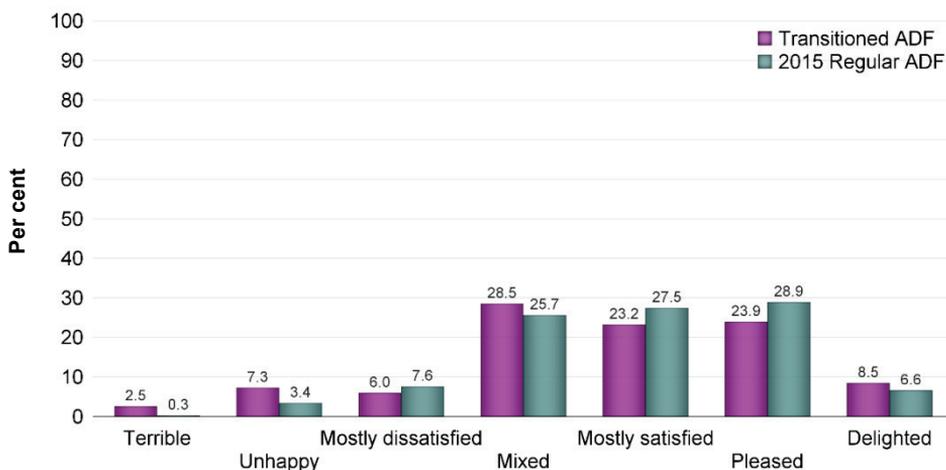
Logistic regression analyses on the collapsed grouping showed no differences between the Transitioned ADF and 2015 Regular ADF.

**Table 11.13 Self-perceived satisfaction with life in the preceding year in Transitioned ADF and 2015 Regular ADF**

Satisfaction level	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Delighted	297	2108	8.5 (7.3, 9.7)	632	3458	6.6 (5.0, 8.6)
Pleased	905	5963	23.9 (22.2, 25.7)	2373	15,188	28.9 (25.5, 32.7)
Mostly satisfied	888	5792	23.2 (21.6, 25.0)	2168	14,419	27.5 (24.4, 30.8)
Mixed	951	7105	28.5 (26.6, 30.5)	1616	13,467	25.7 (22.0, 29.7)
Mostly dissatisfied	196	1492	6.0 (5.1, 7.1)	290	3986	7.6 (5.0, 11.3)
Unhappy	225	1812	7.3 (6.2, 8.5)	219	1792	3.4 (2.3, 5.0)
Terrible	79	633	2.5 (2.0, 3.3)	44	148	0.3 (0.2, 0.4)
<b>Dichotomised grouping</b>						
Dissatisfied	1451	11,043	44.3 (42.3, 46.3)	2169	19,392	36.9 (32.9, 41.2)
Satisfied	2090	13,862	55.6 (53.6, 57.6)	5173	33,066	63.0 (58.8, 67.0)

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 69 (weighted) participants (2015 Regular ADF = 42; Transitioned ADF = 27) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 11.7 Self-perceived satisfaction with life in the preceding year in Transitioned ADF and 2015 Regular ADF**



#### 11.4.2 Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by DVA client status

Table 11.14 shows self-perceived satisfaction with life in the preceding year in Transitioned ADF by DVA client status. DVA clients were more likely to report that they were mostly dissatisfied (8.2%) and unhappy (9.5%) compared with non-DVA clients (mostly dissatisfied, 3.8%; unhappy, 4.1%). Non-DVA clients were more likely to report that they were delighted (11.7%) than DVA clients (6.1%). Non-DVA clients were also more likely to perceive that they were pleased (27.7%) compared with DVA clients (19.8%).

When logistic regression analysis was performed on the collapsed grouping variables, DVA clients were significantly more likely to report being dissatisfied with life (as opposed to satisfied) when compared with non-DVA clients among the Transitioned ADF (51.5% vs 37%; OR 2.2, 95% CI 1.8, 2.7). This was a moderate association.

**Table 11.14 Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by DVA client status**

Satisfaction level	DVA client (n = 10,585)			Non-DVA client (n = 11,248)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Delighted	105	647	6.1 (4.8, 7.7)	169	1318	11.7 (9.7, 14.1)
Pleased	383	2100	19.8 (17.8, 22.1)	411	3113	27.7 (24.7, 30.8)
Mostly satisfied	426	2386	22.5 (20.3, 24.9)	366	2655	23.6 (20.9, 26.5)
Mixed	515	3242	30.6 (28.0, 33.4)	325	3056	27.2 (24.2, 30.4)
Mostly dissatisfied	124	869	8.2 (6.7, 10.1)	51	429	3.8 (2.7, 5.3)
Unhappy	151	1000	9.5 (7.9, 11.3)	41	464	4.1 (2.9, 5.9)
Terrible	55	341	3.2 (2.4, 4.3)	15	208	1.8(1.0, 3.3)
<b>Dichotomised grouping</b>						
Dissatisfied	845	5452	51.5 (48.8, 54.3)	432	4158	37.0 (33.7, 40.4)
Satisfied	914	5133	48.5 (45.8, 51.3)	946	7086	63.0 (59.6, 66.3)

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

### 11.4.3 Satisfaction with life in the preceding year in Transitioned ADF, by transition status

Table 11.15 and Figure 11.8 show self-perceived satisfaction with life in the preceding year in Transitioned ADF by transition status. Overall, Ex-Serving ADF members were less satisfied with life than both Inactive and Active Reservists. Larger proportions of Ex-Serving ADF reported being mostly dissatisfied (9.1%), unhappy (11.6%) or terrible (4.1%) compared with Inactive Reservists (mostly dissatisfied, 4.9%; unhappy, 4.7%; terrible, 1.8%) and Active Reservists (mostly dissatisfied, 2.0%; unhappy, 3.0%; terrible, 0.6%).

Logistic regression analysis performed on the dichotomised grouping showed that Ex-Serving ADF were significantly more likely to report dissatisfaction with life (as opposed to satisfaction) than Active Reservists (58.8% vs 31.1%; OR 2.8, 95% CI 2.2, 3.5) and Inactive Reservists (34.9%; OR 2.6, 95% CI 2.1, 3.3). Both were moderate associations.

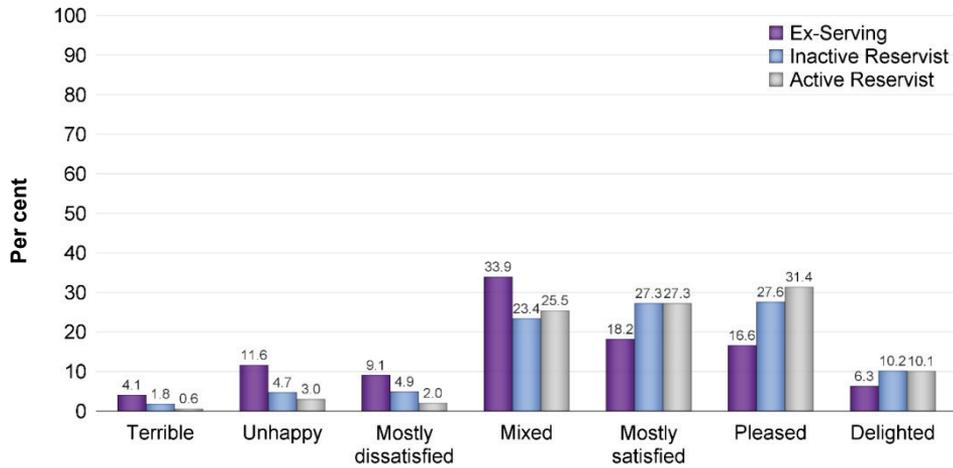
**Table 11.15 Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by transition status**

Satisfaction level	Ex-Serving ADF (n = 10,797)			Inactive Reservists (n = 7673)			Active Reservists (n = 6362)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Delighted	71	680	6.3 (4.7, 8.3)	103	780	10.2 (8.0, 12.9)	122	643	10.1 (8.3, 12.2)
Pleased	215	1791	16.6 (14.2, 19.3)	297	2120	27.6 (24.2, 31.3)	389	1999	31.4 (28.4, 34.6)
Mostly satisfied	272	1963	18.2 (15.8, 20.8)	284	2091	27.3 (23.8, 31.0)	331	1734	27.3 (24.4, 30.3)
Mixed	448	3664	33.9 (30.8, 37.2)	231	1797	23.4 (20.1, 27.1)	268	1620	25.5 (22.4, 28.8)
Mostly dissatisfied	122	983	9.1 (7.4, 11.2)	46	379	4.9 (3.4, 7.0)	28	130	2.0 (1.4, 3.0)
Unhappy	154	1257	11.6 (9.7, 13.9)	42	363	4.7 (3.2, 6.9)	29	192	3.0 (1.9, 4.7)
Terrible	63	441	4.1 (3.1, 5.4)	11	139	1.8 (0.9, 3.6)	a	..	..
<b>Dichotomised grouping</b>									
Dissatisfied	787	6345	58.8 (55.5, 62.0)	330	2678	34.9 (31.1, 38.9)	329	1981	31.1 (27.9, 34.6)
Satisfied	558	4434	41.1 (37.9, 44.4)	684	4991	65.1 (61.1, 68.8)	842	4376	68.8 (65.4, 72.0)

a. Cell size too small to be reported.

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,797; Active Reservist = 6362; Inactive Reservists = 7673; Unknown = 100). Unknown are not included. A total of 27 (weighted) participants (Ex-Serving ADF = 18; Active Reservists = 5; Inactive Reservists = 4) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 11.8 Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by transition status**



#### 11.4.4 Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by discharge status

Table 11.16 shows the estimated prevalence of self-perceived life satisfaction in the preceding year in Transitioned ADF by discharge status. Those with a medical discharge were more likely to state they perceived mixed feelings of satisfaction (36.2%) when compared with those with another type of discharge (26.5%). This was also the case for mostly dissatisfied (13.1%; 4.2%), unhappy (18.1%; 4.4%) and terrible (6.8%; 1.5%).

Those with another type of discharge were more likely to perceive they were delighted (9.8%), pleased (28.0%) or mostly satisfied (25.5%) than those with a medical discharge (delighted, 2.4%; pleased, 8.2%; mostly satisfied, 14.9%).

Logistic regression analysis performed on the collapsed groupings showed a strong association. Medically discharged ADF were significantly more likely to report dissatisfaction with life (as opposed to satisfaction) when compared with those with another type of discharge (74.2% vs 36.6%; OR 4.8, 95% CI 3.8, 6.0).

**Table 11.16 Self-perceived satisfaction with life in the preceding year in Transitioned ADF, by discharge status**

Satisfaction level	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Delighted	17	124	2.4 (1.4, 4.3)	274	1919	9.8 (8.5, 11.4)
Pleased	63	417	8.2 (6.1, 10.9)	832	5460	28.0 (25.9, 30.2)
Mostly satisfied	118	760	14.9 (12.2, 18.0)	760	4980	25.5 (23.5, 27.6)
Mixed	281	1847	36.2 (32.2, 40.3)	664	5171	26.5 (24.4, 28.8)
Mostly dissatisfied	93	667	13.1 (10.4, 16.3)	102	820	4.2 (3.3, 5.4)
Unhappy	121	926	18.1 (15.0, 21.8)	102	859	4.4 (3.5, 5.6)
Terrible	49	347	6.8 (4.9, 9.3)	30	287	1.5 (1.0, 2.3)
<b>Dichotomised grouping</b>						
Dissatisfied	544	3787	74.2 (70.3, 77.7)	898	7137	36.6 (34.3, 39.0)
Satisfied	198	1301	25.5 (22.0, 29.3)	1866	12,358	63.4 (61.0, 65.7)

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

## 11.5 Self-reported physical health in the preceding year

Self-reported physical health in the preceding year was assessed by a single item on a five-point scale. Respondents were asked to state how their physical health had been in the preceding year, and responses ranged from ‘very poor’ to ‘excellent’. For the purpose of logistic regression analysis the five-point scale was dichotomised into ‘poor–fair’ and ‘good–excellent’.

### 11.5.1 Self-reported physical health in the preceding year in Transitioned ADF members compared with 2015 Regular ADF members

Table 11.17 and Figure 11.9 show self-reported physical health in the preceding year in Transitioned ADF members and 2015 Regular ADF members. Transitioned ADF were more likely to report their physical health as either very poor (4.9%) or poor (14.8%) compared with the 2015 Regular ADF (1.5% and 8.5% respectively). A higher proportion of 2015 Regular ADF reported their physical health as good (49.1%) compared with Transitioned ADF (38.7%). All other response categories were similar for the two groups.

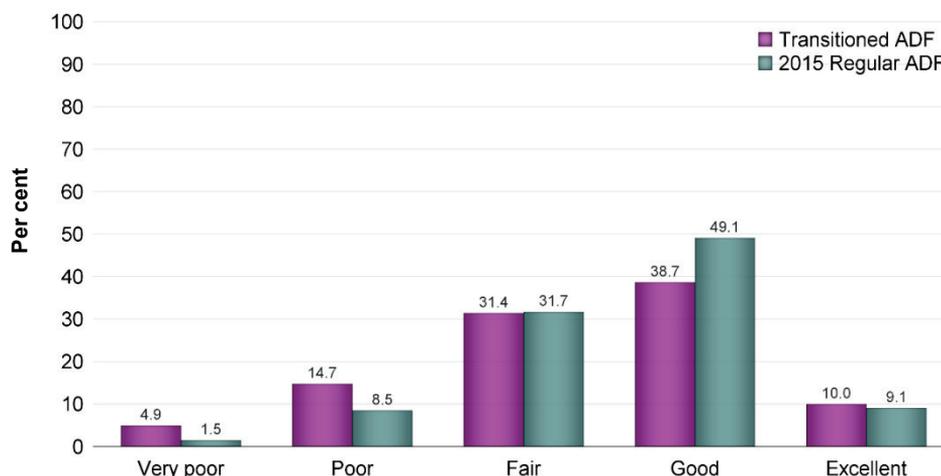
When logistic regression analysis was performed on the dichotomised variable, a weak association was found. The odds of reporting physical health as poor–fair as opposed to good–excellent were significantly higher among the Transitioned ADF compared with the 2015 Regular ADF (51.1% vs 41.7%; OR 1.3, 95% CI 1.1, 1.7).

**Table 11.17 Self-reported physical health in the preceding year in Transitioned ADF and 2015 Regular ADF**

Physical level	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Very poor	155	1231	4.9 (4.1, 5.9)	120	791	1.5 (0.9, 2.4)
Poor	485	3677	14.8 (13.3, 16.3)	558	4462	8.5 (6.3, 11.4)
Fair	1102	7837	31.4 (29.5, 33.5)	2076	16,655	31.7 (27.7, 36.0)
Good	1417	9643	38.7 (36.7, 40.7)	3632	25,798	49.1 (44.9, 53.4)
Excellent	303	2497	10.0 (8.7, 11.5)	852	4754	9.1 (7.9, 10.4)
<b>Dichotomised grouping</b>						
Poor–fair	1742	12,745	51.1 (49.0, 53.2)	2754	21,907	41.7 (37.6, 46.0)
Good–excellent	1720	12,141	48.7 (46.6, 50.8)	4484	30,553	58.2 (53.9, 62.4)

Notes: Denominator – all 2015 Regular ADF and Transitioned ADF. A total of 87 (weighted) participants (2015 Regular ADF = 40; Transitioned ADF = 47) had a missing value and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.1.

**Figure 11.9 Self-reported physical health in the preceding year in Transitioned ADF and 2015 Regular ADF**



### 11.5.2 Self-reported physical health in the preceding year in Transitioned ADF, by DVA client status

Table 11.18 shows details of self-reported physical health in the preceding year in Transitioned ADF members by DVA client status. DVA clients were more likely to report their physical health as very poor (6.7%) than non-DVA clients (2.4%). They were also more likely to report their health as poor (20.3%) or fair (36.0%) compared with non-DVA clients (9.3% and 27.1% respectively). Similarly, non-DVA clients were more likely to report good health (45.2%) than were DVA clients (31.9%). Finally, more non-DVA clients (16.0%) reported excellent health than did DVA clients (4.8%).

Logistic regression analysis of the two collapsed groups showed that DVA clients were significantly more likely to report poor–fair physical health (as opposed to good–excellent) than non-DVA clients (63.0% vs 38.8%; OR 2.9, 95% CI 2.4, 3.5). This was a moderate association.

**Table 11.18 Estimated prevalence of self-reported physical health in the preceding year in Transitioned ADF, by DVA client status**

Self-reported physical health	DVA client (n = 10,615)			Non-DVA client (n = 11,275)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Very poor	104	706	6.7 (5.4, 8.2)	25	276	2.4 (1.5, 3.9)
Poor	326	2152	20.3 (18.0, 22.7)	103	1043	9.3 (7.3, 11.6)
Fair	625	3824	36.0 (33.3, 38.8)	362	3050	27.1 (24.0, 30.3)
Good	589	3387	31.9 (29.4, 34.6)	656	5099	45.2 (41.8, 48.7)
Excellent	78	504	4.8 (3.6, 6.2)	202	1808	16.0 (13.6, 18.9)
<b>Dichotomised grouping</b>						
Poor–fair	1055	6682	63.0 (60.2, 65.6)	490	4369	38.8 (35.4, 42.2)
Good–excellent	667	3891	36.7 (34.0, 39.4)	858	6907	61.3 (57.8, 64.6)

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

### 11.5.3 Self-reported physical health in the preceding year in Transitioned ADF, by transition status

Table 11.19 and Figure 11.10 show self-reported physical health in the preceding year among Transitioned ADF members by transition status. Overall, Ex-Serving ADF members reported poorer physical health than both Inactive Reservists and Active Reservists. Larger proportions of Ex-Serving ADF reported very poor (9.1%) or poor (21.2%) physical health compared with Inactive Reservists (very poor, 2.5%; poor, 11.6%) and Active Reservists (very poor, 0.8%; poor, 7.8%).

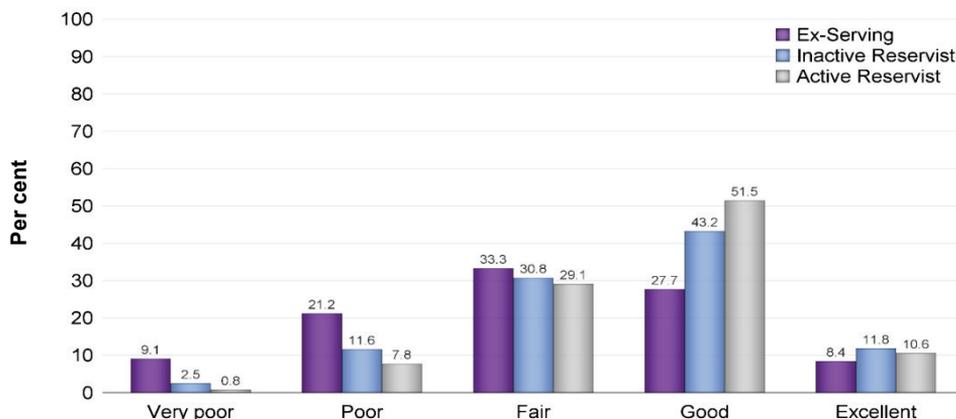
Logistic regression analysis performed on the dichotomised groupings showed that Ex-Serving ADF were significantly more likely to report poor–fair physical health (as opposed to good–excellent) than Active Reservists (63.6% vs 37.7%; OR 2.9, 95% CI 2.3, 3.6) and Inactive Reservists (44.9%; OR 2.3, 95% CI 1.8, 2.9).

**Table 11.19 Estimated prevalence of self-reported physical health in Transitioned ADF, by transition status**

Self-perceived physical health	Ex-Serving ADF (n = 10,743)			Inactive Reservists (n = 7709)			Active Reservists (n = 6390)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Very poor	128	973	9.1 (7.5, 11.0)	18	192	2.5 (1.4, 4.4)	8	51	0.8 (0.4, 1.8)
Poor	300	2282	21.2 (18.7, 24.0)	103	895	11.6 (9.1, 14.6)	81	497	7.8 (6.0, 10.0)
Fair	450	3577	33.3 (30.2, 36.6)	317	2372	30.8 (27.1, 34.7)	331	1861	29.1 (26.1, 32.4)
Good	349	2974	27.7 (24.7, 30.9)	447	3333	43.2 (39.2, 47.4)	615	3291	51.5 (48.0, 55.0)
Excellent	82	907	8.4 (6.6, 10.8)	103	912	11.8 (9.3, 14.9)	118	678	10.6 (8.6, 13.1)
<b>Dichotomised grouping</b>									
Poor–fair	878	6833	63.6 (60.3, 66.8)	438	3459	44.9 (40.8, 49.0)	420	2408	37.7 (34.4, 41.1)
Good–excellent	431	3881	36.1 (32.9, 39.5)	550	4245	55.1 (50.9, 59.1)	733	3969	62.1 (58.7, 65.4)

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,743; Active Reservists = 6390; Inactive Reservists = 7709; Unknown = 90). Unknown are not included. A total of 47 (weighted) participants (Ex-Serving ADF = 29; Active Reservists = 14; Inactive Reservists = 4) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 11.10** Estimated prevalence of self-reported physical health in the preceding year in Transitioned ADF, by transition status



#### 11.5.4 Self-reported physical health in the preceding year in Transitioned ADF, by discharge status

Table 11.20 shows self-reported physical health in the preceding year among Transitioned ADF members by discharge status. Transitioned ADF with a medical discharge were more likely to report their physical health as very poor (16.2%) or poor (32.1%) compared with those with another type of discharge (2.1% and 10.3% respectively). Conversely, Transitioned ADF with another type of discharge were more likely to indicate good (44.6%) or excellent (12.0%) health compared with those with a medical discharge (16.0% and 1.5%, respectively).

Logistic regression analysis performed on the collapsed grouping variable showed that medically discharged Transitioned ADF members were significantly more likely to report poor–fair physical health (as opposed to good–excellent) than non-medically discharged members (82.2% vs 43.2%; OR 4.8, 95% CI 3.8, 6.0). This was a strong association.

**Table 11.20 Estimated prevalence of self-reported physical health in the preceding year in Transitioned ADF, by discharge status**

Self-reported physical health	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Very poor	110	826	16.2 (13.2, 19.6)	45	405	2.1 (1.4, 3.0)
Poor	225	1640	32.1 (28.1, 36.3)	258	2019	10.3 (8.9, 12.0)
Fair	265	1740	34.0 (30.1, 38.2)	829	6011	30.8 (28.6, 33.1)
Good	110	819	16.0 (13.0, 19.6)	1288	8710	44.6 (42.2, 47.1)
Excellent	12	76	1.5 (0.8, 2.8)	287	2342	12.0 (10.4, 13.8)
<b>Dichotomised grouping</b>						
Poor–fair	600	4206	82.2 (78.6, 85.4)	1132	8435	43.2 (40.8, 45.7)
Good–excellent	122	895	17.5 (14.4, 21.1)	1575	11,051	56.6 (54.2, 59.1)

Notes: Denominator – Transitioned ADF cohort. A total of 46 (weighted) participants (medical discharge = 16; other = 30) had a missing value for this question and are not included. However, distributions are calculated by including those with a missing value to allow for correct weighted totals. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

---

## 12 Use of health services

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

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

### Among Transitioned ADF members

- Compared with non-DVA clients, DVA clients were significantly more likely to report seeing a GP, psychologist, specialist doctor, alcohol or drug worker, audiologist or dietician/nutritionist in the preceding 12 months.
- DVA clients were significantly more likely to report seeing a GP or specialist doctor in the preceding two weeks compared with Transitioned ADF members who were non-DVA clients.
- The proportions of Ex-Serving ADF (88.4%), Active Reservists (88.2%) and Inactive Reservists (84.0%) who reported visiting any health service in the preceding 12 months were similar.
- Overall, Ex-Serving ADF were more likely than both Inactive and Active Reservists to have reported receiving services from most types of health professionals in the preceding 12 months. Odds ratios varied in strength, but the strongest between-group differences were observed for psychologists and alcohol or drug workers. That is, Ex-Serving ADF were significantly more likely to report seeing these types of health professionals compared with both Active and Inactive Reservists.
- Ex-Serving ADF were significantly more likely than Active Reservists and Inactive Reservists to report seeing a GP or specialist doctor in the preceding two weeks.

- Compared with Transitioned ADF who were not medically discharged, Transitioned ADF who were discharged on medical grounds were significantly more likely to have reported seeing the following health professionals in the preceding 12 months: alcohol or drug worker, diabetes educator, dietician/nutritionist, GP, physiotherapist/hydrotherapist, psychologist, social worker/welfare officer, or specialist doctor.
- Transitioned ADF who were medically discharged were significantly more likely to have reported seeing a GP or specialist doctor in the preceding two weeks compared with Transitioned ADF members who were not medically discharged.

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

This chapter reports on use of health services among Transitioned ADF members and 2015 Regular ADF members. In addition to comparing the Transitioned ADF and the 2015 Regular ADF, results are reported for Transitional ADF according to transition status (Ex-Serving, Inactive Reservist, Active Reservist), DVA client status (DVA client, non-DVA client) and medical discharge status (medical discharge, non-medical discharge). Logistic regression models were adjusted for sex, age, rank and Service.

To assess health service use, respondents were asked about whether or not they had visited any of a number of health professionals or services in the preceding 12 months, excluding any time spent in hospital. Acknowledging the range of potential services and service providers that both Transitioned ADF and 2015 Regular ADF members might access, DVA-specific health services and programs were not the primary focus of this study and so were not specifically assessed. The following health professionals and services were examined:

- outpatients section of a hospital
- casualty of emergency ward
- day clinic for minor surgery or diagnostic tests (excluding x-ray)
- general practitioner
- specialist doctor
- dentist or dental professional
- accredited counsellor
- alcohol or drug worker
- psychologist
- social worker/welfare officer
- physiotherapist/hydrotherapist
- chiropractor
- osteopath

- diabetes educator
- dietician/nutritionist
- naturopath
- audiologist
- other.

Additionally, respondents were asked whether or not they had consulted a general practitioner or specialist doctor in the preceding two weeks and, if so, how many times this had happened.

## **12.1 Consultations with health professionals in the preceding 12 months**

### **12.1.1 Health professional consultations in the preceding 12 months in Transitioned ADF members compared with 2015 Regular ADF members**

Table 12.1 and Figures 12.1 and 12.2 show the estimated proportions of Transitioned ADF members and 2015 Regular ADF members who reported consulting health professionals or services in the preceding 12 months by type of profession or service. The most commonly consulted professionals or services overall were GPs, dentists or dental professionals, and specialist doctors. Analysis revealed a large number of significant between-group differences: only the strongest are presented here.

A total of 87.1% of Transitioned ADF members had visited a health service in the preceding 12 months compared with 90.7% of 2015 Regular ADF members. This difference remained significant after controlling for sex, age, rank and Service (OR 0.6, 95% CI 0.4, 0.8). Transitioned ADF (41.6%) were also significantly less likely to report seeing a dentist or dental professional than 2015 Regular ADF (70.2%; OR 0.3, 95% CI 0.2, 0.3), significantly less likely to report seeing a dietician/nutritionist (4.1% vs 6.9%; OR 0.5, 95% CI 0.4, 0.8) and significantly less likely to have seen a specialist doctor (38.0% vs 47.4%; OR 0.6, 95% CI 0.5, 0.8).

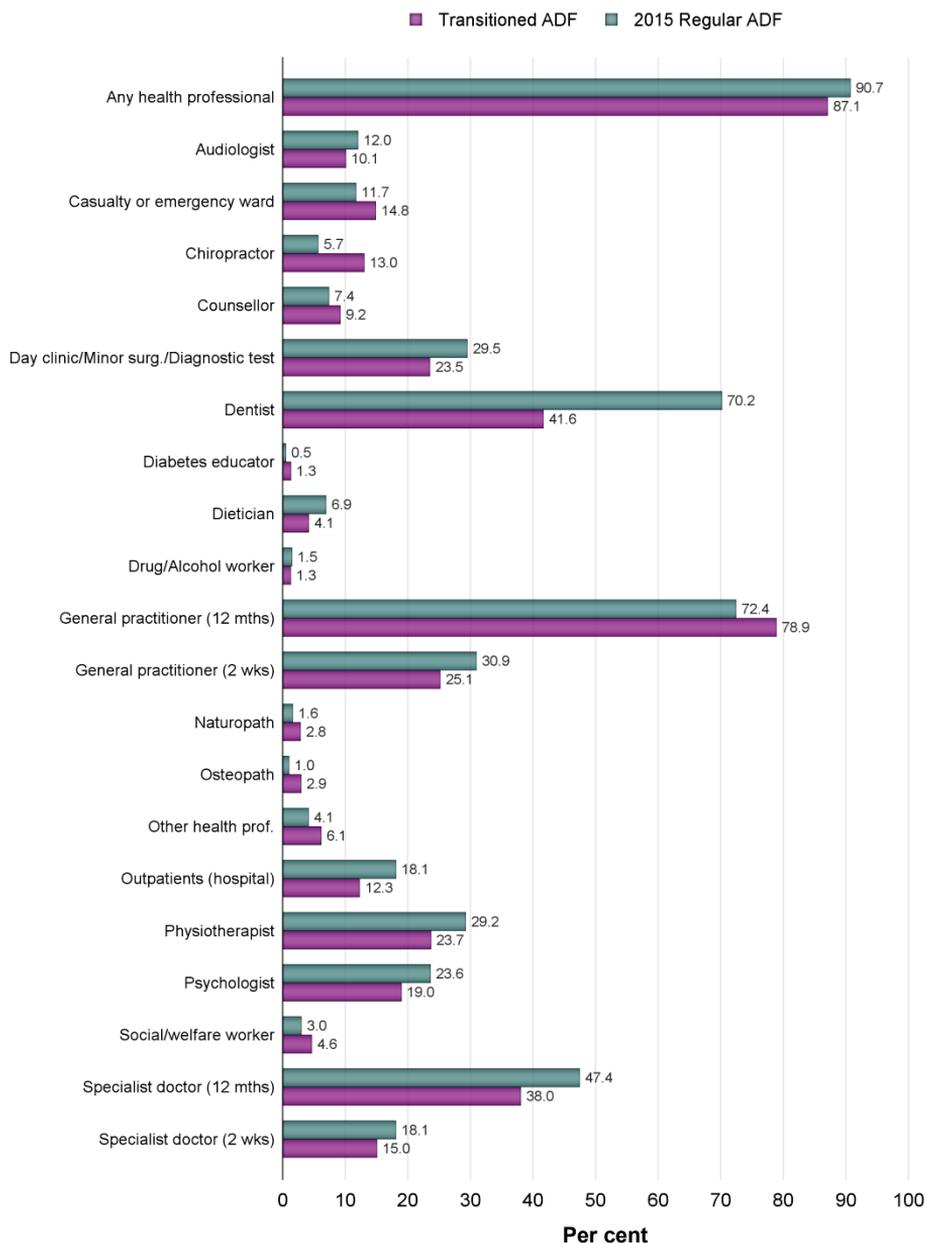
Transitioned ADF were significantly more likely to have seen a chiropractor (13.0% vs 5.7%; OR 2.5, 95% CI 1.7, 3.6), a diabetes educator (1.3% vs 0.5%; OR 2.3, 95% CI 1.5, 3.4) or an osteopath (2.9% vs 1.0%; OR 3.1, 95% CI 2.3, 4.3) compared with 2015 Regular ADF. In the preceding two weeks, Transitioned ADF members were significantly less likely to have seen a GP (25.2% vs 30.9%; OR 0.7, 95% CI 0.5, 0.9) or a specialist doctor (15.0% vs 18.1%; OR 0.7, 95% CI 0.6, 1.0) compared with 2015 Regular ADF.

**Table 12.1 Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks in Transitioned ADF members and 2015 Regular ADF members**

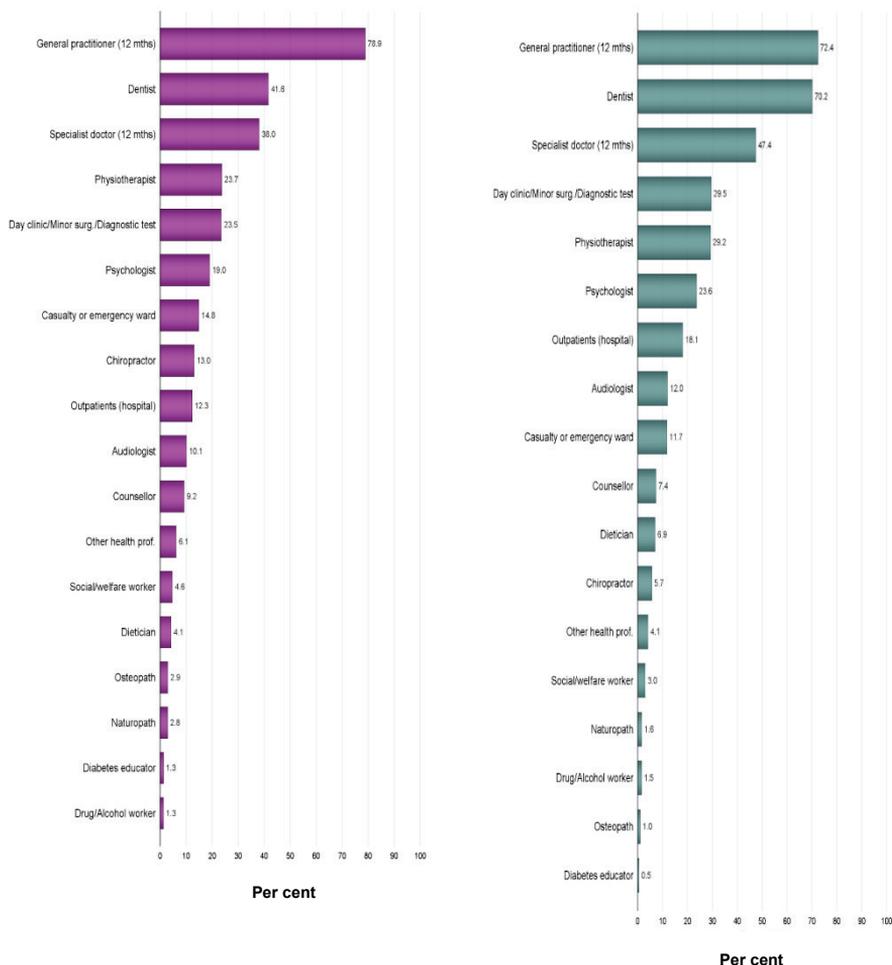
Health professional or service: preceding 12 months	Transitioned ADF (n = 24,932)			2015 Regular ADF (n = 52,500)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Alcohol or drug worker	46	318	1.3 (0.9, 1.8)	69	775	1.5 (0.6, 3.5)
Audiologist	456	2512	10.1 (9.1, 11.2)	883	6302	12.0 (9.4, 15.1)
Casualty or emergency ward	545	3702	14.9 (13.5, 16.3)	874	6143	11.7 (9.3, 14.6)
Chiropractor	487	3247	13.0 (11.7, 14.5)	501	2972	5.7 (4.3, 7.5)
Accredited counsellor	343	2293	9.2 (8.1, 10.4)	638	3866	7.4 (5.5, 9.8)
Day clinic for minor surgery or diagnostic tests (excl. x-ray)	1025	5859	23.5 (22.0, 25.1)	2297	15,471	29.5 (26.0, 33.2)
Dentist or dental professional	1788	10,378	41.6 (39.7, 43.6)	5584	36,832	70.2 (66.3, 73.8)
Diabetes educator	71	323	1.3 (1.0, 1.6)	64	255	0.5 (0.4, 0.7)
Dietician/nutritionist	186	1031	4.1 (3.5, 4.9)	584	3624	6.9 (5.2, 9.1)
General practitioner	3078	19,665	78.9 (77.1, 80.6)	5884	38,013	72.4 (68.7, 75.8)
Naturopath	117	703	2.8 (2.3, 3.5)	135	834	1.6 (0.8, 3.2)
Osteopath	121	730	2.9 (2.4, 3.6)	118	522	1.0 (0.8, 1.2)
Outpatients section of a hospital	504	3060	12.3 (11.1, 13.6)	1594	9491	18.1 (15.7, 20.8)
Physiotherapist/hydrotherapist	951	5903	23.7 (22.1, 25.3)	2254	15,340	29.2 (25.6, 33.1)
Psychologist	756	4726	19.0 (17.5, 20.5)	1699	12,390	23.6 (20.2, 27.4)
Social worker/welfare officer	159	1154	4.6 (3.8, 5.6)	287	1559	3.0 (2.3, 3.8)
Specialist doctor	1628	9478	38.0 (36.2, 39.8)	3964	24,901	47.4 (43.6, 51.3)
Other health professional	244	1527	6.1 (5.3, 7.1)	390	2158	4.1 (2.8, 6.0)
Any health professional	3362	21,706	87.1 (85.5, 88.5)	6990	47,618	90.7 (88.6, 92.5)
<b>Health professional: preceding two weeks</b>						
General practitioner	1005	6269	25.2 (23.5, 26.8)	2302	16,235	30.9 (27.3, 34.8)
Specialist doctor	618	3750	15.0 (13.8, 16.4)	1478	9485	18.1 (15.2, 21.4)

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

**Figure 12.1** Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks by Transitioned ADF members and 2015 Regular ADF members



**Figure 12.2** Estimated proportions of health professionals and services consulted in the preceding 12 months by Transitioned ADF members and 2015 Regular ADF members, by rank order



### 12.1.2 Health professional consultations in the preceding 12 months by Transitioned ADF, by DVA client status

Table 12.2 shows proportions of health professionals consulted in the preceding 12 months by Transitioned ADF members according to DVA client status. Overall, DVA clients were significantly more likely than non-DVA clients to report visiting a health professional (92.0% vs 83.3%; OR 1.9, 95% CI 1.4, 2.7). More specifically, DVA clients were significantly more likely to report seeing a GP (87.1% vs 71.9%; OR 2.4, 95% CI 1.9, 3.1), a psychologist (28.3% vs 9.6%; OR 3.9, 95% CI 3.0, 5.0) or a specialist doctor (51.1% vs 23.7%; OR 3.0, 95% CI 2.5, 3.6) when compared with non-DVA clients. Additionally, DVA clients were significantly more likely to report that they had visited

an alcohol or drug worker than non-DVA clients (1.9% vs 0.6%; OR 3.3, 95% CI 1.2, 8.9); although the numbers were relatively small, they were also significantly more likely to report that they had visited an audiologist than non-DVA clients (14.4% vs 5.7%; OR 2.3, 95% CI 1.7, 3.1) and significantly more likely to report seeing a dietician/nutritionist than non-DVA clients (5.8% vs 2.1%; OR 2.5, 95% CI 1.6, 3.8). DVA clients were also significantly more likely to report visiting another health professional than non-DVA clients (7.8% vs 4.6%; OR 1.6, 95% CI 1.1, 2.3) and significantly more likely to report visiting any other health professional than non-DVA clients (92.0% vs 83.3%; OR 1.9, 95% CI 1.4, 2.7).

In the preceding two weeks DVA clients were significantly more likely to report seeing a GP (33.9% vs 16.8%; OR 2.4, 95% CI 2.0, 3.0) and significantly more likely to report seeing a specialist doctor (23.2% vs 6.7%; OR 4.0, 95% CI 3.0, 5.3) compared with non-DVA clients.

**Table 12.2** Estimated proportions of health professionals and services consulted in the preceding 12 months and preceding two weeks by Transitioned ADF, by DVA client status

Health professional or service: preceding 12 months	DVA client (n = 10,511)			Non-DVA client (n = 11,167)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Alcohol or drug worker	31	198	1.9 (1.3, 2.8)	10	67	0.6 (0.3, 1.3)
Audiologist	315	1518	14.4 (12.8, 16.2)	85	638	5.7 (4.4, 7.4)
Casualty or emergency ward	307	1776	16.9 (15.0, 19.0)	180	1458	13.1 (11.0, 15.5)
Chiropractor	264	1633	15.5 (13.6, 17.8)	164	1210	10.8 (9.0, 13.1)
Accredited counsellor	224	1387	13.2 (11.4, 15.2)	92	694	6.2 (4.8, 8.0)
Day clinic for minor surgery or diagnostic tests (excl. x-ray)	624	3269	31.1 (28.7, 33.6)	282	1792	16.1 (13.9, 18.4)
Dentist or dental professional	946	4868	46.3 (43.6, 49.0)	651	4265	38.2 (35.2, 41.3)
Diabetes educator	40	173	1.7 (1.2, 2.3)	21	96	0.9 (0.6, 1.3)
Dietician/nutritionist	120	610	5.8 (4.8, 7.1)	42	235	2.1 (1.5, 3.0)
General practitioner	1631	9159	87.1 (85.0, 89.0)	1099	8025	71.9 (68.7, 74.8)
Naturopath	66	375	3.6 (2.7, 4.7)	42	270	2.4 (1.7, 3.4)
Osteopath	70	401	3.8 (2.9, 5.0)	36	209	1.9 (1.3, 2.8)
Outpatients section of a hospital	307	1588	15.1 (13.4, 17.0)	136	1037	9.3 (7.6, 11.4)
Physiotherapist/hydrotherapist	606	3342	31.8 (29.4, 34.3)	217	1611	14.4 (12.3, 16.9)
Psychologist	506	2969	28.3 (25.8, 30.8)	158	1074	9.6 (7.9, 11.6)
Social worker/welfare officer	106	678	6.5 (5.2, 8.0)	39	335	3.0 (2.0, 4.4)
Specialist doctor	1004	5370	51.1 (48.4, 53.8)	421	2641	23.7 (21.1, 26.4)
Other health professional	154	820	7.8 (6.5, 9.3)	67	519	4.6 (3.4, 6.3)
Any health professional	1715	9667	92.0 (90.1, 93.5)	1258	9301	83.3 (80.5, 85.8)
<b>Health professional: preceding two weeks</b>						
General practitioner	634	3565	33.9 (31.4, 36.5)	253	1870	16.8 (14.5, 19.3)
Specialist doctor	425	2434	23.2 (20.9, 25.5)	114	748	6.7 (5.4, 8.4)

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

### **12.1.3 Health professional consultations in the preceding 12 months by Transitioned ADF, by transition status**

Table 12.3 and Figure 12.3 show the estimated proportions of Transitioned ADF members who reported seeing each type of health professional or service in the preceding 12 months by transition status (Ex-Serving, Inactive Reservist, Active Reservist).

Overall, Ex-Serving ADF were more likely than both Inactive and Active Reservists to have reported receiving services from most types of health professionals in the preceding 12 months. In particular, Ex-Serving ADF members were more likely to have reported seeing every type of health professional than Inactive Reservists, with the exception of chiropractors, diabetes educators, naturopaths and osteopaths. The greatest difference was for an alcohol or drug worker, with Ex-Serving ADF members significantly more likely to have reported receiving this service than Inactive Reservists (1.9% vs 0.5%; OR 2.7, 95% CI 1.4, 5.2) and Active Reservists (1.9% vs 0.9%; OR 3.4, 95% CI 1.3, 9.0), although the numbers were relatively small.

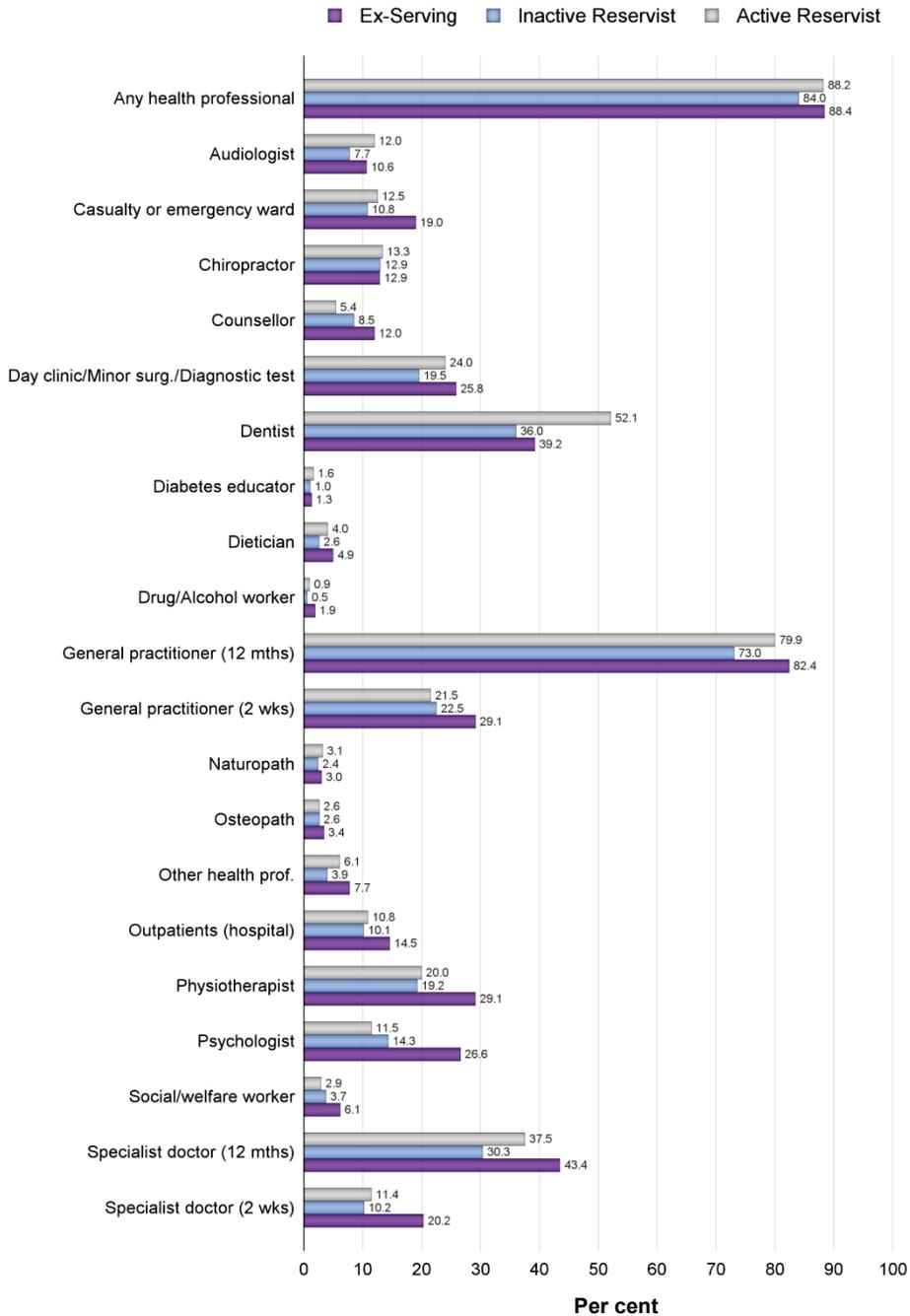
Ex-Serving ADF were significantly more likely than Active Reservists (21.9% vs 21.5%; OR 1.7, 95% CI 1.3, 2.1) and Inactive Reservists (22.5%; OR 1.4, 95% CI 1.1, 1.8) to report seeing a GP in the preceding two weeks. They were also significantly more likely than Active Reservists (20.3% vs 11.4%; OR 2.1, 95% CI 1.6, 2.7) and Inactive Reservists (10.2%; OR 2.3, 95% CI 1.7, 3.1) to report seeing a specialist doctor in the preceding two weeks.

**Table 12.3 Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks by Transitioned ADF, by transition status**

Health professional or service: preceding 12 months	Ex-Serving ADF (n = 10,937)			Inactive Reservists (n = 7470)			Active Reservists (n = 6405)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Alcohol or drug worker	27	206	1.9 (1.2, 2.9)	7	39	0.5 (0.2, 1.2)	11	59	0.9 (0.5, 1.7)
Audiologist	196	1161	10.6 (9.0, 12.5)	100	578	7.7 (6.1, 9.8)	158	767	12.0 (10.1, 14.1)
Casualty or emergency ward	277	2076	19.0 (16.7, 21.5)	126	806	10.8 (8.7, 13.3)	140	800	12.5 (10.4, 15.0)
Chiropractor	210	1405	12.9 (10.9, 15.0)	132	965	12.9 (10.5, 15.8)	144	854	13.3 (11.0, 16.0)
Accredited counsellor	192	1308	12.0 (10.1, 14.1)	87	634	8.5 (6.5, 11.0)	63	347	5.4 (4.1, 7.1)
Day clinic for minor surgery or diagnostic tests (excl. x-ray)	439	2824	25.8 (23.3, 28.6)	248	1459	19.5 (16.8, 22.5)	335	1536	24.0 (21.5, 26.6)
Dentist or dental professional	627	4286	39.2 (36.1, 42.3)	465	2689	36.0 (32.6, 39.6)	690	3336	52.1 (48.8, 55.4)
Diabetes educator	32	141	1.3 (0.9, 1.9)	19	78	1.0 (0.7, 1.5)	20	104	1.6 (1.0, 2.6)
Dietician/nutritionist	98	539	4.9 (3.9, 6.2)	32	192	2.6 (1.7, 4.0)	54	257	4.0 (3.1, 5.3)
General practitioner	1234	9011	82.4 (79.6, 84.9)	822	5456	73.0 (69.2, 76.5)	1014	5121	80.0 (76.9, 82.7)
Naturopath	54	325	3.0 (2.2, 4.1)	32	177	2.4 (1.6, 3.5)	31	201	3.1 (2.1, 4.7)
Osteopath	53	370	3.4 (2.5, 4.7)	31	194	2.6 (1.7, 4.0)	37	166	2.6 (1.9, 3.5)
Outpatients section of a hospital	257	1591	14.6 (12.6, 16.7)	115	756	10.1 (8.1, 12.6)	130	694	10.8 (9.0, 13.0)
Physiotherapist/hydrotherapist	473	3181	29.1 (26.4, 31.9)	216	1437	19.2 (16.4, 22.4)	260	1278	20.0 (17.5, 22.6)
Psychologist	452	2906	26.6 (24.0, 29.3)	158	1069	14.3 (11.9, 17.2)	144	734	11.5 (9.5, 13.8)
Social worker/welfare officer	93	672	6.1 (4.8, 7.8)	34	278	3.7 (2.4, 5.6)	31	184	2.9 (1.9, 4.3)
Specialist doctor	735	4750	43.4 (40.4, 46.5)	378	2266	30.3 (27.1, 33.8)	509	2402	37.5 (34.5, 40.6)
Other health professional	114	845	7.7 (6.2, 9.6)	54	294	3.9 (2.8, 5.5)	76	389	6.1 (4.7, 7.8)
Any health professional	1311	9666	88.4 (85.8, 90.5)	929	6275	84.0 (80.6, 86.9)	1109	5649	88.2 (85.6, 90.4)
<b>Health professional: preceding two weeks</b>									
General practitioner	500	3186	29.1 (26.5, 31.9)	236	1679	22.5 (19.4, 25.9)	266	1378	21.5 (19.0, 24.3)
Specialist doctor	341	2214	20.3 (18.1, 22.6)	119	762	10.2 (8.2, 12.7)	154	732	11.4 (9.7, 13.5)

Notes: Denominator – Transitioned ADF cohort. Total Transitioned ADF = 24,932 (Ex-Serving ADF = 10,937; Active Reservists = 6405; Inactive Reservists = 7470; Unknown = 120). Unknown are not included. For a full description of odds ratios, interpretation and strength of association, see Table B.2.

**Figure 12.3** Estimated proportions of health professionals and services consulted in the preceding 12 months and the preceding two weeks by Transitioned ADF, by transition status



#### **12.1.4 Health professionals and services consulted in the preceding 12 months by Transitioned ADF, by discharge status**

Table 12.4 shows consultations with health professionals and services in the preceding 12 months among Transitioned ADF by medical discharge status. Those with a medical discharge were more likely to report consulting a health professional when compared with those with another type of discharge, particularly for the following professionals.

Medically discharged Transitioned ADF were significantly more likely to have reported seeing an alcohol or drug worker (3.1% vs 0.8%; OR 3.8, 95% CI 1.8, 7.9), a diabetes educator (2.8% vs 0.9%; OR 5.1, 95% CI 3.2, 8.3), a dietician/nutritionist (9.3% vs 2.7%; OR 4.3, 95% CI 2.9, 6.2), a GP (90.5% vs 75.8%; OR 3.3, 95% CI 2.3, 4.7), a physiotherapist/hydrotherapist (43.0% vs 18.6 %; OR 3.5, 95% CI 2.8, 4.3), a psychologist (39.3% vs 13.6% ; OR 3.9, 95% CI 3.1, 4.9), a social worker/welfare officer (10.2% vs 3.2%; OR 3.2, 95% CI 2.1, 4.9) or a specialist doctor (62.9% vs 31.5%; OR 4.3, 95% CI 3.4, 5.3) when compared with those with another type of discharge. All reported associations were strong.

In the preceding two weeks Transitioned ADF who were medically discharged were significantly more likely to have reported seeing a GP (42.5% vs 20.6%; OR 2.9, 95% CI 2.3, 3.6) or a specialist doctor (31.5% vs 10.5%; OR 3.8, 95% CI 3.0, 4.8) compared with Transitioned ADF with another type of discharge.

**Table 12.4 Health professionals and services consulted in the preceding 12 months and preceding two weeks by Transitioned ADF, by medical discharge status**

Health professional or service: preceding 12 months	Medical discharge (n = 5138)			Other (n = 19,413)		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Alcohol or drug worker	20	158	3.1 (1.9, 4.9)	26	160	0.8 (0.5, 1.3)
Audiologist	153	802	15.5 (13.0, 18.4)	301	1702	8.8 (7.7, 10.0)
Casualty or emergency ward	185	1280	24.7 (21.3, 28.5)	358	2411	12.4 (11.0, 14.0)
Chiropractor	117	716	13.8 (11.3, 16.8)	363	2447	12.6 (11.1, 14.3)
Accredited counsellor	142	899	17.4 (14.5, 20.7)	198	1370	7.1 (5.9, 8.4)
Day clinic for minor surgery or diagnostic tests (excl. x-ray)	299	1774	34.2 (30.5, 38.2)	722	4052	20.9 (19.2, 22.7)
Dentist or dental professional	362	2086	40.3 (36.4, 44.3)	1405	8095	41.7 (39.5, 43.9)
Diabetes educator	31	147	2.8 (1.9, 4.1)	40	177	0.9 (0.7, 1.2)
Dietician/nutritionist	84	480	9.3 (7.3, 11.7)	100	526	2.7 (2.2, 3.4)
General practitioner	730	4688	90.5 (87.4, 92.9)	2316	14,714	75.8 (73.7, 77.9)
Naturopath	39	223	4.3 (3.0, 6.1)	77	476	2.6 (1.9, 3.2)
Osteopath	33	236	4.6 (3.1, 6.8)	87	480	2.5 (1.9, 3.2)
Outpatients section of a hospital	178	1033	20.0 (17.0, 23.3)	323	2002	10.3 (9.1, 11.7)
Physiotherapist/hydrotherapist	350	2228	43.0 (39.0, 47.1)	594	3606	18.6 (16.9, 20.4)
Psychologist	341	2038	39.3 (35.5, 43.4)	411	2642	13.6 (12.1, 15.3)
Social worker/welfare officer	77	526	10.2 (7.9, 13.0)	81	622	3.2 (2.4, 4.2)
Specialist doctor	528	3259	62.9 (58.7, 66.9)	1087	6120	31.5 (29.6, 33.6)
Other health professional	77	510	9.9 (7.6, 12.7)	165	1010	5.2 (4.3, 6.3)
Any health professional	752	4848	93.6 (90.8, 95.6)	2573	16,537	85.2 (83.3, 87.0)
<b>Health professional: preceding two weeks</b>						
General practitioner	355	2201	42.5 (38.5, 46.6)	641	3988	20.6 (18.8, 22.4)
Specialist doctor	265	1629	31.5 (27.8, 35.3)	346	2029	10.5 (9.2, 11.8)

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

---

## 13 Comparison of smoking, self-perceived health and doctor-diagnosed asthma among Transitioned ADF members compared with the Australian community in 2015

### Transitioned ADF members and the Australian community: comparisons

- Compared with the Australian community, the proportion of Transitioned ADF members reporting 'current smoking' was significantly lower (15.2% vs 21.9%), reporting being 'former smokers' was significantly higher (53.9% vs 28.8%) and reporting having 'never smoked' was significantly lower (29.5% vs 49.2%).
- The overall patterns observed in the Transitioned ADF and the Australian community in relation to smoking were consistent in males and females and by age group.
- Compared with the Australian community, the proportion of Transitioned ADF who rated their health as excellent (8.9% vs 19.2%) or very good (26.4% vs 37.5%) was significantly lower; the proportion of those who rated their health as fair (23.9% vs 10.1%) or poor (11.1% vs 3.1%) was significantly higher.
- The overall patterns observed in the Transitioned ADF and the Australian community in relation to self-perceived health were consistent in males and females and by age group.
- The proportion of Transitioned ADF who reported doctor-diagnosed asthma was significantly lower than in the Australian community (Transitioned ADF, 15.3%; vs Australian community, 21.9%).
- The overall patterns observed among Transitioned ADF and in the Australian community in relation to doctor-diagnosed asthma were consistent in males and females and by age group.

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

This chapter examines self-reported perceptions of health, smoking status and asthma among Transitioned ADF members and the Australian community. In order to situate the physical health of Transitioned ADF members within the broader Australian community, contemporaneous data obtained from the 2014–2015 ABS National Health Survey (Australian Bureau of Statistics, 2015) were used for the sample, 'Australian Community'. Comparisons were limited, however, to variables for which there were comparable data available – namely, to those based on smoking status, self-perceived health status and asthma assessed using questions taken from the National Health

Survey. Further details about how each of the measures was scored are provided in the sections that follow.

To enable comparison of estimates for Transitioned ADF with the Australian Community population sample, direct standardisation was applied to estimates in the 2014–2015 ABS National Health Survey data. The NHS is the most recent in a series of Australia-wide ABS health surveys, assessing various aspects of the health of Australians, including long-term health conditions, health risk factors and health service use. The NHS data were restricted to people aged 18–71 years (consistent with the Transitioned ADF). The data were standardised by sex, employment status (employed or not) and age category (18–27, 28–37, 38–47, 48–57 and 58+), and estimates were generated on the outcomes of interest. Standard errors for the NHS data were estimated using the replication weights provided in the NHS data file.

In addition to providing estimated proportions who reported each outcome in the two samples, this chapter compares rates according to two key demographic factors – sex (male, female) and age 18–27, 28–37, 38–47, 48–57, 58+).<sup>2</sup>

Significant differences were determined by calculating the confidence intervals on the difference in proportions, and if these included unity they were not considered significant.

## **13.1 Smoking status in Transitioned ADF members and the Australian Community**

### **13.1.1 Smoking status**

Smoking status was assessed with four items asking whether the respondent currently smoked, had ever tried smoking cigarettes or other forms of tobacco, ever smoked a full cigarette, cigar or pipe, or had smoked the equivalent of 100 cigarettes (or the equivalent amount of tobacco) in their lifetime. Participants were then classified as:

- current smoker
- former smoker
- never smoked.

Table 13.1 and Figure 13.1 show the responses for Transitioned ADF members and the Australian Community. The estimated prevalence of ‘current smoking’ among Transitioned ADF (15.2%) was significantly lower than in the Australian Community (21.9%). The proportion of Transitioned ADF who were ‘former smokers’ (53.9%) was

---

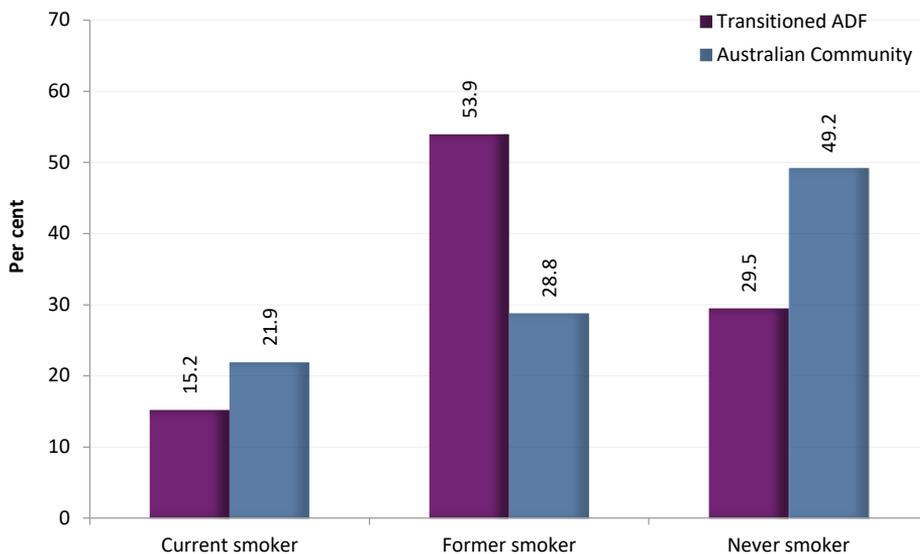
<sup>2</sup> Note that the age ranges reported here for the Australian community are matched to those used in the Transition and Wellbeing Research Programme. They are not the same age bands as reported in the National Health Survey.

significantly higher in than the Australian Community (28.8%), and the proportion of participants who had ‘never smoked’ was significantly lower among Transitioned ADF (29.5%) compared with the Australian community (49.2%).

**Table 13.1** Estimated prevalence of smoking: Transitioned ADF members compared with the Australian Community

Smoking status	Transitioned ADF (n = 24,932)			Australian Community			Difference		
	%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
Current smoker	15.2	0.7	13.8, 16.7	21.9	0.8	20.3, 23.5	-6.7	1.1	-8.8, -4.6
Former smoker	53.9	1.0	52.0, 55.9	28.8	0.9	27.1, 30.4	25.2	1.3	22.6, 27.7
Never smoker	29.5	0.9	27.8, 31.3	49.2	0.9	47.4, 51.1	-19.7	1.3	-22.2, -17.1

**Figure 13.1** Estimated prevalence of smoking: Transitioned ADF members compared with the Australian Community



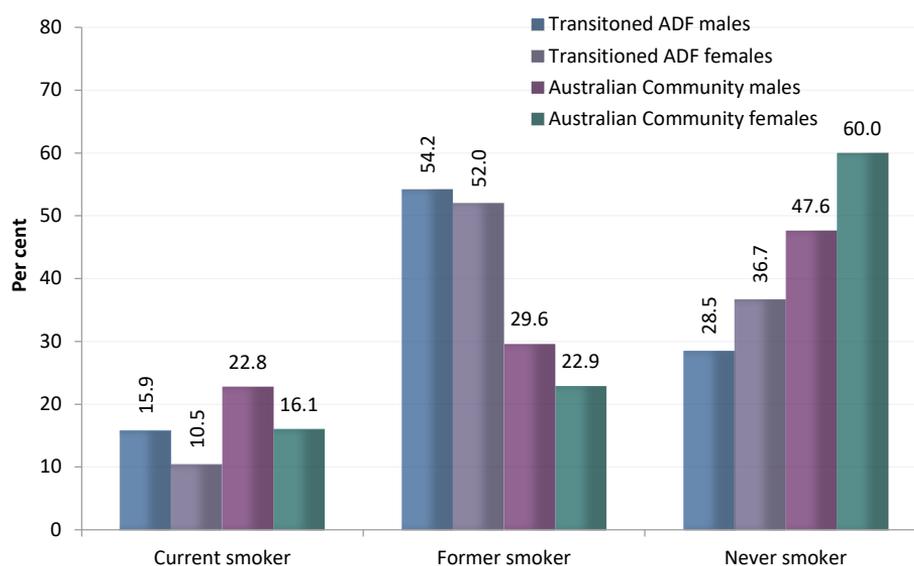
### 13.1.2 Smoking status, by sex

Table 13.2 and Figure 13.2 show smoking status for male and female Transitioned ADF members compared with the Australian Community. As with the pattern observed in the population in general, Transitioned ADF males were significantly less likely to be current smokers (15.9% vs 22.8%) and significantly more likely to be former smokers (22.8% vs 47.6%) compared with the Australian Community. A similar pattern emerged for females: Transitioned ADF females were significantly less likely to be current smokers (10.5%) compared with the Australian Community (16.1%).

**Table 13.2** Estimated prevalence of smoking in Transitioned ADF members compared with the Australian Community, by sex

Sex	Smoking status	Transitioned ADF (n = 24,932)			Australian Community			Difference		
		%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
Male	Current smoker	15.9	0.8	14.4, 17.5	22.8	0.9	21.0, 24.6	-6.9	1.2	-9.3, -4.5
	Former smoker	54.2	1.1	52.1, 56.3	29.6	1.0	27.7, 31.6	24.6	1.5	21.7, 27.4
	Never smoker	28.5	1.0	26.6, 30.4	47.6	1.1	45.5, 49.7	-19.1	1.5	-22.0, -16.3
Female	Current smoker	10.5	1.5	7.9, 13.9	16.1	0.8	14.6, 17.6	-5.6	1.7	-8.9, -2.3
	Former smoker	52.0	2.3	47.5, 56.5	22.9	0.8	21.3, 24.5	29.1	2.4	24.3, 33.9
	Never smoker	36.7	2.2	32.4, 41.2	60.0	1.0	58.0, 61.9	-23.3	2.4	-28.1, -18.5

**Figure 13.2** Estimated prevalence of smoking in Transitioned ADF members compared with the Australian Community, by sex



### 13.1.3 Smoking status, by age group

Table 13.3 and Figure 13.3 show smoking status for Transitioned ADF members and the Australian Community by age group. Transitioned ADF in the 18–27, 28–37 and 38–47 age groups were significantly less likely to be current smokers and significantly less likely to report they had never smoked compared with the Australian Community. For example, approximately 15% of each age group (12.2% to 15.9%) reported current smoking in the Transitioned ADF compared with approximately 22% in each age group in the Australian Community sample (14.5% and 23.7%).

**Table 13.3 Estimated prevalence of smoking in Transitioned ADF members compared with the Australian community, by age group**

Age group	Smoking status	Transitioned ADF (n = 24,932)			Australian Community			Difference		
		%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
18–27	Current smoker	15.4	1.9	12.0, 19.6	20.6	1.5	17.5, 23.6	-5.1	2.5	-9.9, -0.3
	Former smoker	53.7	2.7	48.3, 59.0	16.5	1.6	13.4, 19.5	37.2	3.1	31.1, 4.4
	Never smoked	29.3	2.5	24.7, 34.4	63.0	1.9	59.2, 66.7	-33.7	3.1	-39.8, -27.5
28–37	Current smoker	15.9	1.4	13.3, 18.8	23.3	1.6	20.1, 26.4	-7.4	2.1	-11.6, -3.2
	Former smoker	54.7	1.8	51.1, 58.3	25.1	1.7	21.8, 28.5	29.6	2.5	24.6, 34.5
	Never smoked	27.7	1.6	24.6, 31.0	51.6	2.0	47.7, 55.5	-23.9	2.6	-28.9, -18.9
38–47	Current smoker	15.4	1.3	12.9, 18.2	23.7	1.8	20.1, 27.3	-8.3	2.3	-12.8, -3.9
	Former smoker	50.8	1.8	47.2, 54.4	31.8	2.0	28.0, 35.7	19.0	2.7	13.7, 34.3
	Never smoked	32.9	1.7	29.6, 36.4	44.5	1.9	40.7, 4.2	-11.6	2.6	-16.6, -6.25
48–57	Current smoker	14.7	1.2	12.5, 17.2	21.9	1.6	18.8, 25.0	-7.2	2.0	-11.1, -3.3
	Former smoker	54.8	1.9	51.1, 58.4	41.3	1.8	37.7, 44.9	13.5	2.6	8.4, 18.6
	Never smoked	29.6	1.7	26.4, 33.0	36.9	1.7	33.6, 40.1	-7.3	2.4	-11.9, -2.6
58+	Current smoker	12.2	1.8	9.1, 16.2	14.5	1.2	12.2, 16.7	-2.2	2.1	-6.4, 2.0
	Former smoker	61.0	2.1	56.8, 65.1	48.5	1.5	45.5, 51.5	12.5	2.6	7.3, 17.6
	Never smoked	25.5	1.7	22.3, 28.9	35.3	1.5	32.4, 38.2	-9.8	2.3	-14.3, -5.4

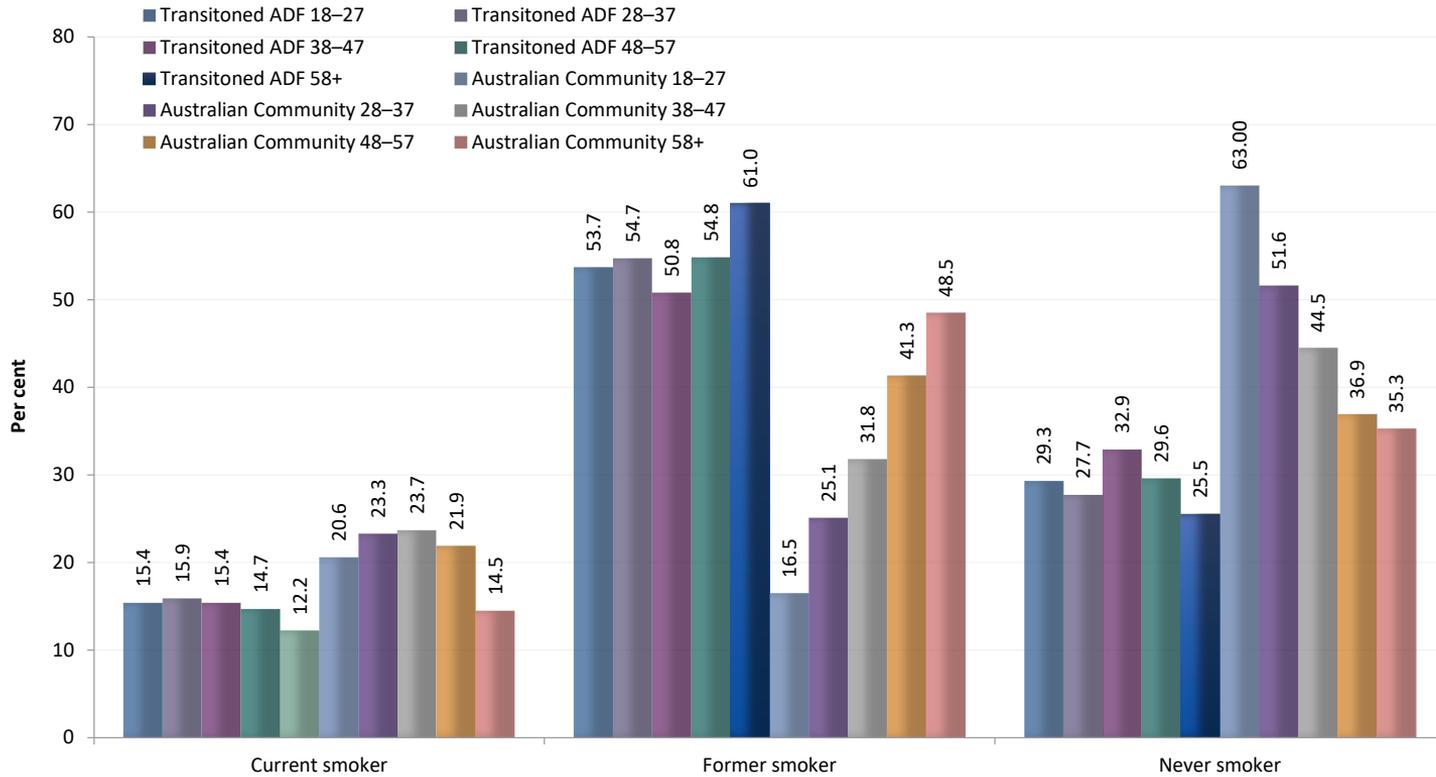
## 13.2 Self-perceived health in Transitioned ADF members and the Australian Community

### 13.2.1 Self-perceived health in general

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

Table 13.4 and Figure 13.4 show the distribution of responses for Transitioned ADF members compared with the Australian Community. The estimated proportion of respondents who perceived their health to be excellent was lower for the Transitioned ADF (8.9%) than for the Australian Community (19.2%). Similarly, the estimated proportion of Transitioned ADF who perceived their health to be very good was lower compared with the Australian Community (26.4% vs 37.5%). Additionally, the estimated proportion of Transitioned ADF who perceived their health to be fair (23.9% vs 10.1%) or poor (11.1% vs 3.1%) was higher compared with the Australian Community. Overall, there is a very strong shift to the right in the distribution for the Transitioned ADF compared with the Australian Community.

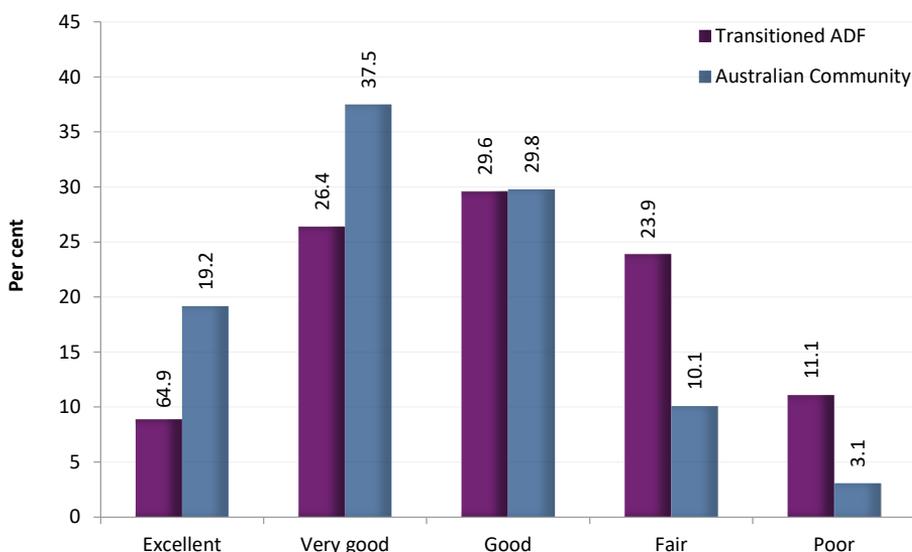
**Figure 13.3** Estimated prevalence of smoking in Transitioned ADF members compared with the Australian Community, by age group



**Table 13.4** Estimated prevalence of self-perceived health in general in Transitioned ADF members compared with the Australian Community

Self-perceived health	Transitioned ADF (n = 24,932)			Australian Community			Difference		
	%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
Excellent	8.9	0.6	7.8, 10.1	19.2	0.7	17.8, 20.6	-10.3	0.9	-12.1, -8.5
Very good	26.4	0.8	24.5, 28.1	37.5	0.9	35.6, 39.3	-11.1	1.3	-13.6, -8.6
Good	29.6	0.9	28.0, 31.4	29.8	0.8	28.2, 31.3	-0.1	1.2	-2.4, 2.2
Fair	23.9	0.8	22.4, 25.4	10.1	0.6	8.9, 11.2	13.8	0.9	11.9, 15.7
Poor	11.1	0.5	10.1, 12.3	3.1	0.3	2.6, 3.7	8.0	0.6	6.8, 9.2

**Figure 13.4** Estimated prevalence of self-perceived health in general responses in Transitioned ADF members compared with the Australian Community



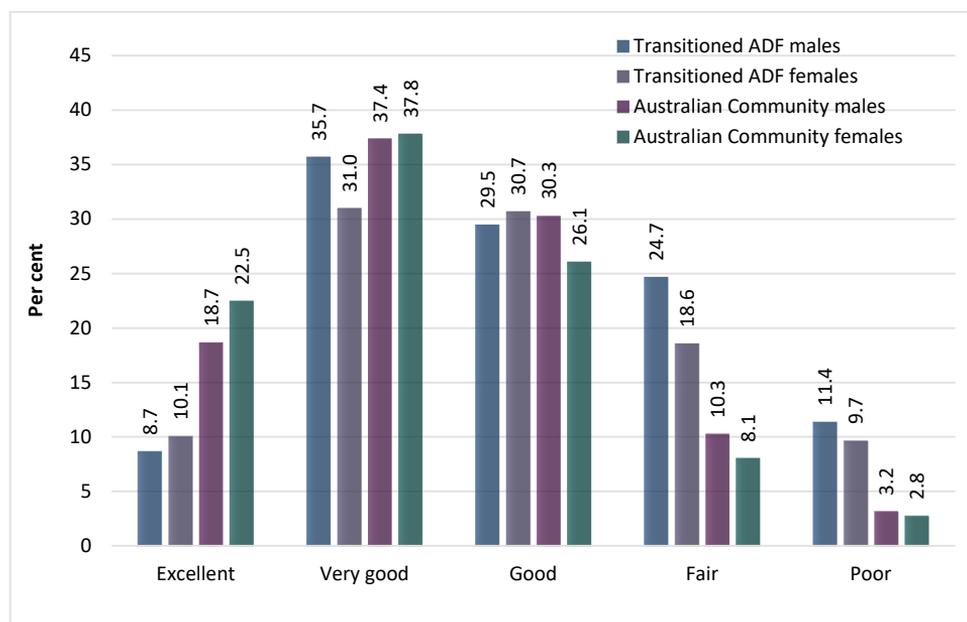
### 13.2.2 Self-perceived health in general, by sex

Table 13.5 and Figure 13.5 show self-perceived health in general for males and females in Transitioned ADF members compared with the Australian Community. Transitioned ADF males (8.7%) were significantly less likely to report excellent self-perceived health compared with the Australian Community (18.7%). They were also significantly less likely to report very good self-perceived health compared with the Australian Community (25.7% vs 37.4%). ADF males were significantly more likely to report fair self-perceived health (24.7%) compared with the Australian Community (10.3%); similarly, they were significantly more likely to report poor self-perceived health (11.4%) compared with the Australian Community (3.2%).

**Table 13.5 Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by sex**

Sex	Self-perceived health	Transitioned ADF (n = 24,932)			Australian Community			Difference		
		%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
Male	Excellent	8.7	0.6	7.6, 10.0	18.7	0.8	17.1, 20.2	-10.0	1.0	-12.0, -8.0
	Very good	25.7	0.9	23.9, 27.5	37.4	1.1	35.3, 39.5	-11.7	1.4	-14.5, -9.0
	Good	29.5	1.0	27.7, 31.4	30.3	0.9	28.6, 32.1	-0.9	1.3	-3.4, 1.7
	Fair	24.7	0.9	23.0, 26.4	10.3	0.7	9.0, 11.7	14.3	1.1	12.2, 16.4
	Poor	11.4	0.6	10.3, 12.6	3.2	0.3	2.6, 3.8	8.2	0.7	6.8, 9.4
Female	Excellent	10.1	1.5	7.6, 13.3	22.5	0.8	21.0, 24.1	-12.5	1.7	-15.7, -9.2
	Very good	31.0	2.1	27.0, 35.2	37.8	0.9	35.7, 39.7	-6.9	2.3	-11.4, -2.4
	Good	30.7	2.1	26.7, 34.9	26.1	0.9	24.2, 27.9	4.6	2.3	0.1, 9.1
	Fair	18.6	1.4	16.0, 21.5	8.1	0.6	7.0, 9.2	10.5	1.5	7.6, 13.5
	Poor	9.7	1.1	7.7, 12.1	2.8	0.4	2.1, 3.5	6.9	1.2	4.6, 9.2

**Figure 13.5 Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by sex**



The same pattern was evident for females. Transitioned ADF females (10.1%) were significantly less likely to report excellent self-perceived health compared with the Australian Community (22.5%), significantly less likely to report very good self-perceived health (31.0% vs 37.8%) but significantly more likely to report good (30.7% vs 26.1%), fair (18.6% vs 8.1%) or poor self-perceived health (9.7% vs 2.8%) compared with the Australian Community.

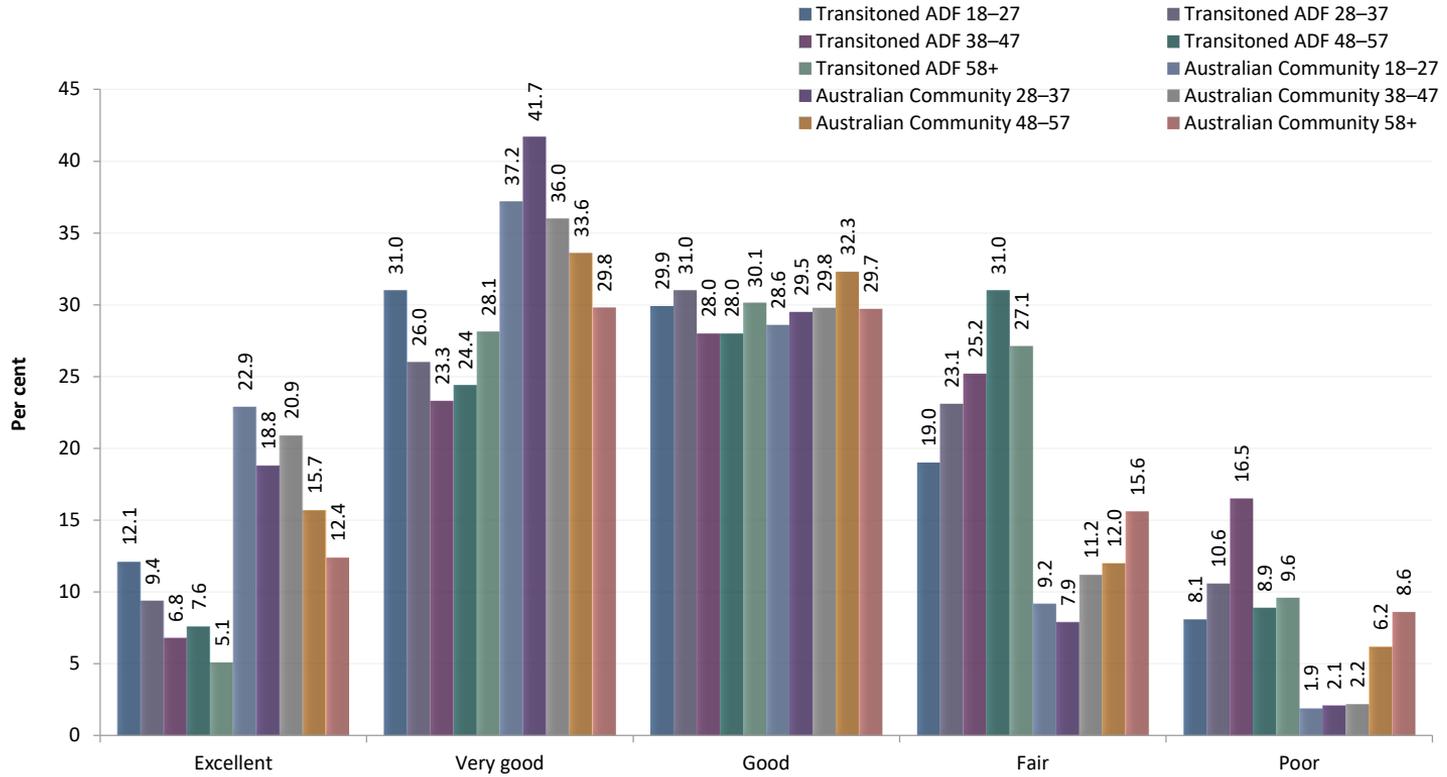
### 13.2.3 Self-perceived health in general, by age group

Table 13.6 and Figure 13.6 show self-perceived health in general in Transitioned ADF members and the Australian Community by age group. Transitioned ADF in all groups were significantly less likely to report excellent self-perceived health compared with the Australian Community. With the exception of those aged 58+, they were also less likely to report very good self-perceived health and more likely to report fair or poor self-perceived health.

**Table 13.6 Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by age group**

Age groups	Self-perceived health	Transitioned ADF (n = 24,932)			Australian Community			Difference		
		%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
18–27	Excellent	12.1	1.7	9.0, 15.9	22.9	1.6	19.7, 26.0	-10.8	2.4	-15.5, -6.2
	Very good	31.0	2.4	26.5, 35.9	37.2	2.0	33.3, 41.1	-6.2	3.1	-12.4, -0.1
	Good	29.9	2.3	25.5, 34.6	28.6	1.8	25.2, 32.0	1.2	2.9	-4.5, 7.0
	Fair	19.0	1.9	15.5, 23.0	9.2	1.2	6.9, 11.5	9.7	2.3	5.3, 14.2
	Poor	8.1	1.3	6.0, 11.0	1.9	0.5	1.0, 2.8	6.2	1.4	3.5, 8.8
28–37	Excellent	9.4	1.0	7.6, 11.5	18.8	1.3	16.3, 21.3	-9.5	1.6	-12.6, -6.2
	Very good	26.0	1.5	23.1, 29.1	41.7	1.9	37.9, 45.5	-15.7	2.5	-20.6, -10.9
	Good	31.0	1.7	27.9, 34.6	29.5	1.5	26.6, 32.5	1.5	2.2	-2.9, 5.9
	Fair	23.1	1.4	20.4, 26.0	7.9	1.0	5.8, 9.9	15.2	1.8	11.7, 18.7
	Poor	10.6	1.0	8.8, 12.7	2.1	0.5	1.2, 3.0	8.5	1.1	6.3, 10.6
38–47	Excellent	6.8	1.0	5.1, 9.0	20.9	1.7	17.5, 24.2	-14.1	2.0	-18.0, -6.3
	Very good	23.3	1.5	20.4, 26.0	36.0	1.9	32.2, 39.7	-12.7	2.4	-17.5, -7.9
	Good	28.0	1.5	25.1, 31.0	29.8	1.6	26.5, 32.9	-1.8	2.2	-6.2, 2.5
	Fair	25.2	1.5	22.4, 28.2	11.2	1.6	8.1, 14.4	13.9	2.2	9.6, 18.7
	Poor	16.5	1.3	14.1, 19.2	2.2	0.6	1.0, 3.3	14.3	1.4	11.6, 17.1
48–57	Excellent	7.6	1.1	5.7, 10.1	15.7	1.1	13.5, 17.8	-8.1	1.6	-11.1, -5.0
	Very good	24.4	1.5	21.6, 27.6	33.6	1.6	30.4, 36.9	-9.2	2.2	-13.6, -4.8
	Good	28.0	1.6	25.0, 31.2	32.3	1.8	28.9, 35.8	-4.3	2.4	-8.9, 0.4
	Fair	31.0	1.7	27.8, 34.4	12.0	1.2	9.7, 14.3	18.9	2.0	14.9, 22.9
	Poor	8.9	0.8	7.5, 10.7	6.2	1.1	4.1, 8.3	2.7	1.3	0.1, 5.4
58+	Excellent	5.1	0.8	3.7, 7.0	12.4	1.1	10.3, 14.5	-7.4	1.4	-10.0, -4.7
	Very good	28.1	1.9	24.6, 31.9	29.8	1.4	26.9, 32.6	-1.6	2.3	-6.3, 3.0
	Good	30.1	1.9	26.6, 33.9	29.7	1.5	26.7, 32.6	0.5	2.4	-4.2, 5.2
	Fair	27.1	1.9	23.6, 30.9	15.6	1.1	13.4, 17.8	11.5	2.1	7.3, 15.7
	Poor	9.6	1.4	7.1, 12.8	8.6	0.9	6.8, 10.3	1.0	1.7	-2.3, 4.3

Figure 13.6 Self-perceived health in general in Transitioned ADF members compared with the Australian Community, by age group



### 13.3 Ever doctor-diagnosed asthma in Transitioned ADF members and the Australian Community

#### 13.3.1 Ever doctor-diagnosed asthma in general

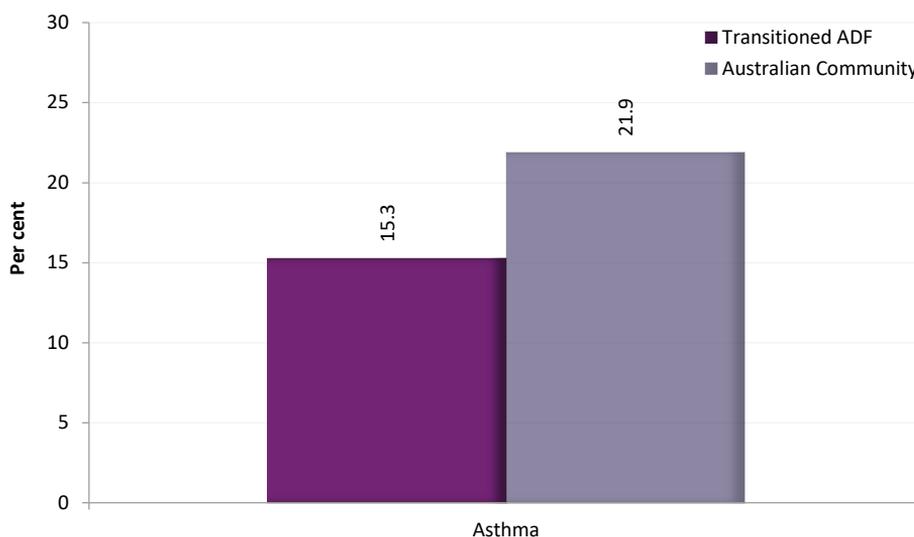
Self-reported asthma was assessed by a single item in the 2014–2015 ABS National Health Survey – ‘Have you ever been told by a doctor or nurse that you have asthma?’ For the present study, respondents were asked if they had ever had asthma in their lifetime and were further asked whether the asthma had been confirmed by a doctor. For the purposes of this chapter, only respondents reporting confirmation by a doctor were defined as having ‘ever doctor-diagnosed’ asthma.

Table 13.7 and Figure 13.7 show the estimated prevalence of self-reported doctor-diagnosed asthma among Transitioned ADF members compared with the Australian Community. Asthma prevalence was significantly lower among Transitioned ADF compared with the Australian Community (15.3% vs 21.9%).

**Table 13.7** Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community

	Transitioned ADF (n = 24,932)			Australian Community			Difference		
	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)	n	Weighted n	% (95% CI)
Asthma	15.3	0.8	13.8, 16.9	21.9	0.9	20.2, 23.5	-6.6	1.2	-8.9, -4.3

**Figure 13.7** Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community



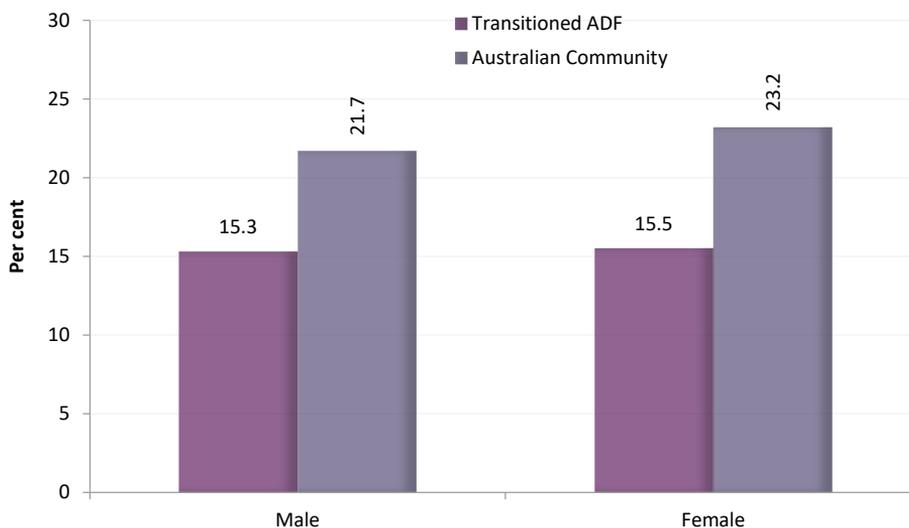
### 13.3.2 Ever doctor-diagnosed asthma, by sex

Table 13.8 and Figure 13.8 show the estimated prevalence of self-reported ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community by sex. Transitioned ADF males (15.3%) were significantly less likely to report ever doctor-diagnosed asthma compared with males in the Australian Community (21.7%). The same pattern was apparent for females: Transitioned ADF females (15.5%) were significantly less likely to report ever doctor-diagnosed asthma than females in the Australian Community (23.2%).

**Table 13.8 Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community, by sex**

Sex	Transitioned ADF (n = 24,932)			Australian Community			Difference		
	%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
Male	15.3	0.9	13.7, 17.1	21.7	1.0	19.7, 23.6	-6.4	1.3	-9.0, -3.8
Female	15.5	1.8	12.3, 19.3	23.2	0.9	21.5, 24.9	-7.7	2.0	-11.6, -3.9

**Figure 13.8 Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community, by sex**



### 13.3.3 Ever doctor-diagnosed asthma, by age group

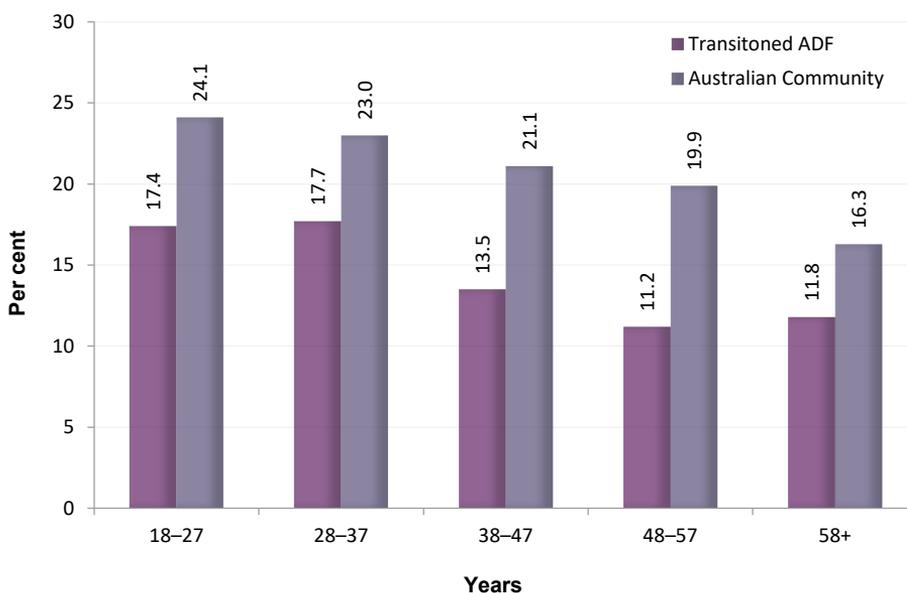
Table 13.9 and Figure 13.9 show the estimated prevalence of self-reported ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community by age. There were significant differences between the two cohorts in all age groups. Transitioned ADF aged 18–27 years were significantly less likely (17.4%) to

report ever doctor-diagnosed asthma than the Australian Community (24.1%). This was also the case for those aged 28–37 years (17.7% vs 23.0%), those aged 38–47 years (11.2% vs 19.9%), 48–57 years (11.2% vs 19.9%) and 58+ years (11.8% vs 16.3%).

**Table 13.9** Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian Community, by age

Age group	Transitioned ADF (n = 24,932)			Australian Community			Difference		
	%	SE	95% CI	%	SE	95% CI	%	SE	95% CI
18–27	17.4	2.2	13.1, 21.9	24.1	1.6	20.9, 27.2	-7.0	2.7	-12.4, -1.7
28–37	17.7	1.6	14.8, 20.9	23.0	1.8	19.5, 26.4	-5.3	2.3	-9.9, -0.7
38–47	13.5	1.3	11.1, 16.3	21.1	1.9	17.3, 24.9	-7.6	2.3	-12.2, -3.0
48–57	11.2	1.2	9.1, 13.8	19.9	1.6	16.7, 23.1	-8.7	2.0	-12.7, -4.7
58+	11.8	1.4	9.3, 14.8	16.3	1.1	14.2, 18.5	-4.5	1.8	-8.0, -1.1

**Figure 13.9** Estimated prevalence of ever doctor-diagnosed asthma in Transitioned ADF members compared with the Australian community, by age





---

## 14 Discussion

This study forms part of the Mental Health and Wellbeing Transition Study, which comes within the Transition and Wellbeing Research Programme. The primary aim of the present study is to compare the physical health of ADF members who transitioned out of full-time regular service in the five-year period between January 2010 and December 2014 (referred to as Transitioned ADF members) with that of full-time serving ADF members in 2015 (referred to as 2015 Regular ADF members). The specific areas of study are health symptoms, doctor-diagnosed medical conditions, respiratory health, injuries, pain, sleep problems, lifestyle risk factors (BMI, physical activity and smoking), self-perceived health and quality of life, and use of health services.

The study also compares the physical health status of Transitioned ADF members according to their transition status (Ex-Serving, Active Reservist, Inactive Reservist), DVA client status (DVA client, non-DVA client) and discharge status (medical discharge, non-medical discharge). The transition status groups broadly represent members' level of continued association and contact with Defence as well as their potential access to support services provided by Defence. By definition in this study, 'DVA clients' includes those receiving a fortnightly payment, treatment card holders, and those who have had their illness or injury liability claim accepted as service-related and were therefore more likely to have physical and/or psychological health condition(s) that met eligibility requirements. Because not all Transitioned ADF are or become DVA clients, the health of Transitioned ADF who were non-DVA clients is also compared. As a summary measure, discharge status was grouped as medical discharge or other (non-medical) discharge. It was expected that those who were medically discharged would probably have demonstrated poorer physical/mental health in order to be eligible for medical discharge status.

In addition, the study compares selected risk factors and physical health outcomes (smoking status, self-reported doctor-diagnosed asthma and quality of life) among Transitioned ADF members with an Australian community sample.

### 14.1 Overall patterns in physical health

Some clear patterns emerged during the analysis and interpretation of the study findings. The magnitude and variation in differences are discussed elsewhere in this report, but in a comprehensive study and a complex report such as this it is also useful to consider general patterns.

### **14.1.1 Physical health outcomes in Transitioned ADF members and 2015 Regular ADF members**

Overall, poorer physical health outcomes were reported for Transitioned ADF members compared with 2015 Regular ADF members. Although the majority of both Transitioned ADF and 2015 Regular ADF reported their health to be excellent, very good or good, self-reported use of any health service in the preceding 12 months was significantly lower among Transitioned ADF. The findings for Transitioned ADF compared with 2015 Regular ADF in relation to the research questions revealed a number of general patterns:

- The weighted demographic characteristics of Transitioned ADF compared with 2015 Regular ADF showed that a greater proportion of Transitioned ADF were middle-aged or older, were female, had a diploma (but fewer had a university degree), were of a rank other than Officer or NCO, had served in the Army, were classified as medically unfit, and reported having less than eight years of service. Relationship status and housing stability were similar for the two cohorts.
- Transitioned ADF reported poorer health for most health outcome indicators.
- Transitioned ADF had a higher level of reporting general health symptoms but a similar pattern of symptom reporting.
- Transitioned ADF reported higher levels for some but not all doctor-diagnosed medical conditions.
- Transitioned ADF members reported some respiratory symptoms more commonly but were not more likely to report 'asthma ever' in their lifetime.
- Transitioned ADF reported a slightly higher mean number of service-related injury types compared with 2015 Regular ADF. In both cohorts the most common service-related injury types were musculoskeletal injury and fracture/broken bone. Their most common musculoskeletal injury sites were similar.
- Transitioned ADF reported similar pain intensity and disability during the preceding six months.
- Transitioned ADF overall were more likely to report clinical insomnia and moderate or severe insomnia during the preceding two weeks than 2015 Regular ADF.
- In relation to lifestyle risk factors, Transitioned ADF had a higher level of reporting physical inactivity compared with 2015 Regular ADF. The cohorts did not differ for the risk factors of BMI in the pre-obese and obese range and current, former or ever smoking status.

- Transitioned ADF were more likely to rate their self-perceived health as fair–poor (as opposed to excellent–good), to be dissatisfied with their health and to have low self-perceived quality of life (poor vs good). Compared with 2015 Regular ADF, they were more likely to report poorer physical health (poor–fair vs good–excellent) but were similar in terms of satisfaction with life.
- Transitioned ADF were less likely to report use of any health services in the preceding 12 months compared with 2015 Regular ADF. For both groups the most commonly consulted health professionals were GPs, dentists/dental professionals and specialist doctors. Dentists/dental professionals and specialist doctors were less likely and GPs were more likely to have been consulted by Transitioned ADF in the preceding 12 months compared with 2015 Regular ADF.
- Transitioned ADF were less likely to be current smokers and to have doctor-diagnosed asthma but more likely to report poorer self-perceived health than the Australian community.

The study assessed lifestyle risk factors, which are complex risk factors for non-communicable diseases (Australian Institute of Health and Welfare, 2012). In interpreting these findings, some considerations should be taken into account. First, physical inactivity and the prevalence of obesity (BMIs in the pre-obese and obese ranges) in Transitioned ADF include the reporting of physical conditions that could contribute to greater difficulty for the transitioned group to exercise and maintain body weight. Second, a consideration for reduced physical activity after separation from the ADF is that it is no longer necessary to pass a fitness test. Finally, BMI is based on height and weight, and some caution is required in relation to interpretation of BMI in the pre-obese range in particular, since BMI does not discriminate between higher muscle-mass and fat (Nuttall, 2015).

The findings of lower use of health services among Transitioned ADF compared with 2015 Regular ADF also need to be considered in context. A proportion of health service contacts for 2015 Regular ADF would more likely be for regular health checks or mandated medical examinations, rather than for specific treatment-seeking consultations. Further, Regular ADF have ready access to medical services in Service, while Transitioned ADF have access to medical services through the Australian national healthcare system more broadly. These factors could contribute to lower use of any health service observed among Transitioned ADF members in this study.

Although the report generally focuses on presenting results of stronger statistical significance, it does provide comprehensive data on findings that could have clinical significance. These clinically significant findings might relate to the potential for prevention or health promotion, or they could be considered in the context of existing clinical or other policies and programs in Defence and DVA.

For example, Transitioned ADF members were significantly more likely to have a circulatory condition than 2015 Regular ADF members, and this was largely because of a 60% increased likelihood of high blood pressure among the Transitioned ADF cohort. The odds of any circulatory condition were higher in the medically discharged Transitioned ADF compared with the non-medically discharged. The odds were not strong, but the findings could be clinically significant from the population and preventive health perspectives. There were also stronger associations with having ‘any digestive condition’ and with ‘any musculoskeletal condition’ and ‘any connective tissue condition’, as well as some of the individual digestive system or musculoskeletal system conditions respectively in Transitioned ADF compared with 2015 Regular ADF. The clinical importance of these findings might warrant further consideration.

Another example is the findings in relation to reported clinical insomnia. Transitioned ADF members were significantly more likely to report insomnia than 2015 Regular ADF members. Although the analysis adjusted for factors such as age, it might be important to consider whether reported insomnia is greater in different age groups and the relationship with psychological health and risk taking. Sleep disorders have been associated with risk in performance, fatigue and ability to concentrate and are important to consider in a clinical and organisational context (Filip et al., 2017; Kucharczyk et al., 2012).

The findings in relation to reported ringing in the ears (a symptom of tinnitus) and hearing difficulties provide a further example. Transitioned ADF members were significantly more likely to report ringing in the ears in the preceding month as well as significantly more likely to report having doctor-diagnosed hearing loss compared with 2015 Regular ADF members. The odds were not strong, but the findings could be clinically significant from the clinical and occupational health perspectives.

#### **14.1.2 Physical health outcomes in Transitioned ADF members, by DVA client status, transition status and discharge status**

Overall, the findings for Transitioned ADF members showed poorer physical health outcomes being reported for DVA clients compared with those who were not DVA clients, for Ex-Serving members compared with Active Reservists or Inactive Reservists, and for those who had been medically discharged compared with those who had been discharged for some other reason.

##### ***Transitioned ADF by DVA client status***

Among Transitioned ADF members, DVA clients were more likely to report poorer health on several outcomes compared with Transitioned ADF who were not DVA clients. The outcomes included increased physical health symptoms, higher numbers of doctor-diagnosed conditions, and an increased prevalence of some but not all of the categories of doctor-diagnosed conditions.

DVA clients were also more likely to report most respiratory symptoms, but not ‘asthma ever’, compared with non-DVA clients.

All injury types were more likely to be reported by DVA clients compared with non-DVA clients, and the prevalence of injuries sustained during training was greater than that for those sustained on deployment. The comparison of injury type experienced during training or on deployment was, however, based on comparison of weighted prevalences and their confidence intervals, rather than odds ratios, and should be interpreted with some caution.

Transitioned ADF who were DVA clients were more likely to report high pain intensity/disability compared with no pain and were more likely to report clinical insomnia than non-DVA clients. In terms of lifestyle risk factors, DVA clients were more likely to be categorised as obese, but there were no statistically significant differences in physical activity except for a borderline increase in being inactive (compared with being HEPA active) compared with non-DVA clients.

It is important to acknowledge that in the non-DVA client group there is a significant range of morbidity. Members of this group might not have come into contact with DVA since their discharge or might not be entitled to DVA benefits that include health services (for a DVA client as defined in this study). They do, however, have access to the healthcare system through Medicare and/or private health insurance. This study did not examine the point at which Transitioned ADF access DVA or whether the health services provided through DVA or through the national healthcare system are optimally meeting these people’s needs.

DVA clients were more likely to report poorer self-perceived health compared with non-DVA clients, which could reflect their poorer physical health overall. While their mental health was not considered in conjunction with physical health in this report, this could also affect self-perceived health and quality of life.

In relation to use of health services, DVA clients were more likely to report consulting some health professionals or services than non-DVA clients in the preceding 12 months (for example, GPs, psychologists, a specialist doctor, an alcohol or drug worker, or an audiologist), highlighting DVA as an important conduit of care for many Transitioned ADF members. Possible explanations are that the relatively poorer health in DVA clients compared with non-DVA clients is associated with this finding of greater use of health services and/or that greater use is facilitated by the relative availability of health services for DVA clients. The relationship between poorer health and accessibility of services was not, however, considered in this study.

The study found that Transitioned ADF members who were DVA clients were more likely to report poorer health on several outcomes compared with those who were not

DVA clients. This finding is consistent with the expectation that DVA clients will have poorer physical health and greater service use given that DVA is the conduit for care in this population. DVA works with Transitioned ADF who present to DVA and who require assistance and/or are seeking compensation for a condition or injury linked to service, either physical or psychological/psychiatric. The definition of DVA clients used in this study – whereby DVA client or non-DVA client status was an indicator on the Military and Veteran Research Study Roll – included those receiving a fortnightly payment, treatment card holders, and those who have had their illness or injury liability claim accepted as service-related. Their reported health could thus reflect a condition that has been reported to and accepted by DVA in relation to their service and services they are eligible to receive or other conditions. The DVA health system operates within the broader context of the Australian national healthcare system. Veterans who do not use DVA services are still likely to access health care through the national system.

### ***Transitioned ADF by transition status***

Among Transitioned ADF members, Ex-Serving members were more likely to report poorer health on several outcomes than Active Reservists or Inactive Reservists; this included reporting of most individual health symptoms. Ex-Serving members were generally more likely to report a greater number of doctor-diagnosed conditions (seven to eight or more) than Active Reservists or Inactive Reservists. The pattern of reporting across groups was mixed, though, and only some of the grouped categories of medical conditions were higher for Ex-Serving ADF compared with Active Reservists. Ex-Serving ADF were more likely to report some respiratory symptoms but were not more likely than Active Reservists to report ‘asthma ever’.

Ex-Serving ADF were also more likely to report any injury or some injury types than Active Reservists, and the prevalence of injuries sustained during training was greater than that for injuries sustained on deployment. As discussed, the comparison of injury type experienced during training or on deployment was based on comparison of weighted prevalence and the associated confidence intervals, rather than odds ratios, and should be interpreted with some caution.

Additionally, Ex-Serving ADF members were more likely to report high-intensity pain compared with Active Reservists and Inactive Reservists. They were also more likely to report clinical insomnia than Active Reservists and Inactive Reservists. Both pain and insomnia can be sequelae of musculoskeletal disorders and can also be associated with mental health symptoms and disorders. The increased reporting of mental disorders in the Ex-Serving group, as discussed in the *Mental Health Prevalence Report*, is important to consider in the context of the increased reporting of high-intensity pain and insomnia.

In terms of lifestyle risk factors, Ex-Serving ADF were more likely to be physically inactive and obese compared with Active Reservists. Furthermore, Ex-Serving ADF were more likely to be current smokers (rather than never smokers) compared with Active Reservists. These findings highlight the importance of ensuring that before discharge this group receives information and education and opportunities to maintain their fitness and a healthy lifestyle.

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

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

The reasons for discharge and the health status of ADF members on transition are assessed on application to the Reserves. It is therefore possible that the Ex-Serving group could include a greater proportion of individuals who were medically discharged or have physical or psychological health conditions that would render them ineligible for the Reserves.

### ***Transitioned ADF by discharge status***

Among Transitioned ADF members, those who had been medically discharged were more likely to report poorer health compared with those who left for another reason. The magnitude of the difference was greater than for the comparisons of Transitioned ADF by DVA client status or by transition status, although this was not tested statistically.

Transitioned ADF who were medically discharged were more likely to have increased reporting of health symptoms and doctor-diagnosed categories of medical conditions compared with those who discharged for another reason. For example, the medically discharged Transitioned ADF were more likely to report all respiratory symptoms (except nasal allergies) but were not more likely to report 'asthma ever' than those who were non-medically discharged. Transitioned ADF who were medically discharged were also more likely to report every injury type (except burn injuries) and higher pain levels and were more likely to have insomnia than those non-medically discharged.

In terms of lifestyle risk factors, when compared with the non-medically discharged those who had been medically discharged were more likely to be inactive and minimally active (as opposed to HEPA active), to be obese and to be a current smoker. These findings highlight the importance of ensuring that before discharge this group receives information and education and opportunities to maintain their fitness and a healthy lifestyle.

Transitioned ADF who had been medically discharged were more likely to have poorer self-perceived health, satisfaction and quality of life on all the indicators compared with the non-medically discharged, and these odds were of greater magnitude than those for comparisons within the Transitioned ADF subgroups.

In relation to the use of health services, Transitioned ADF who had been medically discharged were more likely to consult a range of health professionals and services than the non-medically discharged; this included alcohol and drug workers, diabetes educators, a dietician/nutritionist, GPs, a physiotherapist or hydrotherapist, psychologists, a social worker or welfare officer, and specialist doctors. This pattern of increased health service use is consistent with the increased self-reporting of most of the medical conditions and other physical health outcomes examined in the study and has implications for health service planning for transitioned personnel.

### ***Implications of physical health patterns in Transitioned ADF members***

In terms of overall patterns, differences between the Transitioned ADF subgroups were most pronounced or consistent among the medically discharged compared with the non-medically discharged and among DVA clients compared with non-DVA clients. Some, but not all, general health symptoms, respiratory symptoms and doctor-diagnosed medical conditions were more commonly reported in DVA clients, the medically discharged and Ex-Serving ADF compared with the other subgroups. Injuries were consistently reported to have occurred more commonly during training than during deployment for all subgroups, although, as noted, this finding should be interpreted with some caution.

It is possible that Transitioned ADF who had experienced health problems might have sought assistance from DVA by establishing claims and therefore becoming clients of DVA; on this basis the study findings are consistent with expectations that DVA clients would have poorer health than non-DVA clients. As noted, in the context of this study 'DVA clients' refers to those receiving a fortnightly payment, treatment card holders and those who have had their illness or injury liability claim accepted as service-related.

Among the Transitioned ADF adverse physical health outcomes were also reported by members who were not DVA clients. The reasons for this are not apparent from the

data analysed for this study. In relation to health care for particular conditions, it could mean that members have not yet established contact with and become clients of DVA and that this could be associated with pathways to care and an unmet need or that health services are being sought through the public or private Australian healthcare system, or a combination of both.

For the Transition and Wellbeing Research Programme, Transitioned ADF members were separated into three groups – Ex-Serving, Active Reservist and Inactive Reservist – broadly representing their level of continued association with Defence as well as their potential access to support services provided by Defence. Ex-Serving members were individuals who had discharged from the ADF; Inactive Reservists were individuals who were classified as a Reservist but have no ongoing, regular involvement with the ADF; Active Reservists were individuals who regularly parade or do Reserve work and are therefore still actively engaged with the ADF. The differences between Ex-Serving members and Active Reservists were considered the most marked in terms of ongoing contact with Defence as well as potential access to support services provided in Defence. It was in the comparisons of these groups that poorer health outcomes were more consistently observed, so their health status and ongoing requirements need to be considered in this context.

Poorer physical health outcomes were also observed for Transitioned ADF who had been medically discharged compared with those who had been discharged for another reason, a finding consistent with expected results. Data on the relationship between the reason/s for an individual's medical discharge and their reported physical health were not, however, collected for this study but could be considered with data linkage in the future.

## **14.2 The findings of previous research**

This section discusses the findings of previous epidemiological research in relation to transitioned military populations where available and health studies of veteran or military populations in order to compare the findings from the present study.

There is only limited current literature reporting on physical health outcomes among transitioned personnel or that includes comparisons of physical outcomes in transitioned personnel with serving defence personnel in the manner of this research program. This limited the comparisons with international transitioned versus regular serving military populations that could be made. One program of research is the Life After Service Studies (LASS), which was based on a nationally representative sample of Canadian Armed Forces Regular Force veterans released from service between 1998 and 2015 (referred to here as 'transitioned Canadian veterans'), with telephone surveys conducted in 2010, 2013 and 2016 (Thompson et al., 2011; Van Til et al., 2017;

VanDenKerkhof et al., 2015). The surveys assessed transitioned personnel but did not include a comparison with currently serving personnel. Where the most recent 2016 LASS study reported physical health findings as relevant to this current study, these findings are reported in the following sections (Van Til et al., 2017). It should be noted that the demographic and service profiles of the transitioned Canadian veterans and Transitioned ADF members can vary, and caution is required when considering the comparisons.

#### **14.2.1 Health symptoms**

In this present study Transitioned ADF members reported an increased number of health symptoms and the most commonly reported symptoms were similar compared with those reported by 2015 Regular ADF members. In any epidemiological study a comparison of the total number of symptoms and the most commonly occurring symptoms is more important than consideration of whether each individual symptom (for example, pain in joints or dry mouth) is more or less commonly reported between groups. Increased symptom reporting can persist in the longer term (Gwini et al., 2015) and has been associated with increased use of health services, thus having longer term implications (Gwini et al., 2016a).

Previous health studies of veteran and non-deployed comparison groups – including Australian Gulf War veterans in 2000 to 2002 and at follow-up in 2011 to 2012, as well as international veteran health studies (Kang et al., 2009; Smith et al., 2014; Unwin et al., 1999) – have described similar patterns of symptoms. The most commonly occurring symptoms in both the Transitioned ADF and 2015 Regular ADF were fatigue, sleeping difficulties, headaches, feeling unrefreshed after sleep and low back pain. These symptoms were among the six most commonly reported symptoms in Australian Gulf War veterans at follow-up in 2011 to 2012 (Sim et al., 2015) and similar to commonly reported symptoms in international health surveys of deployed and non-deployed comparison groups (Kang et al., 2000; Kelsall et al., 2004a; Unwin et al., 1999).

#### **14.2.2 Doctor-diagnosed conditions**

Transitioned ADF members reported a higher mean number of doctor-diagnosed conditions and a lower proportion of no doctor-diagnosed conditions compared with 2015 Regular ADF members. Associations for medical conditions categorised by body system and reported as individual doctor-diagnosed medical conditions varied. The pattern of reported doctor-diagnosed conditions was similar, although the ordered prevalence differed slightly between Transitioned ADF and 2015 Regular ADF. In Transitioned ADF the 10 most commonly reported doctor-diagnosed conditions were generally chronic medical conditions. The pattern for increased reporting of some doctor-diagnosed medical conditions was not as consistent as it was for increased reporting of symptoms by Transitioned ADF. This is similar to findings from the

Australian Gulf War Veterans' Health Studies (Kelsall et al., 2004a; Sim et al., 2015) and in international studies of veterans (Kang et al., 2009; Unwin et al., 1999).

In the 2016 LASS survey any physical health condition (chronic for more than six months) – musculoskeletal (back problem or arthritis), cardiovascular (high blood pressure, heart disease or stroke), gastrointestinal (ulcers or bowel disorders), respiratory (asthma or COPD), diabetes, cancer, urinary, central nervous system (migraine, dementia or traumatic brain injury effects) or obesity – was reported by 70.6% (95% CI 68.1, 72.9) of transitioned Canadian veterans. Since LASS 2013 the trend for chronic conditions was reported to have increased, although not statistically significantly. Comorbid physical and mental (mood disorder, anxiety disorder or PTSD) health conditions were reported by 24.7% (95% CI 22.6, 26.9) and no physical or mental health conditions were reported by 25.5% (95% CI 23.3, 27.8) of transitioned Canadian veterans (Van Til et al., 2017). Of Transitioned ADF members, 43.3% (95% CI 41.3, 45.4) reported no doctor-diagnosed medical conditions. Our study did not, however, assess physical and mental health comorbidity of conditions.

Transitioned Canadian veterans reported chronic conditions – including arthritis (29%) and back problems (41%) and hearing problems (12%) – at higher prevalences than Canadian civilians of comparable age and sex. Senior non-commissioned members in transitioned Canadian veterans reported arthritis (40%) and hearing problems (19%) more commonly than officers or more junior ranks.

### **14.2.3 Respiratory symptoms and conditions**

In the present study, respiratory health outcomes between groups were compared according to respiratory symptoms and definitions of asthma based on standardised questions. The questionnaire assessed a range of respiratory health symptoms, including symptoms related to wheeze, shortness of breath, cough, difficulty breathing and nasal allergies. Symptoms used to assess and compare respiratory health outcomes may be associated with a range of respiratory conditions, such as asthma, chronic bronchitis, emphysema and chronic obstructive pulmonary disease. Further questions related to self-reported asthma during the course of one's lifetime (asthma ever) were asked. It has been recognised that a single definition of asthma is not applicable to all studies and that the focus of epidemiological research should be on comparing the prevalence of asthma between populations using standardised methods, rather than on trying to estimate the 'actual prevalence of asthma' in a population (Pekkanen & Pearce, 1999), an approach used in this study. Transitioned ADF members compared with 2015 Regular ADF members (and the subgroups of DVA clients, Active Reservists and medically discharged transitioned status) tended to report some but not all respiratory symptoms more commonly than their comparison groups. In Transitioned ADF, DVA client status, medical discharge or transition status were not associated with self-reported lifetime asthma. Medical standards in the ADF

were revised in 2007, allowing some people with mild asthma to enter the ADF under strict guidelines and allowing military personnel with mild controlled asthma to remain in the Regular ADF (Bailey & Williams, 2009). This study did not find asthma to be more frequently reported in the medically discharged group compared with those who discharged for other reasons.

In studies of transitioned Canadian veterans, asthma (more than six months' duration and diagnosed by a health professional) was reported by 6% of veterans in LASS 2016 and respiratory conditions (asthma or COPD) were reported by 8.7% (95% CI 7.6, 9.9) of transitioned Canadian veterans in LASS 2010, by 8.0% (95% CI 6.7, 9.4) in LASS 2013, and by 8.3% (95% CI 7.0, 9.8) in LASS 2016. Tests of trends were not reported, but prevalences appear relatively stable over time. The reporting of asthma in transitioned Canadian veterans was similar to that among Canadian civilians (6.5%) of similar age and sex (Van Til et al., 2017). In contrast, 15.3% of Transitioned ADF members reported doctor-diagnosed asthma, which was significantly lower than the Australian community sample (21.9%). There is no obvious explanation for these findings.

#### **14.2.4 Service-related injuries**

The two most common injury types reported by Transitioned ADF members and 2015 Regular ADF members were musculoskeletal injury and fracture/broken bone. The most common musculoskeletal injury sites (reported by more than 20%) in Transitioned ADF were knee, spine, ankle, shoulder, neck and foot; in 2015 Regular ADF they were knee, shoulder, ankle, spine and neck. Overall, the pattern of injury types in Transitioned ADF and 2015 Regular ADF was similar for most injuries, with small differences in prevalence for some. The prevalence of injuries sustained during training was greater than that for those sustained on deployment.

The morbidity associated with injuries was also explored in the Australian Gulf War Veterans Follow up Health Study: 38.8% of Gulf War veterans and 37.5% of the military comparison group participants reported at least one injury that was bad enough to interfere with daily activities in the preceding 12 months (Sim et al., 2015). The injuries asked about were not specifically service related, although 10% of both groups reported working for an income while in the ADF when the injury occurred. The most common event types leading to the injury were falls of less than a metre, being cut or pierced by an object such as a knife or tool, sport- or exercise-related activities, or other (for which it was commonly reported in the text that the injury was sport- or exercise-related or that the injury was a sprain/strain or muscle tear). A total of 42% of Gulf War veterans and 39% of comparison group participants took time off work or study as a result of their injury, suggesting considerable associated morbidity.

### 14.2.5 Pain

The majority of both Transitioned ADF members and 2015 Regular ADF members reported being pain free or having Grade I low disability – low intensity pain, demonstrating the widespread presence of pain. The reasons for increased pain intensity/disability were not collected in the transition study (for example, whether those who reported injuries, an increased number of injuries or injuries of specific types or those with doctor-diagnosed musculoskeletal disorders also reported increased pain intensity and disability). It also needs to be recognised that the causes of pain can be multifactorial and complex. This could be an area for future investigation, since pain has been shown to be very prevalent in other military populations. In comparison with the 41.3% of Transitioned ADF in the current study who experienced low-grade pain intensity/disability, the same proportion (41%) of transitioned Canadian veterans experienced constant pain or discomfort and 23% experienced recurrent pain (VanDenKerkhof et al., 2015; Van Til et al., 2017). Senior non-commissioned members were more likely to report pain than officers or lower ranks; 25% reported pain interference with activities (VanDenKerkhof et al., 2015). This highlights the importance of assessing pain and any psychological comorbidities in rehabilitation (Kelsall et al., 2014).

### 14.2.6 Sleep

Many factors can affect sleep. Transitioned ADF members were more likely than 2015 Regular ADF members to report clinical insomnia of moderate or severe intensity. The reasons for the insomnia were not investigated further in this study; nor was the perceived impact on individuals' daily functioning.

The US 2009 Behavioral Risk Factor Surveillance System (analysed in 2011) (Faestel et al., 2013) found that, after multivariable adjustment, insufficient rest or sleep (22.7% vs 21.1%,  $p < 0.001$ ) and short sleep duration (<7 hours a night, 34.9% vs 31.3%,  $p = 0.026$ ) were more common among veterans than among non-veterans (non-institutionalised US adults). There was little difference in sleep between newly transitioned ( $\leq 12$  months) and longer term ( $> 12$  months) transitioned veterans. Veterans who were 21–44 years of age (vs 65–74), women, non-whites, current smokers, obese or unable to work and those in poor health were at greater risk of sleep problems (Faestel et al., 2013). Sleep disturbance can be a non-specific marker of distress that can arise from pain and psychological and physical morbidity (Ohayon & Roth, 2003) and sleep disturbance as a predictor of subsequent psychological morbidity has been identified in population studies (Ford & Kamerow, 1989). A review of insomnia and occupational functioning found insomnia symptoms were consistently associated with increased absenteeism, elevated accident risk in the workplace, reduced subjective experience of workplace productivity (in the short term), inhibited career progression and poorer job satisfaction, but not with punctuality (Kucharczyk et al., 2012). The importance of sleep hygiene is recognised in the ADF, and the finding of

increased insomnia among Transitioned ADF members highlights the importance of ensuring that before discharge this group is given information on sleep hygiene. Inclusion of sleep measures in regular health or psychological screening could also be of value (Steele & Fogarty, 2017).

#### **14.2.7 Lifestyle risk factors: smoking, body mass index and physical activity**

About 30% of active duty US military personnel smoke cigarettes and more than 14% use smokeless tobacco. More recently the US military has aimed to reduce the prevalence of tobacco use. A 2013 commentary reviewing research with the US Air Force reported the following: smoking bans are effective, recruits who have never previously smoked cigarettes begin tobacco use, smokeless tobacco serves as a gateway for smoking initiation, smoking is associated with discharge, smoking adds significant proximal training costs, tobacco use increases during deployment, and tobacco quit-line counselling with provision of medication is effective. Post-deployment was considered an opportune time for introducing tobacco cessation programs (Talcott et al., 2013). The prevalence of daily smoking reported in transitioned Canadian veterans in the LASS 2010 and LASS 2013 surveys – 18.4% (95% CI 16.9, 20.1) and 16.6% (95% CI 14.7, 18.7) respectively (LASS 2016 data were not reported) – was lower than in US military personnel but greater than the prevalence of current smoking in male (15.9%) and female (10.5%) Transitioned ADF personnel (Van Til et al., 2017).

The MEAO Census Health Study found increased rates of initiation of and recidivism with smoking on deployment in the ADF (Lewis et al., 2015). Increasing rates of daily smoking during the first year of service in the ADF were also reported in a longitudinal study of recruits who joined the ADF between 2009 and mid-2013 (Lewis et al., 2015). In the Australian Gulf War Veterans' Baseline Health Study in 2000–02, current smoking prevalence was greater in Gulf War veterans (25.9%) and the comparison group (23.0%) but had decreased similarly in both groups at follow-up in 2011 to 2012 (13.1% Gulf War veterans and 9.8% comparison group) (Sim et al., 2015). The latter rates were slightly lower than the proportions of current smokers in Transitioned ADF (15.2%) and 2015 Regular ADF (14.1%) in the present study.

While smoking rates might be lower than or comparable with those in the US and Canadian military, the association between smoking and military service (particularly in this cohort with increased smoking in the medically discharged group) and the recognised importance of smoking as a risk factor and predictor for many adverse health outcomes suggest that during service and before discharge provision of information about smoking cessation is important. In Australia, national and state campaigns aim at smoking cessation and tobacco control – for example, through the Cancer Council Australia (Cancer Council Australia, 2017) and Quit (Quit Victoria, 2018). The influence of these programs on Transitioned ADF and 2015 Regular ADF might

differ from that of the general community, though, and smoking cessation knowledge and behaviour were not specifically explored in this study. It should also be acknowledged that this study did not explore ADF and DVA policy and programs in relation to smoking cessation.

The preventable lifestyle risk factors associated with current smoking, obesity (BMI in the obese and pre-obese range) and physical inactivity are important considerations in relation to maintenance of physical standards whilst in the ADF. In the Australian Gulf War Veterans' Baseline Health Study in 2000–02 pre-obesity prevalence in Gulf War veterans was slightly higher than (51.6%) and similar to (48.5%) that in Transitioned ADF (45.5%) and 2015 Regular ADF (49.1%) in the current study. The community prevalence of obesity has increased over time, so no increase over time between military cohorts gives some positive indications. In contrast, community smoking prevalence has decreased over time, so higher rates in the current study compared with previous Australian military studies are a concern. Both BMI and smoking are thus important lifestyle risk factors that warrant ongoing consideration.

Given the importance of physical activity to health, weight management, sleep hygiene and overall wellbeing and quality of life, ensuring that there is a favourable environment for leisure-time physical activity (Martins & Lopes, 2013) is important. Weight gain and inactivity are risk factors for diabetes, which can lead on to a wide range of adverse health outcomes. These conditions can also be proxy markers for mental disorders such as depression and PTSD and should be considered in any clinical or population-based interventions (Chwastiak et al., 2011; Kubzansky et al., 2014; Pagoto et al., 2012). Improvement in lifestyle factors is an important aspect to consider in the assessment of physical and mental health. Taken together, these findings could be considered in the light of health education and promotion.

Military personnel transitioning out of the military organisational structure and its healthcare system experience greater freedom to make decisions about their health care but also require greater initiative and potentially greater resources (Villagran et al., 2015). A study of US veterans based on the 2010 Behavioural Risk Factor Surveillance System found that during the period of transition from active-duty military to civilian life women veterans' use of healthcare prevention services decreased and physical and mental health decreased throughout the transition in recent and longer term veterans (Villagran et al., 2015). Although health service use was similar in Transitioned ADF members and 2015 Regular ADF members, this study did not examine pathways to care for physical disorders, access to preventive health care in Transitioned ADF, or decision making in relation to lifestyle choices.

Based on the results of the US Millennium Cohort Study, moderate-to-vigorous physical activity (MVPA) in US personnel declined substantially more in those who

were discharged than in those who were not (–17.8 percentage points vs –2.7 percentage points) (Littman et al., 2015). Greater decline was observed in former active-duty personnel, those who had deployed with combat exposures, those who had 14 to 25 years of service, and those who had been discharged more recently (more than two years before). In those who were discharged, being normal or overweight (as opposed to obese) and being a non-smoker or former smoker (as opposed to a current smoker) were positively associated with MVPA guidelines at follow-up, while other factors such as meeting the guidelines at baseline and depression were inversely associated (Littman et al., 2015). The transition period can be a time when preventive measures are important in guiding health behaviours to help prevent physical inactivity and weight gain and the associated adverse physical and mental health outcomes (Littman et al., 2015). The findings of this present study suggest that preventive measures in relation to weight management and obesity are important in the Transitioned ADF and the Regular ADF and more generally in subgroups of Transitioned ADF such as the medically discharged, Ex-Serving and DVA clients.

#### **14.2.8 Use of health services**

Although similar proportions of Transitioned ADF members (87.1%) and 2015 Regular ADF members (90.1%) consulted a health service in the preceding 12 months, the odds were significantly lower in Transitioned ADF. In relation to specific health service providers, Transitioned ADF were less likely to have consulted dentists/dental professionals and specialist doctors and more likely to have consulted GPs. The health professionals or services most commonly consulted by both Transitioned ADF and 2015 Regular ADF were similar. The patterns of health service use in the 2015 Regular ADF are likely to have, in part, reflected attendance for routine health assessments for administrative reasons (such as pre- and post-deployment health checks) and this makes meaningful interpretation difficult.

Among transitioned Canadian veterans, 82.8% in LASS 2016 reported having a regular medical doctor; this proportion was similar to those found in previous surveys. A total of 10.7% reported having unmet healthcare needs in the preceding year, a decrease from 16.3% in LASS 2013. As with our study, in the case of service use in the preceding year the most commonly consulted health professional was a family doctor (72%), while 24% of the Canadians had a mental health visit, 10% reported home care, 8% reported hospitalisation and 46% reported being a Veterans Affairs Canada client (although the health of those who were and were not Veterans Affairs Canada clients was not compared) (Van Til et al., 2017).

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

The majority of both Transitioned ADF members and 2015 Regular ADF members reported their self-perceived health to be excellent, very good or good, but Transitioned ADF generally rated their quality of life and satisfaction with health to be

poorer than did 2015 Regular ADF. Although the questions were aimed at assessing perceptions of physical health and related quality of life, the responses are likely to have been influenced by a range of other factors, such as mental health and sociodemographic characteristics.

Among transitioned Canadian veterans in LASS 2016, self-perceived health was reported by 46% as very good or excellent; senior non-commissioned officers had the lowest rate, at 38%, compared with junior non-commissioned officers, at 44%, and officers, at 62% (Van Til et al., 2017). In contrast, a slightly lower proportion of Transitioned ADF (35.3%) perceived their health as very good or excellent. This comparison should, however, be interpreted with caution because of the single-item nature of the question and the influence of service characteristics such as rank on the response, which may differ between the LASS study and this present study.

### **14.3 Comparability with the Australian community sample**

For the present study, Transitioned ADF members were compared with an age-, sex- and employment-matched Australian community sample on three indicators – smoking status, doctor-diagnosed asthma and quality of life.

Compared with the Australian Community sample, among Transitioned ADF the estimated proportion of current smokers was significantly lower and those for former smokers and never smokers were significantly higher; this pattern was similar in males and females and by age group. One consideration is that increased smoking might be self-reported on entry to the military and military deployments but then be followed by quitting smoking.

The majority of Transitioned ADF members and the Australian Community sample reported their health as good, very good or excellent. The proportion of Transitioned ADF who perceived their health as good was similar to that for the Australian Community, whereas the proportion of Transitioned ADF who perceived their health as excellent or very good was lower. The proportion who rated their health as fair or poor was higher compared with the Australian Community sample. This pattern of poorer self-perceived health among Transitioned ADF compared with the Australian Community was similar in males and females and by age group. The implications of an increased proportion of Transitioned ADF reporting their health as fair or poor are not clear. For example, comparisons between the Transitioned ADF cohort and the community sample on a number of comorbidities were not done, and this was a single-item question that was not specifically directed at physical health but rather dealt with self-perceived health in general.

Self-reported doctor-diagnosed asthma in Transitioned ADF and doctor-diagnosed asthma in the Australian Community sample were used to define asthma for

comparative purposes. In Transitioned ADF, asthma prevalence was significantly lower (15.3%) than in the Australian Community (29%). This pattern of lower prevalence was the same in males and females and lower in all age brackets in Transitioned ADF compared with the Australian Community; it is likely to reflect expected medical standards in the ADF.

## **14.4 Comorbidity and interrelationships of physical health and mental health**

Physical health outcomes should not be viewed in isolation: they can interact with each other and with mental health. Although this was not analysed specifically in the present study, the comorbidity and interrelationships of physical health and mental health are also important.

### **14.4.1 Comorbidity**

Although 43% of Transitioned ADF members reported no doctor-diagnosed medical conditions, 32% reported one or two doctor-diagnosed medical conditions. A decreasing proportion of Transitioned ADF reported an increasing number of doctor-diagnosed conditions: 13% reported three or four, 6% reported five or six, 3% reported seven or eight, and smaller proportions reported even more. This suggests a minority of Transitioned ADF reporting a high level of physical comorbidity. Among Transitioned ADF who were DVA clients, fewer (26%) reported no doctor-diagnosed conditions and a greater proportion reported an increased number of conditions: 21% reported three or four, 10% reported five or six, 6% reported seven or eight, and smaller proportions reported a very high number of physical conditions. Transitioned ADF members who are DVA clients have accepted medical conditions, and these findings are consistent with this pattern of increased reporting of doctor-diagnosed conditions.

Among veterans in Veterans Affairs Canada programs, 91–92% had at least one physical health condition diagnosed by a health professional (which is greater than DVA clients, although it should be noted that the definition might not be exactly comparable) and about half (40–60%) had at least one mental health condition. Two-thirds had four to six physical and mental health conditions and one-fifth had even larger numbers of comorbid conditions (Thompson et al., 2011).

Comorbidity of disorders (considered in relation to multi-symptom illness, chronic fatigue, and 12-month major depression, PTSD and alcohol use disorder) in Australian Gulf War veterans at the baseline assessment (2000–02) was not uncommon: 30% of Gulf War veterans and 20% of the comparison group had two or more of the five conditions (Sim et al., 2015). Patterns of increased but similar physical, psychological and functional comorbidities were found in Australian Gulf War veterans compared with a military comparison group with defined multi-symptom illness (Kelsall et al.,

2009), as well as comorbidities of physical and psychological disorders such as an increased prevalence of hypertension in those with PTSD (Abouzeid et al., 2012).

#### **14.4.2 Interrelationship with mental health**

Increased symptom reporting among Transitioned ADF members and subgroups was a finding of the present study. The symptom questionnaire covered a range of general health symptoms across multiple body systems. A challenge in interpreting the significance of these general health physical and psychological symptoms in a symptom questionnaire is that there can be a high level of comorbidity between these symptoms and psychiatric disorders (McFarlane et al., 2008). For example, some of the symptoms are associated with low-grade inflammation (Tak et al., 2009), a factor that recent research has found to be part of the underpinning of PTSD (Spitzer et al., 2010).

Other health indicators such as sleep, pain and quality of life are also related to both physical health and mental health and impacts. The higher levels of pain among Transitioned ADF members need to be interpreted in the context of the mental health of this group. Depression and PTSD can contribute to pain symptoms and have shared neurobiological dysregulations (Baune et al., 2008; Moeller-Bertram et al., 2014).

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

### **14.5 Strengths and limitations**

A central question for this study concerned comparing physical health among Transitioned ADF members with that among 2015 Regular ADF members. The study assessed this using physical health indicators relevant to general physical health and to several body systems more specifically, in addition to participants' perceptions of their health and satisfaction with and quality of life.

An important aspect of the study design in assessing the health of Transitioned ADF members was the inclusion of a relevant military comparison group – that is, the comparison of Transitioned ADF members (who had transitioned from 2010 to 2014)

with Regular ADF members who were in the Services in 2015, the year directly adjacent to this period, with data in both populations being collected in 2015. Some comparisons used Australian community data. This could be done for only a small number of measures and using data obtained from a largely comparable year. It also needs to be acknowledged that comparisons with a civilian population have their limitations. For instance, it is well recognised that military populations differ in a number of ways from the general community. The limitations include selection into the military and maintenance of fitness, possible environmental and chemical exposures, and stressful experiences. These can all differ from experiences in the general community and can affect physical and/or mental health. A strength of the study, however, was the comprehensive assessment of physical health within the extensive nature of the research program overall, which included multiple components of physical and mental health to provide a solid evidence base for the future.

One limitation of the study was the response rate of 29.1% for the entire survey across both Transitioned ADF and 2015 Regular ADF (total responders / total invited) and the response rate in Transitioned ADF (18.0%) compared with that for 2015 Regular ADF (42.3%). In addition to the substantially lower response rates in Transitioned ADF compared with 2015 Regular ADF, there were substantial differences across all groups (Service, sex, rank, medical fitness) between Transitioned ADF and 2015 Regular ADF. Further, participation in the Transitioned ADF cohort was lower in Navy (15.7%) and Army (17.0%) than in Air Force (24.9%) and in those of lower rank in both Transitioned ADF members (7.7%) and 2015 Regular ADF members (19.7%). The implications of this include the potential for bias, especially in low-participation groups. Participation bias can occur if participants differ from non-participants in terms of characteristics associated with the study-dependent measures, such as health status. There was no formal examination of participation bias in the study. Some factors that may affect participation bias were considered in the weighting approach in the calculation of the population estimates, but some were not and these are of more concern in those that had low participation rates.

The low participation rates also meant that numbers of cases for some health outcomes of interest were small and thus the analyses had limited statistical power to investigate differences between groups in the health outcomes of interest and in the study populations directly than might have been achieved with a higher participation rate. Weighting was applied to survey data for the Transitioned ADF and for the 2015 Regular ADF respondents to allow for the inference of results to the entire Transitioned and 2015 Regular ADF populations. The process was similar to that taken in the MPHPWS (see Annex A), which also included assumptions in relation to missing data – for example, medical employment classifications.

Overall, the weighted demographic and service characteristics of Transitioned ADF compared with 2015 Regular ADF showed differences between the groups, some of which were statistically significant. Many of the differences were small (for example, proportion of females 13.1% vs 9.2% or university qualification 20.4% vs 22.9%); other differences were of relatively greater absolute magnitude (lower rank 52.2% vs 41.1%, having served in the Army 60.3% vs 49.1%, or classified as medically unfit 26.7% vs 12.3%).

Statistical adjustment for possible confounding factors was made during regression analyses for age, sex, Service and rank and for smoking in analyses related to respiratory health. Many analyses were performed in the preparation of the report, so there is also the potential problem of multiple comparisons and statistically significant findings occurring as a result of chance.

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

Reported doctor-diagnosed medical conditions were not analysed on the basis of year of diagnosis in relation to transition, or otherwise, from the ADF. It was therefore possible that the onset of reported doctor-diagnosed conditions in Transitioned ADF could have occurred while the individual in question was serving in the ADF. If so, the study might slightly overestimate the difference in reported doctor-diagnosed medical conditions by Transitioned ADF compared with 2015 Regular ADF.

Chronic conditions tend to increase with age (Australian Institute of Health and Welfare, 2016), although previous research in veteran populations has found an increased likelihood of reporting some adverse health outcomes, including increased symptom reporting and some psychological disorders, in younger veterans (Ikin et al., 2004; Kelsall et al., 2009; Sim et al., 2015). This study adjusted for age in comparisons between groups but did not examine the effects of age in health outcomes.

Musculoskeletal injuries were the most common type of injury reported by participants, and they were more likely to be reported as being sustained during

training. There could be a number of reasons for this, and it was not possible to fully explore in this study whether training is riskier than deployment. The study findings provide a base for further investigation of associations between injury patterns and military service roles, such as the number of deployments or different roles in active ADF service.

In the Transition and Wellbeing Research Programme the term 'DVA client' is based on an indicator DVA created for the purpose of analysis. There was variability within this group in terms of DVA's interaction with them; for example, some veterans were in receipt of a fortnightly payment such as income support or a compensation payment, some veterans held a treatment card, and some veterans might have had an illness or injury liability claim but did not have a treatment card or were not receiving a pension payment but were still considered DVA clients. This indicator therefore means that they were DVA clients but there was probably heterogeneity within the group in relation to their health status.

Health service use and reported consultations were used as a health indicator. By collecting self-reported data on health service use it is possible to collect information on the use of various allied health services that might not be included in the Medicare databases as well as information from participants who did not agree to Medicare linkage. In addition, linkage with and collection of recorded Medicare data allows the assessment of health service and pharmaceutical use over a period back in time without relying fully on participants' recall. Combined, the self-reported and linked health databases can provide a more complete description of health service and pharmaceutical use than that which would be achievable with either data source alone. Health service use indicators linked to reported Medicare and PBS data can be developed a priori – for example, through consultations with healthcare professionals such as GPs and medical specialists in fields of relevance, such as respiratory physicians, psychiatrists and gastroenterologists. Indicators for pharmaceutical use reporting can also be developed a priori and complement data on self-reported use of medications. Participants were asked for consent to link their identifying information with Medicare data to obtain objective data on health service use and pharmaceutical use in addition to self-reported information. The data from this linkage were not analysed or reported in this study.

A limitation when interpreting the data on health service use can occur because of the higher number of routine medicals undergone while still serving, which might affect comparisons of treatment-seeking consultations based on all consultations. The data collected did not, for example, differentiate consultations for the purposes of routine medical examinations. A related concern involves access to medical and dental care and pharmaceuticals for serving members through Defence health service provision, while Transitioned ADF members need to arrange and fund their own treatment or

claim through DVA, or a combination of both. This could contribute to differences in health service use and differences in health status. The overall analyses conducted for the study could not separate out the contribution of these factors to specific differences in outcomes – for example, differences in high blood pressure reported between Transitioned ADF and 2015 Regular ADF. Furthermore, an analysis of DVA policies or programs or ADF policies or programs was beyond the scope of this report.

To maximise the robustness and comprehensiveness of the study results, the methodology included several well-validated health instruments and questionnaires that have been used previously in veteran and military health studies. Assessment of physical health combines the assessment of several physical health outcomes based on measures used in other veteran or military health studies and includes lifestyle risk factors and anthropometric measures. One limitation was that many of the instruments were based on self-reporting. This might result in biases, including observation (information) bias, which can include recall bias. Recall bias can occur when those with a particular adverse outcome recall and report previous exposure experience differently from those without the adverse outcome or when those who have been exposed to a potential hazard report subsequent development of health outcomes differently from those who were not exposed. This can result in an underestimation or overestimation of the risk (Hennekens & Buring, 1987). There is no obvious reason for considering that this would have differed among Transitioned or Regular ADF members.

Ability to recall a past event can also depend on the recall period. The recall period used for many questionnaires in this study was a week or a month, although in some instances it was longer – for example, the preceding 12 months for health service use where specific health services might not have been used over a shorter period. Measures were used to minimise information bias, included asking respondents the same questions in the same manner, using standardised, validated questionnaires, and using a period of recall relevant to the outcome of interest and over a shorter time frame where possible.

Some of the measures – such as those dealing with self-perceived health and quality of life – were single-item measures and reduced the burden on respondents. Although these were drawn from validated instruments, they were limited in their scope to investigate components of physical health and wellbeing and quality of life compared with a more comprehensive instrument. The question on self-perceived health was not specifically addressed to physical health and could be influenced by the respondent's perceptions of their mental health.

The measure of BMI was based on reported height and weight, although respondents were given instructions on measuring and recording their height and weight so that measurements could be collected in a standard way for all study participants.

Finally, the study investigated the initial stages (the first five years) of transition and establishes a very important baseline assessment of health in this cohort, rather than relying on trying to capture health impacts retrospectively in the future. This is relevant since some physical disorders with a longer lead-time for development – such as cancer, diabetes, chronic obstructive pulmonary disease, musculoskeletal conditions (including joint disease) or chronic physical disorders that could be related to military service – might not have developed yet. Equally, delayed onset PTSD, which has been well documented in veteran populations (Horesh et al., 2011; Marmar et al., 2015), means that there is an ongoing probability of increasing risk of the related physical comorbidities. Furthermore, while this report does not investigate the role of combat exposure itself as a determinant of premature onset of chronic disease and death – which was found in a longitudinal cohort of World War 2 veterans (Lee et al., 1996) and in veterans of more recent conflicts – it provides a baseline for this to occur in the future. The previous research findings suggest that the health burden described in this report for Transitioned ADF members could underestimate the total health burden that is likely to be experienced by this group in the longer term.

## **14.6 Implications for practice and further research**

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

Overall, Transitioned ADF members were more likely than 2015 Regular ADF members to report poorer physical health across all domains and to have increased lifestyle risk factors coupled with poorer self-perceived health, satisfaction and quality of life. The survey questionnaire asked participants about the year of diagnosis for each medical condition they reported, and this could be assessed further in relation to discharge from the ADF and in relation to presentation to DVA currently and in the future. Among the Transitioned ADF members more specifically, those who were further removed from the ADF (that is, Ex-Serving) and those who were already DVA clients or received a medical discharge appeared to be particularly at risk. In the context of findings from the *Mental Health Prevalence Report*, physical comorbidities and the relationship with psychological health are an important consideration. Furthermore,

physical health status in the transitioning phase can have other implications – for example, for general health and wellbeing, for re-integration and employment post-transition and, in the longer term, for later onset of chronic health conditions.

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

Further consideration of patterns of injury and risk factors might offer opportunities for building an evidence base around the implications of injuries for performance and medical discharge, as well as providing greater opportunities for prevention/injury reduction through design of equipment and other strategies. Further analysis should be used to identify subgroups at greater risk of injury and the associated risk factors, with injuries during training being of particular interest. At present in the ADF women have increasing and changing roles. There is the potential for this to have implications for health, particularly in terms of musculoskeletal disorders and injuries, so further analyses could consider health outcomes in females in particular.

Sleep disorders and fatigue are important considerations in relation to work performance and especially in relation to people in safety-critical jobs. Findings of an increased prevalence of sleep disturbance and other lifestyle risk factors in Transitioned ADF members (in particular DVA clients and those who have been medically discharged) highlight the importance of ensuring that this group receives information and opportunities to maintain their fitness and a healthy lifestyle (through education) before discharge. Consideration of the inclusion of sleep measures in regular health or psychological screening might also be of value.

Smoking is an important risk factor, and smoking cessation is a public health measure as relevant to ADF and Transitioned ADF members as it is to the general population, although it is recognised that current smoking is less than that in the community. Overweight or obesity and inadequate physical activity are well-documented risk factors for chronic disease. These risk factors and their implications need to be considered in the context of existing health programs both in the ADF and in the general community.

There are implications for monitoring the health of the Transitioned ADF cohort into the future in order to integrate the findings in relation to physical health with mental health and pathways to care and to monitor changes in their physical and mental health status over time. This could be achieved through repeated health surveys or through data linkage with the existing Medicare and PBS databases. Monitoring the

health and healthcare needs and health service use of the non-DVA client group is also important – including whether they apply for benefits and become clients of DVA.

Despite its size and breadth, the current study did not investigate the causal pathways and correlates of physical health symptoms among Transitioned ADF members. Nevertheless, the data collected through the Mental Health and Prevalence Wellbeing Study (for example, on demographic and service-related factors), together with findings on mental health and pathways to care have important implications for both Transitioned and Regular ADF members and for their clinical and allied health service providers, for their families, and for DVA and Defence in their health care and employment.

Taken together, the results from this program of research provide a platform for identifying specific subgroups at risk of poor physical, mental and social health outcomes in the future. In particular, they provide the foundation for gaining a more complete understanding of the physical health of Transitioned ADF members through an understanding of comorbidities and interrelationships between physical and mental disorders that are most prevalent in military populations. This includes the association between physical comorbidities of PTSD, depression and alcohol use disorders (Ikin et al., 2016; Ikin et al., 2004; Sim et al., 2015) as well as musculoskeletal disorders, mental disorders, insomnia, pain, disability, and self-perceived health and quality of life. This information can be used to inform policy and practice relating to prevention, early intervention and improved integration of the treatment of physical and mental comorbidities in military cohorts in Australia and worldwide.

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

## **14.7 Conclusion**

This study compares the physical health status of Transitioned ADF members who had transitioned out of full-time regular service in the five-year period between January 2010 and December 2014 with that of Regular ADF members in 2015, using general health indicators as well as indicators relevant to several body systems. It is the first comprehensive Australian study of transitioned personnel and one the few

international studies in this field and provides a very important baseline study of health in these cohorts.

Overall, Transitioned ADF members were more likely to report poorer physical health, to have increased lifestyle risk factors, and to report poorer self-perceived health, satisfaction and quality of life than 2015 Regular ADF members. In Transitioned ADF, poorer physical health outcomes overall were reported among DVA clients compared with those who were not DVA clients, in Ex-Serving members compared with Active Reservists or Inactive Reservists, and in those who had been medically discharged compared with those who had been discharged for another reason. Physical comorbidities and the relationship with psychological health are important considerations. Physical health status in the transitioning phase might have implications – for example, for general health and wellbeing for re-integration and employment post-transition and, in the longer term, for the later onset of chronic health conditions. The findings of this study can help inform preventive health programs and health management. This is a relatively young cohort, and longitudinal follow-up to assess and monitor more chronic conditions that emerge will be important.



---

## **Annex A    Mental Health and Wellbeing Transition Study method**

This annex outlines the design, selection criteria, instrumentation, recruitment strategy and statistical procedures used for the Mental Health and Wellbeing Transition Study. Details of the Impact of Combat Study and the Family Wellbeing Study will be outlined in future reports.

### **A.1    Summary of the research**

The Transition and Wellbeing Research Programme is a joint research initiative of the Department of Veterans' Affairs and the Department of Defence. The aims is to examine the impact of contemporary military service on the mental, physical and social health of Serving and Ex-Serving Australian Defence Force members and their families.

The Programme has been conducted by a consortium of six of Australia's leading research institutions, led by the Centre for Traumatic Stress Studies at the University of Adelaide and the Australian Institute of Family Studies. The consortium included researchers from the Phoenix Australia: Centre for Posttraumatic Mental Health, the University of New South Wales, Monash University and the University of Sydney.

The 2010 Military Health Outcomes Program (MilHOP) detailed the prevalence of mental disorder in the 2010 Regular ADF and deployment-related health factors for those deployed to the Middle East Area of Operations between 2010 and 2012. Following MilHOP, several research gaps were identified, including the mental health of Ex-Serving ADF members, Reservists, family members and ADF members in high-risk roles, as well as the course of mental disorders and pathways to care for individuals over time.

The Transition and Wellbeing Research Programme aimed to redress these research gaps in three separate but related studies:

- the Mental Health and Wellbeing Transition Study
- the Impact of Combat Study
- the Family Wellbeing Study.

## A.2 Aims of the Programme

The Transition and Wellbeing Research Programme aimed to:

- determine the prevalence of mental disorders among ADF members who have transitioned from Regular ADF service between 2010 and 2014
- examine self-reported mental health status of Transitioned ADF and the 2015 Regular ADF
- assess pathways to care for Transitioned ADF and the 2015 Regular ADF, including those with a diagnosed mental disorder
- examine the physical health status of Transitioned ADF and the 2015 Regular ADF
- investigate technology and its utility for health and mental health programs including implications for future health service delivery
- conduct predictive modelling of the trajectory of mental health symptoms/disorders of Transitioned ADF and the 2015 Regular ADF, removing the need to rely on estimated rates
- investigate the mental health and wellbeing of currently serving 2015 Ab-initio Reservists
- examine the factors that contribute to the wellbeing of Transitioned ADF and the 2015 Regular ADF
- follow up on the mental, physical and neurocognitive health and wellbeing of participants who deployed to the Middle East Area of Operations between 2010 and 2012
- investigate the impact of ADF service on the health and wellbeing of the families of Transitioned ADF and the 2015 Regular ADF.

These objectives will allow Defence and DVA to:

- build on the 2010 MilHOP research, to develop an understanding of how mental health changes and manifests itself during the post-separation re-adjustment phase
- develop insights into improving communication between contemporary veterans, DVA and Defence

- further develop research outcomes and optimise the use of existing datasets within DVA and Defence to improve understanding of Serving and Ex-Serving ADF members' mental health, their access to clinical services and the outcomes of accessing these services
- build the objective knowledge base of DVA and Defence staff members and of other parties who are interested in the mental health of current Serving and Transitioned members
- improve mental health (and associated physical health) outcomes for Serving and Ex-Serving ADF members across all age cohorts
- review the optimal method of conducting scientifically valid and reliable research involving ADF and Ex-Serving ADF members that is acceptable to the participants, the Ex-serving ADF community, the ADF and DVA.

### **A.3 Sample**

To achieve the aims of the broader research Programme, the following six overlapping samples were targeted for data collection. The six samples were as follows.

#### **A.3.1 Sample 1: Transitioned ADF**

Sample 1 comprised all ADF members who transitioned from the Regular ADF between 2010 and 2014. This included those who transitioned into the Active and Inactive Reserves as well as those who discharged completely from the Regular ADF. The sample consisted of three groups of Transitioned ADF members: MHPWS Transitioned ADF (ADF members who participated in the 2010 ADF Mental Health Prevalence and Wellbeing Study as a Regular ADF member but had since transitioned); Combat Transitioned ADF (ADF members who participated in the MEAO Prospective Health Study between 2010 and 2012 and had since transitioned); and ADF members who had transitioned from the Regular ADF since 2010) but were not part of the 2010 MHPWS or the MEAO Prospective Health Study). Results from these three groups were combined and weighted to represent the Transitioned ADF in 2015.

#### **A.3.2 Sample 2: 2015 Regular ADF**

Sample 2 consists of three groups of Regular ADF members in 2015 who were invited to participate in the study: those who participated in the 2010 MHPWS and were a Regular ADF member in 2015; those who participated in the MEAO Prospective Health Study between 2010 and 2012 and were a Regular ADF member in 2015; and a stratified random sample of Regular ADF members from 2015 who were not part of the 2010 MHPWS or the MEAO Prospective Health Study. Results from these three groups were combined and weighted to represent the 2015 Regular ADF.

### **A.3.3 Sample 3: Ab-initio Reservists**

Sample 3 consists of all ADF members who joined the ADF Reserves, who continue to serve in a Reserve capacity, and who have never been a serving Regular ADF member.

### **A.3.4 Sample 4: ADF families**

Sample 4 consists of ADF families nominated by 2015 Regular ADF and Ex-Serving ADF members participating in the Programme.

### **A.3.5 Samples 5 and 6**

The two MilHOP samples 5 and 6 below, which were incorporated in samples 1 and 2 above for the purposes of analysis, were also followed up as part of an ongoing program of longitudinal health surveillance.

#### ***Sample 5: Combat zone***

Sample 5 consists of all ADF members who participated in the MEAO Prospective Health Study – members who were deployed to the MEAO after June 2010 and had returned from deployment by June 2012.

#### ***Sample 6: MHPWS***

Sample 6 consists of all individuals who participated in the 2010 MHPWS component of MilHOP (2010 ADF). There were two groups – MHPWS Transitioned ADF (ADF members who participated in the 2010 MHPWS as a Regular ADF member but had since transitioned) and MHPWS 2015 ADF (Regular ADF members who participated in the 2010 MHPWS and were in the 2015 Regular ADF).

DVA and Defence have commissioned several reports from the Programme; Table A.1 shows the samples each report will cover. All samples were drawn from the Military and Veteran Research Study Roll, which is described in Section A.11.2.

## **A.4 Population comparison samples**

### **A.4.1 Sample 7: 2010 Regular ADF comparison**

Results drawn from the 2010 MHPWS report were directly imputed into this report to provide an indication of the change in self-reported mental health between the 2010 Regular ADF and the 2015 Regular ADF. These results should be interpreted with caution because of the overlapping nature of the two populations.

**Table A.1 Commissioned reports**

Report	Programme goal	Samples	Data collection
<i>Mental Health Prevalence Report: findings from the 2015 Mental Health and Wellbeing Transition Study</i>	Establish baseline prevalence rates of mental disorders among ADF members who transitioned from full-time ADF service	<ul style="list-style-type: none"> <li>• ADF members who transitioned from full-time ADF service between 2010 and 2014</li> <li>• 2015 Regular ADF</li> <li>• Comparison with 2010 ADF and community, where appropriate</li> </ul>	<ul style="list-style-type: none"> <li>• Self-report questionnaire</li> <li>• CIDI (subgroup)</li> </ul>
<i>Pathways to Care Report: findings from the 2015 Mental Health and Wellbeing Transition Study</i>	Pathways to mental health care for serving and Transitioned ADF members, including those with a mental health disorder, including: <ul style="list-style-type: none"> <li>• how care is accessed</li> <li>• use patterns</li> <li>• stigmas and barriers</li> </ul>	<ul style="list-style-type: none"> <li>• ADF members who transitioned from full-time ADF service between 2010 and 2014</li> <li>• 2015 Regular ADF</li> </ul>	<ul style="list-style-type: none"> <li>• Self-report survey</li> </ul>
<i>Physical Health Status Report: findings from the 2015 Mental Health and Wellbeing Transition Study</i>	Physical health status of members of 2015 Regular ADF and Transitioned ADF, including: <ul style="list-style-type: none"> <li>• symptom reporting, including pain and sleep</li> <li>• doctor diagnosed medical conditions</li> <li>• physical injuries</li> <li>• satisfaction with health</li> </ul>	<ul style="list-style-type: none"> <li>• ADF members who transitioned from full-time ADF service between 2010 and 2014</li> <li>• 2015 Regular ADF</li> </ul>	<ul style="list-style-type: none"> <li>• Self-report survey</li> </ul>
<i>Family Wellbeing Report: findings from the 2015 Family Wellbeing Study</i>	Experiences and perspective of family members on: <ul style="list-style-type: none"> <li>• impact of military service on families</li> <li>• pathways to available care</li> </ul>	<ul style="list-style-type: none"> <li>• Nominated family members of serving Regular ADF members and ADF members who transitioned from full-time service between 2010 and 2014</li> </ul>	<ul style="list-style-type: none"> <li>• Self-report survey (quantitative component)</li> <li>• Semi-structured telephone interviews (qualitative component)</li> </ul>
<i>Technology Use and Wellbeing Report: findings from the 2015 Mental Health and Wellbeing Transition Study</i>	Utility of technology for mental health and mental health programs, including implications for future health service delivery	<ul style="list-style-type: none"> <li>• ADF members who transitioned from full-time service between 2010 and 2014</li> <li>• 2015 Regular ADF</li> </ul>	<ul style="list-style-type: none"> <li>• Self-report survey</li> </ul>
<i>Impact of Combat Report: findings from the 2015 Impact of Combat Study</i>	<ul style="list-style-type: none"> <li>• Longitudinal impact of deployment to MEAO on psychological, biological and social factors</li> <li>• risk and protective factors</li> <li>• traumatic brain injury</li> </ul>	<ul style="list-style-type: none"> <li>• Serving and Ex-Serving ADF members who deployed to the MEAO between June 2010 and June 2012 and participated in MilHOP (Combat Zone sample)</li> </ul>	<ul style="list-style-type: none"> <li>• Self-report survey</li> <li>• CIDI (sub-group)</li> <li>• Neurocognitive and/or biological tests (subgroups)</li> <li>• MRI (subgroup)</li> </ul>
<i>Mental Health Changes Over Time: a Longitudinal Perspective Report: findings from the 2015 Mental Health and Wellbeing Transition Study</i>	Longitudinal disorder development: <ul style="list-style-type: none"> <li>• changes in symptom and disorder status over two time-points</li> <li>• predictors/outcomes of these changes</li> </ul>	<ul style="list-style-type: none"> <li>• 2015 Regular ADF</li> <li>• Transitioned ADF members who previously participated in MilHOP (MHPWS CIDI sample)</li> </ul>	<ul style="list-style-type: none"> <li>• Self-report questionnaire</li> <li>• CIDI (subgroup)</li> </ul>
<i>Transition and Wellbeing Research Programme Key Findings Report</i>	Key findings across the Programme and implications for Defence and DVA	All	All

#### **A.4.2 Sample 8: Comparison of Transitioned ADF with the Australian community (2014–2015)**

To enable comparison of estimates in the Transitioned ADF with an Australian community population, direct standardisation was applied to estimates in the 2014–2015 ABS National Health Survey data. The NHS is the most recent in a series of Australia-wide ABS health surveys, assessing various aspects of the health of Australians, including long-term health conditions, health risk factors and health service use. The NHS data were restricted to individuals aged 18–71 years (consistent with the Transitioned ADF). The data were standardised by sex, employment status (employed or not) and age category (18–27, 28–37, 38–47, 48–57 and 58+), and estimates were generated on the outcomes of interest. Standard errors for the data were estimated using the replication weights provided in the NHS data file.

### **A.5 Response rates**

#### **A.5.1 Survey respondents**

Overall, there was a response rate of 29.1% for the entire survey – that is, among both the Transitioned ADF and the 2015 Regular ADF (total respondents as a proportion of total invited). As at 15 December 2015, 18.0% (4,326) of the 23,974 Transitioned ADF members invited to participate had completed a survey. In contrast, response rates for the invited 2015 Regular ADF (20,031) were much higher, with 42.3% of those who were invited to participate completing a survey. It is important to note, however, that not all Regular ADF members were invited to participate in the survey: invitations were restricted to a stratified random sample of 5040 ADF members and Regular ADF members who previously participated in MilHOP. Similarly, 958 Transitioned ADF members were not invited to participate in the survey because they had opted out of the Study Roll or had opted out of being contacted further or there was insufficient contact information.

Table A.2 and Figure A.1 summarise the breakdown of Transitioned ADF and 2015 Regular ADF members with enough data to be included in the survey. Table A.3 shows the demographic profile of this group.

**Table A.2 Survey response rates, by Service, sex, rank and medical fitness, for Transitioned ADF members and 2015 Regular ADF members**

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

Note: Unweighted data.

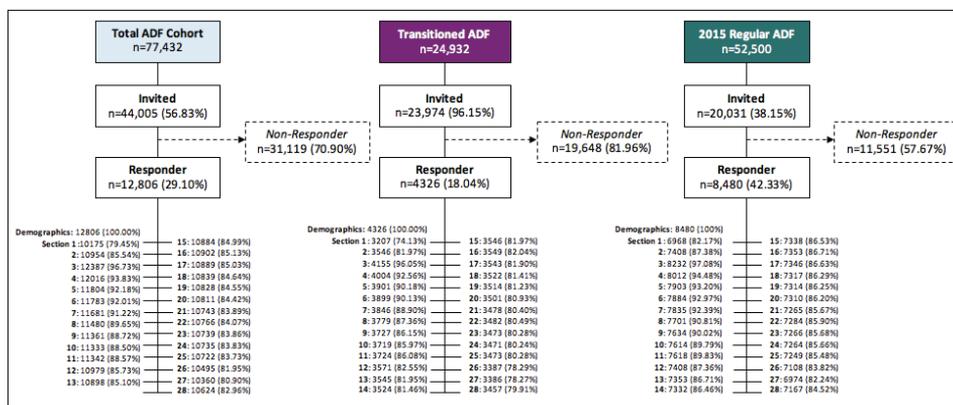
The characteristics of survey respondents were as follows:

- **Sex.** Consistent with the Transitioned ADF population, the sample was predominantly male, with transitioned females being significantly more likely to respond than transitioned males. In the 2015 Regular ADF population, females were less likely to respond than males.
- **Age.** Transitioned ADF survey respondents (mean age 41.9 years (SE 0.18)) were similar in age to the 2015 Regular ADF respondents (mean age 41.1 years (SE 0.1)).
- **Rank.** Survey respondents from the Transitioned ADF comprised 29.1% Officers, 48.5% Non-Commissioned Officers and 22.4% Other Ranks. In the 2015 Regular ADF there was a similar distribution, with 41.7% Officers, 51.1% Non-Commissioned Officers and 7.2% Other Ranks. The Transitioned ADF population had significantly lower response rates for Officers and Non-Commissioned Officers but significantly higher response rates in the Other Ranks compared with the 2015 Regular ADF. In both groups the lower ranks were the poorest responders.
- **Service.** In the Transitioned ADF survey group 19.9% of survey respondents were Navy, 56.9% were Army and 23.1% were Air Force. For the Regular 2015 ADF,

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

- **Medical fitness.** Transitioned ADF who were medically unfit on transition from the Regular ADF were slightly over-represented in the respondent group (31.1%) compared with the 2015 Regular ADF population (16.1%). Transitioned ADF who were medically unfit had a response rate of 21.0% compared with 46.5 % in the 2015 Regular ADF population.

**Figure A.1 Survey response rates for Transitioned ADF and 2015 ADF**



### A.5.2 CIDI respondents

In phase 2 of the research a subsample of 1384 individuals from the stratified Transitioned ADF group, 1088 individuals from the MHPWS group, and 183 from the Combat Zone group were selected to participate in a one-hour telephone interview using the World Mental Health Survey Initiative Version of the World Health Organization Composite International Diagnostic Interview – version 3.0 (CIDI) (Kessler & Ustun, 2004). Data from all three groups were used to estimate the prevalence of mental disorder among Transitioned ADF members.

#### Stratified Transitioned ADF

A total of 1384 participants were stratified and sought for participation (selected) in the CIDI 3.0. Of those selected, 53.8% (745) completed the interview. Table A.4 shows the response rates for the stratified Transitioned ADF undertaking the CIDI interview and Table A.5 shows the demographic profile of this group.

**Table A.3 Unweighted demographic characteristics of respondents, by Transitioned ADF and 2015 Regular ADF**

	Transitioned ADF (n = 4326)			2015 Regular ADF (n = 8480)		
	n	%	95% CI	n	%	95% CI
Age (M, SE)	41.9	0.2		41.1	0.1	
Age group						
18–27	471	10.9	(10.0, 11.9)	602	7.1	(6.6, 7.7)
28–37	1262	29.2	(27.8, 30.5)	2484	29.3	(28.3, 30.3)
38–47	1119	25.9	(24.6, 27.2)	2976	35.1	(34.1, 36.1)
48–57	871	20.1	(19.0, 21.4)	2069	24.4	(23.5, 25.3)
58+	548	12.7	(11.7, 13.7)	201	2.4	(2.1, 2.7)
Sex						
Male	3646	84.3	(83.2, 85.3)	6693	78.9	(78.0, 79.8)
Female	680	15.7	(14.7, 16.8)	1787	21.1	(20.2, 22.0)
Rank						
OFFR	1259	29.1	(27.8, 30.5)	3538	41.7	(40.7, 42.8)
NCO	2097	48.5	(47.0, 50.0)	4336	51.1	(50.1, 52.2)
Other Ranks	970	22.4	(21.2, 23.7)	606	7.2	(6.6, 7.7)
Service						
Navy	863	20.0	(18.8, 21.2)	2940	34.7	(33.7, 35.7)
Army	2463	56.9	(55.5, 58.4)	3500	41.3	(40.2, 42.3)
Air Force	1000	23.1	(21.9, 24.4)	2040	24.1	(23.2, 25.0)
Medical fitness						
Fit	2981	68.9	(67.5, 70.3)	7116	83.9	(83.1, 84.7)
Unfit	1345	31.1	(29.7, 32.5)	1364	16.1	(15.3, 16.9)

Notes: Denominator – Those who were invited and responded to the survey. Unweighted data.

**Table A.4 CIDI response rates for stratified Transitioned ADF, by Service, sex, rank and MEC status**

	Stratified Transitioned ADF CIDI (n = 1384 (selected); n = 745 (responded))			
	Population	Selected	Respondents	Response rate %
Service				
Navy	5671	285	150	52.6
Army	15,038	795	424	53.3
Air Force	4223	304	171	56.3
Sex				
Male	21,671	1140	631	55.4
Female	3261	235	109	45.0
Rank				
OFFR	4063	423	252	59.6
NCO	7866	694	389	56.1
Other Ranks	13,003	267	104	39.0
Medical fitness				
Fit	18,273	932	521	55.9
Unfit	6659	443	219	49.4
Total	24,932	1384	745	53.8

Notes: Denominator – Transitioned ADF Invited to participate in the CIDI interview. Unweighted data.

The characteristics of Transitioned CIDI respondents were as follows:

- *Sex.* Consistent with the Transitioned ADF population, the CIDI sample was predominantly male; transitioned females were, however, less likely to complete a CIDI interview than transitioned males.
- *Age.* Transitioned CIDI respondents were significantly older (45.6 years) (SE = 0.4) than non-respondents (40.4 years) (SE = 0.5).
- *Rank.* CIDI respondents comprised 33.8% Officers, 52.2% Non-Commissioned Officers and 14.0% Other Ranks. ADF members in the Other Ranks had a significantly lower response rate (39.0%) compared with above 50% for those invited among Non-Commissioned Officers and Officers.
- *Service.* A table of 20.1% of CIDI respondents were Navy, 56.9% were Army and 23.0% were Air Force. There was no significant difference between CIDI respondents and non-respondents in relation to Service.
- *Medical fitness.* Transitioned ADF who were medically unfit on transition from the Regular ADF comprised 29.4% of CIDI respondents.

**Table A.5 Demographic characteristics of stratified Transitioned ADF CIDI respondents**

	Stratified Transitioned ADF CIDI respondents (n = 745)		
	n	%	95% CI
Age (M, SE)	45.6	0.4	
Age group			
18–27	50	6.7	(5.1, 8.7)
28–37	171	23.0	(20.1, 26.1)
38–47	177	23.0	(20.8, 26.9)
48–57	179	24.0	(21.1, 27.2)
58+	163	21.9	(19.1, 25.0)
Sex			
Male	631	84.7	(81.9, 87.1)
Female	109	14.6	(12.3, 17.4)
Rank			
OFFR	252	33.8	(30.5, 37.3)
NCO	389	52.2	(48.6, 55.8)
Other Ranks	104	14.0	(11.7, 16.6)
Service			
Navy	150	20.1	(17.4, 23.2)
Army	424	56.9	(53.3, 60.4)
Air Force	171	23.0	(20.1, 26.1)
Medical fitness			
Fit	521	69.9	(66.5, 73.1)
Unfit	219	29.4	(26.2, 32.8)

Notes: Denominator – Transitioned ADF Invited to participate in the CIDI interview. Unweighted data.

***Mental Health Prevalence and Wellbeing Study group***

A total of 1088 participants from the MHPWS group were invited to participate in the CIDI 3.0. Of those invited, 76.8% (835) completed the interview. Table A.6 shows the response rates.

**Table A.6 CIDI response rates for the MHPWS group, by Service, sex, rank and medical fitness**

	MHPWS CIDI (n = 1088 invited; n = 835 responded)		
	Invited	Respondents	Response rate %
<b>Service</b>			
Navy	237	175	73.8
Army	462	349	75.5
Air Force	389	311	80.0
<b>Sex</b>			
Male	903	698	77.3
Female	182	135	74.2
Missing	3	2	66.7
<b>Rank</b>			
OFFR	451	375	83.2
NCO	576	425	73.8
Other Ranks	61	35	57.4
<b>Medical fitness</b>			
Fit	758	590	77.8
Unfit	327	243	74.3
Missing	3	2	66.7
<b>Total</b>	<b>1088</b>	<b>835</b>	<b>76.8</b>

Notes: Denominator – MHPWS sample invited to participate in the CIDI interview. Unweighted data.

The characteristics of the MHPWS group of CIDI respondents were as follows:

- **Sex.** The MHPWS sample consisted of both 2015 Regular and Transitioned ADF members. Consistent with the ADF population, the CIDI sample was predominantly male, and females were less likely to respond than males.
- **Rank.** CIDI respondents in this group consisted of 44.9% Officers, 50.9% Non-Commissioned Officers and 4.2% Other Ranks. Other Ranks were less likely to respond than the other two categories.
- **Service.** A total of 21.0% of survey respondents were Navy, 41.8% were Army and 37.2% were Air Force. There was no difference between CIDI respondents and non-respondents in relation to Service.
- **Medical fitness.** ADF members who were medically unfit were similarly represented in the CIDI respondent group (29.1%) compared with those selected (30.1%). ADF members who were medically fit were also similarly represented in the CIDI respondent group (70.7%) compared with 69.7% in the invited population. The respondent sample was therefore representative in terms of medical fitness of the selected group.

### Combat Zone group

A total of 183 participants from the Combat Zone group were invited to participate in the CIDI 3.0. Of those invited, 76.5% (140) completed the interview. Table A.7 shows the response rates.

**Table A.7** CIDI response rates for the Combat Zone group, by Service, sex, rank and medical fitness

	Combat Zone group CIDI (n = 183 invited; n = 140 responded)		
	Invited	Respondents	Response rate %
Service			
Navy	10	10	100
Army	143	111	77.6
Air Force	0	0	0.0
Missing	30	19	63.3
Sex			
Male	148	118	79.7
Female	2	2	100.0
Missing	33	20	60.6
Rank			
OFFR	20	16	80.0
NCO	101	77	76.2
Other Ranks	47	39	83.0
Missing	15	8	53.3
Medical fitness			
Fit	130	103	79.2
Unfit	21	17	81.0
Missing	32	20	62.5
Total	183	140	76.5

Notes: Denominator – MHPWS sample invited to participate in the CIDI interview. Unweighted data.

The characteristics of the Combat Zone group of CIDI respondents were as follows:

- **Sex.** The Combat Zone CIDI sample consisted of both 2015 Regular ADF and Transitioned ADF members. Consistent with the ADF population, the CIDI sample was almost entirely male. The two females selected both responded.
- **Rank.** CIDI respondents in this group consisted of 11.4% Officers, 55.0% Non-Commissioned Officers and 27.9% Other Ranks. Other Ranks were less likely to respond than the other two ranking categories.
- **Service.** A total of 7.1% of survey respondents were Navy, 79.3% were Army and none were Air Force. There was no difference between CIDI respondents and non-respondents in relation to Service.

- *Medical fitness.* ADF members who were medically unfit were similarly represented in the CIDI respondent group (12.14%) compared with those selected (11.5%). ADF members who were medically fit were also similarly represented in the CIDI respondent group (73.6%) compared with 71.0% in the invited population. The respondent sample was therefore representative in terms of the medical fitness of the selected group.

## **A.6 Study overview**

Prevalence estimates were obtained using a two-phase design. This well-accepted approach to epidemiological research (Salim & Welsh, 2009) was used in the 2010 Mental Health Prevalence Wellbeing Study (McFarlane et al., 2011). In the first phase participants completed a screening questionnaire. This gave the research team a clear picture of psychological symptoms from a dimensional perspective.

Based on certain key results from the survey and specific demographic factors, a subset of participants was also selected to participate in a one-hour diagnostic mental health telephone interview. Additional biological, neurocognitive testing and magnetic resonance imaging was undergone by participants in the Combat Zone sample. A detailed description of this additional testing is not provided here but will be provided in a subsequent report.

Interview data for the Transitioned ADF were weighted to ensure the representativeness of the prevalence estimates for key subgroups within the total Transitioned ADF population. Self-report survey data were also weighted to be representative of both the Transitioned ADF and the 2015 Regular ADF.

## **A.7 Measures**

### **A.7.1 Phase 1: self-report survey**

In phase 1 of the Mental Health and Wellbeing Transition Study Transitioned ADF members and 2015 Regular ADF members were screened for mental health problems, psychological distress, physical health problems, wellbeing factors, pathways to care and occupational exposures using a 60-minute self-report questionnaire that was completed either online or in hard copy. This survey was developed at the beginning of the study period in close consultation with DVA and Defence. Survey anonymity was preserved via the allocation of a unique study ID number to each participant. Participants who had previously completed a survey as part of the 2010 Mental Health Prevalence Wellbeing Study were allocated their same MilHOP study ID number.

Participants were able to complete the survey in one of two ways:

- *Online.* Participants were sent an email that included a secure link to an online invitation package containing the web-based survey. Participants could access the survey only by entering their unique study ID number and password, which was provided to them in the invitation email.
- *In hard copy.* Participants could opt to complete a hard-copy version of the questionnaire, which was mailed to their current postal address.

Each participating sample received a slightly different questionnaire relevant to their current ADF status – Transitioned ADF member, 2015 Regular ADF member, Ab-initio Reservist – in relation to demographics, Service and deployment history. The core-validated measures of psychological and physical health remained the same, however, and replicated where possible the measures previously administered as part of the MHPWS in 2010. This component of the design is crucial for longitudinal comparisons over time and highlights the importance of a consistent approach to the oversight of research design for military and veteran populations over time.

Before roll-out, the online and hard-copy versions of the self-report survey were piloted on a select group of 2015 Regular ADF and Ex-Serving ADF members. Individuals in the pilot group were asked to provide detailed feedback pertinent to the content and adequacy of the survey and the usability of the system/form. Their comments and feedback were subsequently incorporated in the final version of the survey. This ensured that there were no mistakes in the survey or glitches in the system before the study was rolled out. Details of the survey provided to participants belonging to the Combat Zone sample are not provided here but will be provided in a later report.

### ***Part 1: Demographics and service details***

Part 1 of the self-report survey was completed by all samples and comprised the following major sections.

#### *Demographic information*

Participants were asked to provide demographic information for gender, date of birth and highest educational qualification attained. These items were taken directly from the 2010 MHPWS (McFarlane et al., 2011).

#### *Household and family structure*

Participants were asked questions about their relationship status, household structure and children. Items in this section were derived from several sources, including the Timor-Leste Family Study (McGuire et al., 2012), the HILDA (Household, Income and

Labour Dynamics in Australia) survey (Watson & Wooden, 2002) and the 2014 Vietnam Veterans Family Study conducted by DVA (Forrest et al., 2014).

#### *Financial status*

Items assessing participants' current financial status, including financial hardship, were taken from the HILDA survey (Watson & Wooden, 2002) and the Health and Wellbeing Survey of Serving and Ex-Serving Personnel of the UK Armed Forces: Phase 2 (Fear et al., 2010).

#### *Homelessness*

This section of the survey consisted of eight questions from the 2010 ABS General Social Survey (Australian Bureau of Statistics, 2011) that dealt with lifetime and recent episodes of homelessness. Items looked at a number of factors:

- participants' experiences of homelessness
- reasons for homelessness
- frequency of homelessness
- details about participants' most recent experience of homelessness – reason for homelessness, time frame, recency
- assistance sought during period(s) of homelessness/helpfulness of these services
- barriers to seeking support.

#### *ADF service details*

Participants were asked a series of questions specific to their employment with the ADF, including the number of years served, current service status, hours worked per week, rank and Service. Depending on their rank and Service, participants were also asked a series of questions pertaining to their specialty and specific role within the ADF. Items in this section were taken from the Australian Bureau of Statistics (Australian Bureau of Statistics, 2008) and the 2011 Australian Defence Force Exit Survey (Shirt, 2012).

#### *Feelings about the ADF*

This section of the survey aimed to assess participants' level of organisational commitment. Four items were taken from Allen and Meyer's Affective Commitment Scale (Allen & John, 1990) and the other four were developed by researchers for the study.

Transitioned ADF members were asked additional questions in part 1 pertaining to the following:

- *Employment status.* In this section of the survey participants were asked about their current employment activities. Examples of options are ‘full time work greater than or equal to 30 hours paid employment per week’, ‘home duties’ and ‘unemployed/looking for work’. Unemployed members were also required to provide a reason for their unemployed status. Items in this section were taken from the Young and Well Cooperative Research Centre standard suite of measures (Young and Well Cooperative Research Centre, 2013) and the Health and Wellbeing Survey of Serving and Ex-Serving Personnel of the UK Armed Forces: Phase 2 (Fear et al., 2010).

Participants were also asked to provide details about their current civilian employment, including the number of hours worked per week, the industry of employment and their main source of income. Items in this section were derived from Health and Wellbeing Survey of Serving and Ex-Serving Personnel of the UK Armed Forces: Phase 2 (Fear et al., 2010), the Australian Defence Force Exit Survey (Shirt, 2012) and the HILDA survey (Watson & Wooden, 2002). In addition, participants were asked to indicate whether they had reported a period of unemployment greater than three months since transitioning and, if so, when this period began. This item was taken from the Australian Gulf War Follow up Health Study (Sim et al., 2015).

- *Reservist status.* In this section of the survey participants were asked about their Reservist status and, where relevant, to provide details pertaining to their Reservist employment, including their full-time/part-time status, the number of hours worked, and weeks away for Reservist work. Items in this section were taken from the Soldier Wellbeing Survey (Riviere et al., 2011; Thomas et al., 2010).
- *Year of transition.* Participants were asked to indicate what year they transitioned into Active Reserves/Inactive Reserves/out of the ADF. These questions were taken from the Health and Wellbeing Survey of Serving and Ex-Serving Personnel of the UK Armed Forces: Phase 2 (Fear et al., 2010) and the Australian Gulf War Follow up Health Study (Sim et al., 2015).
- *Change in relationship status.* Participants were asked to indicate whether their relationship status had changed since transitioning from full-time Regular ADF service. If divorced, separated or widowed since transition, they were asked to provide a date. This item in the survey was taken from the Australian Gulf War Follow up Health Study (Sim et al., 2015).

- *ADF separation details.* This section of the survey comprised two parts. First, participants were asked about their discharge/resignation category. Examples of options are ‘medical discharge’, ‘compassionate grounds’ and ‘end of fixed period engagement’. In part 2 participants were offered a comprehensive list of reasons for leaving the ADF and asked to mark all that played a role in their decision to leave. They were also asked to indicate the main reason for their selections. Items in this section were based on the current exit survey used by the ADF (Shirt, 2012).

Additionally, ADF Reservists were asked questions pertaining to the following:

- *Reservist details.* Participants were asked to provide details in relation to the length of time served as a Reservist, Reservist status, periods of continuous full-time service, hours worked per week in the preceding month, weeks away in the preceding five years, and satisfaction with participation in the Reserves. Items in this section were derived from the Soldier Wellbeing Survey (Riviere et al., 2011; Thomas et al., 2010), the Health and Wellbeing Survey of Serving and Ex-Serving Personnel of the UK Armed Forces: Phase 2 (Fear et al., 2010) and the RAND Guard/Reserve Survey of Officer and Enlisted Personnel (Kirby & Naftel, 1998). Other items were developed specifically by researchers for use in the study.
- *Civilian employment.* Participants were asked a series of questions in relation to their civilian role (if relevant) – employer knowledge of Reservist role, employer attendance at Reservist events, employer support of military affiliation, impact of Reservist duties on civilian role, and a comparison of duties and responsibilities across Reservist and civilian roles. Items in this section were derived from the Soldier Wellbeing Survey (Riviere et al., 2011; Thomas et al., 2010), the Middle East Area of Operations Health Study: Prospective Study (Davy et al., 2012) and the ADF Exit Survey (Shirt, 2012). Information surrounding current employment activities and details of civilian employment was also collected, as described in the section about Transitioned members.
- *Contribution to the ADF.* Participants’ perception of their contribution to the ADF was measured via a single item – ‘How important do you think your contribution is towards the ADF?’ Anchors ranged from ‘not at all important’ to ‘very important’. This item was taken from the RAND Guard/Reserve Survey of Officer and Enlisted Personnel (Kirby & Naftel, 1998).
- *How the ADF deals with Reservists.* Participants’ perceptions of how well the ADF deals with, understands and accepts Reservists were assessed via three items measured on a five-point scale ranging from ‘very poor’ to ‘very good’.

- *Getting help (Reservist specific).* This section of the survey was developed by researchers and looked at mental health problems resulting from the Reservist experience, help sought for these problems, help sought and received from ADF services/non-Defence organisations, and benefits sought and received from DVA.

## ***Part 2: Health and Wellbeing Survey***

Part 2 of the survey was completed by all samples specific to the Mental Health and Wellbeing Transition Study and included factors described in the following sections.

### *Deployments*

Participants were asked to provide detailed information about their deployment history with the ADF. Deployments were grouped into several categories – warlike/active service, non-warlike (peacekeeping) service, humanitarian/disaster relief, Defence aid and border protection. For each applicable deployment listed, participants were asked to indicate which country they were deployed to, the name of the operation, the dates they were deployed, the number of times they were deployed, the total number of months deployed, and whether they were deployed in a combat capacity. Items in this section were adapted from the 2010 Mental Health Prevalence Wellbeing Study (McFarlane et al., 2011).

### *Deployment exposure*

Participants were presented with a list of deployment exposures and asked to indicate how many times they had reported each one during their military career. Response categories ranged from ‘never’ to ‘10+ times’. Examples of events are exposure to ‘hazardous materials’, ‘discharge of weapon in direct combat’ and ‘handled or saw dead bodies’. Items in this section were drawn from the MEAO Census Study (Dobson et al., 2012).

### *Quality of life*

This section of the survey consisted of three items that assessed general health, satisfaction with health, and quality of life. General health was measured via the first item of the Short Form 36 Health Survey (SF36) (Ware & Sherbourne, 1992), referred to as the Form 1, or SF1. The SF1 is a single item that is increasingly being used in population studies as an indicator of overall health status. Items assessing general health and satisfaction with health were taken from the 2011 Australian Gulf War Follow up Health Study (Sim et al., 2015).

### *Depression*

Self-reported depression was examined using the Patient Health Questionnaire – 9 (PHQ-9) (Kroenke et al., 2001). The nine items of the PHQ-9 are scored from zero to three and summed to give a total score between zero and 27. The PHQ-9 provides various levels of diagnostic severity, with higher scores indicating higher levels of depression symptoms.

### *Generalised anxiety disorder*

Generalised anxiety disorder was measured using the Generalised Anxiety Disorder 7 (GAD-7) (Spitzer et al., 2006). Each of the seven items is scored from one to three, providing a total generalised anxiety score ranging between zero and 21. Participants were asked to rate each item in the GAD-7 in relation to the preceding two weeks only.

### *Sleep problems*

Self-perceived insomnia was examined using the Insomnia Severity Index (Bastien et al., 2001), which comprises seven items assessing the severity of sleep-onset and sleep-maintenance difficulties, satisfaction with current sleep pattern, interference with daily functioning, noticeability of impairment attributed to the sleep problem, and degree of distress or concern caused by the sleep problem.

Each item is rated on a scale of zero to four, and the total score ranges from zero to 28. A higher score suggests more severe insomnia.

### *General psychological distress*

The Kessler Psychological Distress Scale (K10) (Kessler et al., 2002) is a short 10-item screening questionnaire that yields a global measure of psychological distress based on symptoms of anxiety and depression experienced in the most recent four-week period. Items are scored from one to five and are summed to give a total score between 10 and 50. Various methods have been used to stratify the scores of the K10. The categories of low (10–15), moderate (16–21), high (22–29) and very high (30–50) that are used in this report are derived from the cut-offs of the K10 that were used in the 2007 ABS Australian National Mental Health and Wellbeing Survey (Slade et al., 2009) and were used to identify levels of psychological distress in the 2010 ADF Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011).

### *Anger*

The Dimensions of Anger Reactions Scale (DAR- 5) (Forbes et al., 2004) is a concise measure of anger. It consists of five items covering anger frequency, intensity and duration, aggression, and interference with social functioning. Items are scored on a five-point Likert scale, generating a severity score ranging from five to 25, with higher scores indicative of worse symptomatology. This scale has been used previously to assess Australian Vietnam veterans, as well as US Afghanistan and Iraq veterans, and shows strong unidimensionality and high levels of internal consistency and criterion validity.

### *Physical violence*

Items dealing with participants' personal experiences with physical violence or threatened violence were taken from the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011).

### *Suicidal ideation and behaviour*

Twelve-month suicidal ideation and behaviour was assessed via four items that looked specifically at suicidal thoughts, plans and attempts. Three of the items used were adapted from the National Survey of Mental Health and Wellbeing (Australian Bureau of Statistics, 2008) and the final item was devised by researchers for use in the current study.

### *Perceptions of mental health*

Items dealing with participants' perceptions of their current and future physical and mental health were developed by researchers for use in the study.

### *Lifetime exposure to traumatic events*

Lifetime exposure to trauma was examined as part of the posttraumatic stress disorder module of the CIDI 3.0 (Haro et al., 2006). Participants were asked to indicate whether or not they had reported the following traumatic events: combat (military or organised non-military group); being a peacekeeper in a war zone or a place of ongoing terror; being an unarmed civilian in a place of war, revolution, military coup or invasion; living as a civilian in a place of ongoing terror for political, ethnic, religious or other reasons; being a refugee; being kidnapped or held captive; being exposed to a toxic chemical that could cause serious harm; being in a life-threatening automobile accident; being in any other life-threatening accident; being in a major natural disaster; being in a man-made disaster; having a life-threatening illness; being beaten by a spouse or romantic partner; being badly beaten by anyone else; being mugged, held up or threatened with a weapon; being raped; being sexually assaulted; being stalked; having someone close to you die; having a child with a life-threatening illness or injury; witnessing serious physical fights at home as a child; having someone close experience a traumatic event; witnessing someone badly injured or killed or unexpectedly seeing a dead body; accidentally injuring or killing someone; purposefully injuring, torturing or killing someone; seeing atrocities or carnage such as mutilated bodies or mass killings; experiencing any other traumatic event. For each applicable event, participants were required to provide further information about their age the first and last time the event took place, the number of times each event took place, and the number of times each event was related to their ADF service. Participants were then required to indicate which of the events they had answered 'yes' to was their worst event.

### *Posttraumatic stress disorder*

The Post Traumatic Stress Disorder Checklist – civilian version (PCL-C) (Weathers et al., 1993) is a 17-item self-report measure designed to assess the symptomatic criteria of PTSD according to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV). The 17 questions of the PCL-C are scored from one to five and are summed to give a total symptom severity score of between 17 and 85. An additional four items from the newly released PCL-5 were also included, giving researchers

flexibility to also measure PTSD symptoms according to the most recent definitional criteria.

#### *Recent life events*

Participants completed a modified 15-item version of the List of Threatening Experiences (Brugha et al., 1985). This brief questionnaire is frequently used to assess recent stressful life events. Participants were asked to indicate 'yes' if the event had occurred in the preceding 12 months and whether or not it was still having an effect on their life. Examples of events are 'your parent, child or spouse died', 'you had a major financial crisis' and 'you broke off a steady relationship'.

#### *Alcohol use*

Alcohol consumption and problem drinking were examined using the Alcohol Use Disorders Identification Test (AUDIT) (Saunders et al., 1993), a brief self-report screening instrument developed by the World Health Organization. This instrument consists of 10 questions to examine the quantity and frequency of alcohol consumption, possible symptoms of dependence, and reactions or problems related to alcohol. The AUDIT is an instrument that is widely used in epidemiological and clinical practice for defining at-risk patterns of drinking (Babor et al., 2001). Currently the recommended WHO risk categories are used with ADF populations and are also therefore the scoring categories used in this study. The process identifies four bands of risk – Band 1 (scores of 0–7) represents those who would benefit from alcohol education; Band 2 (8–15) represents those who are likely to require simple advice; Band 3 (scores of 16–19) are those where counselling and continued monitoring are recommended; Band 4 (scores of 20–40) requires diagnostic evaluation and treatment, including counselling and monitoring (Babor et al., 1989; Babor et al., 2001).

Two supplementary items of the AUDIT were also included in the questionnaire, as well as additional items on consumption to ensure comparability with the Australian National Health Survey 2011–2012 (Australian Bureau of Statistics, 2012).

#### *Tobacco use*

Items assessing tobacco use were taken from the 2013 National Drug Strategy Survey (Australian Institute of Health and Welfare, 2014) and the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011). Participants were asked a series of questions about their past and present tobacco use, including frequency of use, the ages at which they started and stopped smoking daily, and the types of tobacco products they had smoked in the preceding year.

#### *Drug use*

Twelve-month and lifetime drug use in Transitioned ADF only were measured using modified Items from the 2013 National Drug Strategy Survey (Australian Institute of Health and Welfare, 2014). Transitioned ADF were asked a series of questions about

two categories of drugs: illicit drugs (including meth/amphetamines, marijuana, heroin, methadone or buprenorphine, cocaine, hallucinogens, ecstasy, ketamine, GHB, inhalants, opiates, opioids) and prescription drugs (including painkillers/analgesics, tranquilisers/sleeping pills) for non-medical purposes (where the term ‘non-medical purposes’ was defined as either alone or with other drugs in order to induce or enhance a drug experience). Participants were asked if they had ever used these drugs in their lifetime or in the preceding 12 months and the age that they first used them.

### *Functioning*

Functional impairment was assessed via the Sheehan Disability Scale (Sheehan, 1983), a five-item self-report measure of disability due to mental health symptoms in three interrelated domains – work/school, social life and family life. The three items assessing impairment in the three domains are scored from zero to 10 and can thus yield a total global functional impairment score of between zero and 30.

### *Getting help*

This section of the survey was developed by study investigators with specific knowledge and experience in the field. Other items were taken from the National Survey of Mental Health and Wellbeing (Australian Bureau of Statistics, 2008), the CIDI 3.0 (Haro et al., 2006) and the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011) and modified by investigators to suit the current research.

- *Means of informing/assessing and maintaining mental health.* The first series of questions looked at specific help-seeking strategies used by participants to inform/assess and maintain their mental health in the preceding 12 months and whether or not they found these strategies helpful. The 32 items looking at ways in which people informed/assessed their mental health were developed specifically for the study by researchers. The four items looking at the ways in which people maintained their mental health were taken from the CIDI 3.0 (Haro et al., 2006). A single item asked participants to indicate their preferred means of receiving information about their mental health. The options were via telephone, via the internet or in person (face to face). This item was developed by researchers for use in the study.
- *Barriers to and stigmas relating to care.* Participants were asked to rate the degree to which a list of ‘concerns’ might affect their decision to seek help on a five-point scale. Anchors ranged from ‘strongly disagree’ to ‘strongly agree’. Items in the section were taken from the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011), the Canadian Air Forces Recruit Mental Health Service Use Questionnaire (Fikretoglu et al., 2014) and the Solider Wellbeing Survey (Riviere et al., 2011; Thomas et al., 2010), with several additions by investigators. Examples of items are ‘I wouldn’t know where to get help’, ‘it’s too expensive’ and

'I don't trust mental health professionals'. This section of the survey also included a question that tapped into unmet needs for help. The question targeted individuals who expressed concerns about their mental health but did not seek help. Participants were presented with a list of seven barriers and asked to indicate how much they disagreed with each one on a five-point scale ranging from 'strongly disagree' to 'strongly agree'. Examples of statements are 'I can still function effectively' and 'I didn't know where to get help'. Items addressing barriers to care in both of the sets of questions just listed fell into the following categories:

- perceived control
  - self-stigma
  - public stigma
  - perceived stigma
  - mental health literacy
  - physical barrier to care
  - career barriers.
- *Concerns about mental health.* Items addressing participants' concerns about their mental health were developed specifically for the study by investigators.
  - *Assistance with mental health.* Items addressing assistance sought for mental health were taken from the 2010 Mental Health Prevalence and Wellbeing Study (McFarlane et al., 2011).
  - *Help received/pathways into care.* Participants were asked whether they had ever sought or received help from the following doctors or professionals for their own mental health in the preceding 12 months or outside the preceding 12 months:
    - general practitioner/medical officer
    - psychologist
    - psychiatrist
    - other mental health professional.

For each of the professionals listed, participants were asked to indicate what services they received, whether they were satisfied with the services, and what compensation (if any) was received. These items were taken from the CIDI (Haro et al., 2006) and adapted for use in the current study. Participants were also asked whether they had ever used the following services in the preceding 12 months or outside of the preceding 12 months:

- inpatient treatment, hospital admission
- hospital-based PTSD program
- residential alcohol and other drug program

For each of the treatments/programs listed, participants were asked to indicate whether they were satisfied with the service and how the service was paid for. These items were taken from the CIDI (Haro et al., 2006) and adapted for use in the current study.

- *Satisfaction with mental health services received.* Participants were asked to rate their satisfaction/dissatisfaction with a series of factors associated with receiving mental healthcare/services. Items included accessibility, cost, location, effectiveness, health professional competence, health professional friendliness, convenience, confidentiality and Medicare cap. Participants were required to provide answers in relation to their experiences in the preceding 12 months only.
- *Doctor-diagnosed mental health conditions.* This section of the survey asked participants about mental health problems or conditions they had ever been diagnosed with or treated for by a medical doctor. If a participant said 'yes' to any of the items listed, they were also asked to specify the year they were first diagnosed, whether they had been treated by a doctor for the condition in the preceding year, and whether they had taken medication for the condition in the preceding month. Items in this section were derived from the 2011 Australian Gulf War Follow up Health Study (Sim et al., 2015).
- *Undiagnosed mental health conditions.* Participants were presented with a list of mental disorders and asked to indicate whether they currently had (or had ever had) each disorder without having been diagnosed or treated for it. Conditions included alcohol abuse or dependence, drug abuse or dependency, stress or anxiety, depression, and PTSD. This question was developed by researchers at the Centre for Traumatic Stress Studies in order to tap into undiagnosed mental conditions.
- *Help-seeking latency.* In order to assess help-seeking latency, participants were asked to indicate when they first sought help for their own mental health. Options included 'within 3 months of becoming concerned' or 'within 1 year of becoming concerned'. Alternatively, participants were able to specify the number of years since becoming concerned. This item was developed by researchers for use in the study.

- *Recommendation to seek help/assistance with seeking help.* This section of the survey comprised two questions. The first asked participants whether someone else suggested that they seek help for their mental health condition. The second asked participants whether someone else practically assisted them in seeking care. Options included their GP, a medical officer, partner, other family member, friend/colleague, or their supervisor/manager/Commander. These questions were developed by researchers for use in the study.
- *Reasons for seeking care.* Participants were asked to indicate what primary and secondary reason led them to seek care. Examples included 'anger', 'depression' and 'gambling'. The two questions were developed by researchers for use in the study.

#### *Health professionals*

In this section of the survey participants were presented with an exhaustive list of health professionals and asked to indicate which of them they had consulted for their own health in the preceding 12 months. Participants were also asked to indicate how many times they had consulted a general practitioner and/or specialist doctor in the preceding two weeks. All items in the section were taken from the Australian Gulf War Follow up Health Study (Sim et al., 2015).

#### *Family and children*

This section of the survey consisted of several scales looking at participants' relationships with their family and children:

- Family support and strain were assessed via items of relevance from an adapted version of the Schuster Social Support Scale (Schuster et al., 1990). Affective support was indicated by responses to questions about how often family made them feel cared for and how often family expressed interest in how they were faring. Negative interactions were indicated by responses to questions about how often family made too many demands on them, how often family criticised them, and how often family created tensions or arguments with them. All items were answered on a four-point Likert-type scale ranging from 'often' to 'never'.
- Items assessing participants' relationship with their current partner, arguments with their current partner and abuse reported by the partner were taken from the Timor-Leste Family Study (McGuire et al., 2012).
- A single item looking at how often participants had contact with family members not living with them was taken from the 2014 Vietnam Veterans Family Study (Forrest et al., 2014).

- Items assessing the impact of military service on participants' relationships, employment, physical health, mental health and financial situation were taken from the 2014 Vietnam Veterans Family Study (Forrest et al., 2014).
- Two items assessing relationship satisfaction were taken from the HILDA survey (Watson & Wooden, 2002). Participants were required to rate their relationship with their partner and their children on an 11-point Likert-type scale ranging from 'completely dissatisfied' to 'completely satisfied'.
- Items measuring conflict during childhood, parental mental health and parental substance abuse were taken from the Longitudinal Study of Australian Children (Gray & Sanson 2005).
- Global parental self-efficacy was assessed via a single item taken from the Longitudinal Study of Australian Children (Gray & Sanson 2005). Participants were required to rate their competency as a parent on a five-point Likert-type scale ranging from 'not very good at being a parent' to 'a very good parent'.
- Parental warmth was measured using six items from the Child Rearing Questionnaire (Paterson & Sanson, 1999). These items were also used in the Longitudinal Study of Australian Children (Gray & Sanson 2005). Participants were required to answer questions in this section thinking about their first-born child aged between 4 and 17 years who lived with them 50% or more of the time in the preceding six months. They were required to indicate how often each listed event took place on a five-point Likert-type scale ranging from 'never/almost never' to 'always/almost always'. Examples of events are 'how often did you hug or hold this child for no particular reason' and 'how often did you enjoy listening to this child and doing things with him/her'.
- Parental anger was measured using five items from the National Longitudinal Study of Children & Youth (Statistics Canada, 2003). Participants were required to indicate how often each listed event took place on a five-point Likert-type scale ranging from 'never/almost never' to 'all the time'. Examples of events are 'how often are you angry when you punish this child' and 'how often do you tell this child that he/she is not as good as the others'.

#### *Friends and other social contacts*

This section of the survey consisted of several scales looking at participants' friends and social contacts:

- Social support and strain were assessed via items of relevance from an adapted version of the Schuster Social Support Scale (Schuster et al., 1990). Affective support was indicated by responses to questions about how often friends made

them feel cared for and how often friends expressed interest in how they were doing. Negative interactions were indicated by responses to questions about how often friends made too many demands on them, how often they criticised them, and how often they created tensions or arguments with them. All items were answered on a four-point Likert-type scale ranging from 'often' to 'never'.

- A single item looking at how often participants had contact with friends not living with them was taken from the 2014 Vietnam Veterans Family Study (Forrest et al., 2014).
- A single item assessing how satisfied participants were with their friendships was taken from the HILDA survey (Watson & Wooden, 2002). Participants were required to rate their relationship on an 11-point Likert-type scale ranging from 'completely dissatisfied' to 'completely satisfied'.
- Questions looking at how many ex-service organisations participants belonged to and how these organisations benefited them were taken from the 2011 Australian Gulf War Follow up Health Study (Sim et al., 2015).

### *Resilience*

The Ohio State University Brief Resilience Scale (BRS) (Smith et al., 2008) was included to assess participants' ability to bounce back or recover from stress. Participants were asked to indicate the extent to which they agreed or disagreed with six anchored statements. The BRS is scored by reverse coding items 2, 6 and 6 and finding the mean of the six items.

The final item in this section assessed global happiness via the Delighted–Terrible scale (Andrews & Crandall, 1976), one of the more common approaches to collecting subjective quality-of-life data.

### *Gambling*

The Problem Gambling Severity Index (Stinchfield et al., 2007) is a widely used nine-item scale for measuring the severity of gambling problems in the general population. Each item is scored from zero to three. The higher the total score, the greater the risk of problem gambling behaviour.

### *Driving*

Items examining risky driving were sourced from the Australian Institute of Family Studies (Smart et al., 2005) and looked specifically at driving over the speed limit and driving while affected by alcohol. Participants were asked to consider the last 10 times they drove and how many times in that period they engaged in risky driving behaviour.

### *Experience with the law*

Participants were asked a series of questions about their experiences with the law, including whether they had ever been arrested, whether they had ever been convicted of a crime in a court of law and whether they had ever been sent to prison. For any that applied, participants were also asked to indicate whether the event occurred before entry into the ADF, before transition from Regular ADF service or since transition from Regular ADF service. Items in this section of the survey were sourced from the Australian Gulf War Follow up Health Study (Sim et al., 2015).

### *Internet use*

This section of the survey aimed to ascertain what role the internet played in improving the mental health and wellbeing of participants. Items were taken from the Young and Well National Survey (Burns et al., 2013) and looked specifically at internet use patterns, means of accessing the internet, use of the internet for social support, use of the internet for obtaining information relating to mental health, use of the internet for managing mental health, barriers to using the internet for mental health, and the efficacy of the internet in meeting needs.

### *Emerging technologies*

The use of new and emerging technologies for health and wellbeing was assessed via a series of items developed by the Young and Well Cooperative Research Centre (Burns et al., 2013; Young and Well Cooperative Research Centre, 2013). Questions looked at participants' current use of new and emerging technologies, barriers to use, types of new and emerging technologies used, the use of new and emerging technologies for health and wellbeing improvement, reasons for using new and emerging technologies for health and wellbeing, other reasons for using new and emerging technologies, the types of new and emerging technologies participants would use if money were not a factor, and the early adoption of new technologies.

### *Head injuries*

This section of the survey consisted of two scales. First, a self-report version of the Ohio State University Traumatic Brain Injury Identification Method (OSU TBI-ID) (Corrigan & Bogner, 2007) was adapted by researchers for specific use in the current Programme. The OSU TBI-ID is a standardised measure designed to elicit an individual's lifetime history of traumatic brain injury. Questions focused on the types of head/neck injuries incurred, symptoms reported (for example, loss of consciousness, being dazed and confused, loss of memory), age the first and last time the symptoms occurred, frequency of symptoms, loss of consciousness related to a drug overdose or being choked, and the occurrence of multiple blows to the head in relation to a history of abuse, contact sports or ADF training/deployment. Second, a modified version of the Post-concussion Syndrome Checklist (PCS) (Gouvier et al., 1992), which had been used as part of the 2012 Middle East Area of Operations Health Study (Davy et al., 2012) was

used. This modified version of the scale required participants to indicate the degree to which they had reported a list of 11 symptoms in the preceding four weeks as a result of an injury to their head or neck.

#### *Physical exercise*

In order to assess physical activity, participants were asked to complete the Short Last 7 Days Self-Administered version of The International Physical Activity Questionnaire (IPAQ, 2002). Questions asked participants to indicate the number of days, the number of times, and the amount of time they spent doing vigorous, moderate and light physical activity in the preceding seven days, as well as the amount of time they spent sedentary.

#### *Pain*

Items assessing pain intensity and disability were taken from the Australian Gulf War Follow up Health Study (Sim et al., 2015). Participants were asked to answer a series of questions on a scale of one to 10 about their current pain, worst pain and average pain in the preceding six months. They were also asked to indicate how much their pain had interfered with their daily activities, their recreational/social activities, and their ability to work in the preceding six months.

#### *Injuries*

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

#### *Respiratory health*

This section of the survey asked participants about any respiratory symptoms reported in the preceding 12 months. Items were derived from the European Community Respiratory Health Survey 1 (Burney et al., 1994). Examples of symptoms that were assessed are wheezing or whistling, breathlessness, tightness in the chest, shortness of breath, coughing, phlegm, nasal allergies and asthma.

#### *Physical health*

Items assessing current physical health were taken from the Australian Gulf War Follow up Health Study (Sim et al., 2015). This 67-item adapted version of the self-report symptom questionnaire included respiratory, cardiovascular, musculoskeletal, dermatological, gastrointestinal, genitourinary, neurological and cognitive symptoms. For every symptom reported in the preceding month, participants were also required to provide an indication of symptom severity on a three-point Likert scale (mild, moderate, severe).

### *Doctor-diagnosed medical conditions*

This 43-item self-report questionnaire asked participants about medical problems or conditions they had been diagnosed with or treated for by a medical doctor over their lifetime. If a participant said 'yes' to any of the items listed, they were also asked to specify the year they were first diagnosed, whether they had been treated by a doctor for the condition in the preceding year and whether they had taken medications for the condition in the preceding month. Items in this section were derived from the Australian Gulf War Follow up Health Study (Sim et al., 2015).<sup>3</sup>

#### **A.7.2 Phase 2: diagnostic interview**

In phase 2 of the research a subsample of individuals was selected to participate in a one-hour telephone interview using the CIDI (Kessler & Ustun, 2004).

The CIDI provided the research team with an assessment of mental disorders based on the definitions and criteria of two classification systems: the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) and the *International Statistical Classification of Diseases and Related Health Problems, 10th revision* (ICD-10) (World Health Organization, 1994). The CIDI was selected because of its highly structured nature and its widespread use in epidemiological studies worldwide, including in the 2010 MHPWS, conducted by the Centre for Traumatic Stress Studies, and the 2007 NSMHW, conducted by the Australian Bureau of Statistics.

The CIDI was administered to consenting participants by a team of trained interviewers from the Hunter Research Foundation in Newcastle, New South Wales. Their diagnostic inter-rater reliability was closely monitored by supervisors based at the research centre throughout the study period.

#### ***Twelve-month and lifetime ICD-10 mental disorders***

The CIDI was used to assess the 12-month and lifetime ICD-10 rates for depressive episode, dysthymia, bipolar affective disorder, panic attack, panic disorder, agoraphobia, social phobia, specific phobia, GAD, obsessive-compulsive disorder, PTSD, adult separation disorder, harmful alcohol use and dependence, suicidal ideation and behaviour, and intermittent explosive disorder. Clinical calibration studies report that the CIDI has good validity (Haro et al., 2006). Throughout the report, ICD-10 prevalence rates are presented with hierarchy rules applied to directly compare them with the Australian national rates (Slade et al., 2009). For all ICD-10 disorders, the standard CIDI algorithms were applied: to qualify for a 12-month diagnosis, individuals would therefore be required to meet lifetime criteria initially and then have reported symptoms in the 12 months before the interview.

---

<sup>3</sup> For more detail about the individual measures listed in the foregoing section, including information about scoring, please refer to the relevant chapters in each commissioned report.

### ***Lifetime trauma exposure***

Lifetime exposure to trauma was examined as part of the PTSD module of the CIDI. The following criterion A events listed in the CIDI were examined: combat (military or organised non-military group); being a peacekeeper in a war zone or place of ongoing terror; being an unarmed civilian in a place of war, revolution, military coup or invasion; living as a civilian in a place of ongoing terror for political, ethnic, religious or other reasons; being a refugee; being kidnapped or held captive; being exposed to a toxic chemical that could cause serious harm; being in a life-threatening motor vehicle accident; being in any other life-threatening accident; being in a major natural disaster; being in a man-made disaster; having a life-threatening illness; being beaten by a parent or guardian as a child; being beaten by a spouse or romantic partner; being badly beaten by anyone else; being mugged, held up, or threatened with a weapon; being raped; being sexually assaulted; being stalked; having someone close to you die; having a child with a life-threatening illness or injury; witnessing serious physical fights at home as a child; having someone close experience a traumatic event; witnessing someone badly injured or killed or unexpectedly seeing a dead body; accidentally injuring or killing someone; purposefully injuring, torturing or killing someone; seeing atrocities or carnage such as mutilated bodies or mass killings; experiencing any other traumatic event; and experiencing any other event that the participant did not want to talk about.

## **A.8 Stratification procedure**

In phase 2 of the research 1807 Transitioned ADF members were invited to participate in a one-hour telephone interview using the CIDI (Kessler & Ustun, 2004). In addition to two subgroups of Transitioned ADF in sample 5 (Combat Zone) and sample 6 (MHPWS), who were all eligible to complete a CIDI, CIDI invitations preferenced groups accounting for the smallest proportion of the actual population (for example, females) and those with high scores on the Posttraumatic Stress Disorder Checklist and AUDIT to increase the representativeness of the sample and optimise the ability to capture low-prevalence mental disorders.

These participants were selected for a CIDI interview based on rank, sex, Service and scores on the PCL and AUDIT, with screening scores on the PCL and AUDIT categorised into three bands:

- band 3 = PCL >27, AUDIT >9
- band 2 = PCL 21–27, AUDIT 7–9
- band 1 = PCL ≤20, AUDIT ≤6.

Using the method proposed by Salim and Welsh (2009), the stratification procedure aimed to oversample those respondents in band 3 (greatest likelihood of disorder). A smaller proportion from bands 1 and 2 were also sampled, to control for the possibility of over-inflated mental disorder estimates. Transitioned ADF in samples 5 and 6 were also allocated a band, as can be seen in Table A.8, to ensure they were accounted for during sampling.

Based on the predicted proportions of Transitioned ADF survey respondents who would score in each band on the PCL and AUDIT, according to the population characteristics of sex, rank and Service, the following stratification algorithm was used to generate lists of eligible CIDI participants from among Transitioned ADF survey completers who consented to complete a CIDI:

1. band 3
2. female band 2
3. female band 1
4. male Navy band 2
5. male Navy band 3
6. male Army band 3
7. male Army band 1
8. male Air Force band 2.

Table A.8 shows the final distribution of eligible Transitioned ADF across the strata used for selection into the CIDI and the number who responded. Of the 1049 Transitioned ADF who completed a CIDI, 47.1% were in band 3, 21.4% in band 2 and 24.6% in band 1. The final sample comprised 55.4% Army, 18.9% Navy and 25.2% Air Force, with the majority of respondents being male (85.9%). A total of 78 CIDI respondents were missing band, sex or Service data and were excluded from the final weighted population.

**Table A.8 Stratification characteristics of the Transitioned ADF CIDI sample**

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

Note: Table includes Combat Zone and MHPWS participants who were invited to participate but were not stratified.

## A.9 Weighting

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

- the survey respondent weights, which corrected for differential non-response on the survey for Transitioned ADF and 2015 Regular ADF
- two-phase CIDI respondent weights, which compensated for differential non-response on the survey and for oversampling or undersampling of specific cases where participants went on to be interviewed with the CIDI. These weights apply to the Transitioned ADF only and were used to generate 12-month and lifetime ICD-10 mental disorder prevalence estimates for the entire Transitioned ADF.

The weighting procedure involves the allocation of a representative value or ‘weight’ to the data for each respondent, based on key variables that are known for the entire population (respondents and non-respondents). This weight indicates how many individuals in the entire population are represented by each actual respondent. Weighting data allow for inference of results for an entire population, in this case the Transitioned ADF, by assigning a representative value to each ‘actual’ case (respondent) in the data. If a case has a weight of 4, it means that case counts in the data as four identical cases. By using known characteristics about each individual within the population (in this case, age, sex, rank and medical fitness), the weight assigned to respondents indicates how many ‘like’ individuals in the entire population (based on those characteristics) each respondent represents.

Weighting is used to correct for differential non-response and to account for systematic biases that may be present in study respondents (for example, oversampling of high scorers for CIDI). Both types of weights were used in this study.

The two types of weights were combined to give each respondent a single weight within the data. This methodology provides representative weights for the population, improving the accuracy of the estimated data, and requires that every individual in the population has actual data on the key variables that determine representativeness.

The Transitioned ADF weights were derived from the distinct strata of sex, Service and rank, as well as medical fitness, a dichotomous variable derived from Medical Employment Classification Status (see details of reclassification in the next section). Constraints due to consent meant that MEC status was missing for a number of participants. As medical fitness was a key weighting variable both in providing a proxy health status for each individual in the population and to enable comparisons with the 2010 ADF Mental Health Prevalence and Wellbeing Study, a data perturbation approach was taken to deal with the missing data (see Section A.10). Once missing MEC status was addressed, there remained 313 (1.2%) of the Transitioned ADF with missing information on the strata variables and therefore the final population was 24,932, with all weighted analyses of the Transitioned ADF summing to this.

The 2015 Regular ADF weights were derived from the distinct strata of sex, Service, rank, medical fitness, and whether the individual completed a study as part of MilHOP. Inclusion of this additional stratification variable was to account for the targeted sampling of the MilHOP cohort, who were then over-represented in the current serving respondents. A MilHOP flag variable (yes/no = 1/0) was therefore created and used in the weighting process in order to reduce this bias. There were 192 (0.4%) 2015 Regular ADF with missing information on the strata variables, reducing the final weighted population for analysis to 52,500. Tables C.1, C.2 and C.3 show the study population and respondents within each stratum used for weighting and approximately how many persons within each subpopulation each study respondent represents.

#### **A.9.1 Re-classification of Medical Employment Classification for study**

MEC is an administrative system designed to monitor physical fitness and medical standards in the ADF. It is divided into four levels (either current or on discharge from the Regular ADF):

- *MEC 1.* Members are medically fit for employment in a deployed or seagoing environment without restriction.
- *MEC 2.* Members have medical conditions that require access to various levels of medical support or employment restrictions; however, they remain medically fit for duties in their occupation in a deployed or seagoing environment. In allocation

of subclassifications of MEC 2, access to the level of medical support will always take precedence over specified employment restrictions.

- *MEC 3.* Members have medical conditions that make them medically unfit for duties in their occupation in a deployed or seagoing environment. The member so classified should be medically managed towards recovery and should be receiving active medical management with the intention of regaining MEC 1 or 2 within 12 months of allocation of MEC 3. After a maximum of 12 months their MEC is to be reviewed. If still medically unfit for military duties in any operational environment, they are to be downgraded to MEC 4 or, if appropriate, referred to a Medical Employment Classification Review Board (MECRB) for consideration of an extension to remain MEC 3.
- *MEC 4.* Members who are medically unfit for deployment or seagoing service in the long term. Members who are classified as MEC 4 for their military occupation will be subject to review and confirmation of their classification by a MECRB.

MEC status was collapsed to create a new variable, 'Medical fitness', which was used in the current program of research. Medical fitness was defined thus:

- *Fit.* Those who are categorised as fully employable and deployable or deployable with restrictions. Participants are classified as fit if they fall into MEC 1 or MEC 2 or are assigned a perturbed MEC value of 'fit'.
- *Unfit.* Those who are not fit for deployment, original occupation and/or further service. 'Unfit' can include those who are undergoing rehabilitation, transitioning to alternative return-to-work arrangements or in the process of being medically discharged from the ADF. Participants are classified as unfit if they fall into MEC 3 or MEC 4 or are assigned a perturbed MEC value of 'unfit'.

### **A.9.2 Estimates from the survey**

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

### **A.9.3 Estimates from the CIDI**

CIDI weights were derived for the Transitioned ADF based on strata including band (cut-offs based on PCL and AUDIT), sex and Service. These strata were used to weight the CIDI responses to the entire population. Within each stratum, the weight was

calculated as the population size divided by the number of CIDI respondents for that stratum. Because there was no band for non-respondents, the population size within each stratum was estimated by multiplying the known sex by service population total by the observed proportion belonging to the band of interest in the corresponding stratum. A finite population correction was also applied to adjust the variance estimates for the reasonably large sampling fraction in each stratum.

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

## **A.10 Unit-level perturbation of MEC values**

### **A.10.1 Methodology**

Because of the nature of the consent provided for individuals on the Study Roll, access to identified data for weighting purposes required the consent of the individual participants. The Australian Institute of Health and Welfare carried out a perturbation process that provided each non-consenting record with a releasable MEC value. Perturbation used the observed values of MEC for the non-consenters to give an appropriate value to each non-consenting record. This was achieved simply by fitting a model using releasable data items as predictors in a model of MEC using the non-consenters. A logistic regression model was used. This resulted in a set of probabilities of each record taking on MEC values. A Monte Carlo approach used these probabilities to randomly assign a synthetic MEC value to each record. These synthetic MEC values reflect each individual's characteristics. The generation was constrained so that aggregate totals remained consistent with totals of unperturbed values.

The perturbation approach allowed the unit records to better reflect the MEC status of individuals. This allowed researchers to use the unit records to perform more accurate analyses and tabulations. The perturbed values did not assume a broad level of homogeneity within the combinations of variables as an aggregate weighting approach but, rather, allowed the individual characteristics of each person to inform the perturbed value they were assigned.

### **A.10.2 Results**

The perturbation process was constrained at the source level. Tables A.9 and A.10 show that this was achieved, since the counts of 'fit', 'unfit' and 'missing' were the same for both the original and the perturbed values.

The missing values were assumed to happen at random within the source file. This meant that a participant's original missing value could be given to any other participant, regardless of their sex, Service, rank or age. As such, the numbers of 'fit'

and ‘unfit’ totals at these constraining levels for the perturbed data do not exactly line up with the original totals (see Table A.10 for totals by Service type).

**Table A.9** Counts of categories, by source

Source	Original MEC value			Perturbed MEC value		
	Fit	Unfit	Missing	Fit	Unfit	Missing
ABIN	138	7	0	138	7	0
CURR	891	196	2	891	196	2
TRAN	271	159	1	271	159	1

**Table A.10** Counts of categories, by Service type

Service	Original MEC value			Perturbed MEC value		
	Fit	Unfit	Missing	Fit	Unfit	Missing
Army	254	63	0	255	60	2
Navy	613	191	3	614	193	0
Air Force	433	108	0	431	109	1

## A.11 Contact strategy and recruitment methods

### A.11.1 Promotion of the study

Before the research team made initial direct contact a number of strategies were used to promote the study to participants.

#### *Advertising via print media*

The study team developed promotional posters that were placed in Service newspapers, on DVA and Defence internet and intranet sites, on bases, at ex-service organisations, and on the University of Adelaide website.

#### *Ministerial media release*

On 11 June 2014 the Hon. Michael Ronaldson, the then Minister for Veterans’ Affairs, issued a media release launching the Transition and Wellbeing Research Programme in the wider community, disseminating information and generating interest among ADF members. The Executive Dean of Faculty of Health Sciences, members of the Scientific Advisory Committee and members of the investigative team were all present. The launch and media release generated inquiries, which the Centre for Traumatic Stress Studies research team responded to promptly and effectively, following strict protocol.

#### *Targeted briefs to ADF leadership*

Information sessions were held to brief Commanders and other key influencers in the broader Defence community about the importance of the research.

### ***Letter to ex-service organisations***

A letter introducing the Transition and Wellbeing Research Programme and an accompanying fact sheet were sent to all relevant ex-service organisations to disseminate information and generate support for the study.

### ***Distribution of study briefing packs***

Briefing packs containing study/promotional materials were distributed to ex-service organisations as another means of promoting the study among the target population.

### ***Social media strategy***

A series of social media conversations, promotions and advertisements were rolled out via the Transition and Wellbeing Research Programme's Facebook page (Facebook/aumilresearch) and Twitter account (@aumilresearch) throughout the study period. These accounts were managed by the Centre for Traumatic Stress Studies research team. The primary objectives of the social media campaign were to raise awareness of the Programme among 2015 Regular ADF and Ex-Serving ADF members, their families and their social networks; engage other advocates and key stakeholders; provide another platform for participants to engage with the research team; and disseminate previous military research conducted by the CTSS.

#### **A.11.2 Development of the Military and Veteran Health Research Study Roll**

Participants' contact details and demographic information were obtained via the Military and Veteran Health Research Study Roll, which was created by the Australian Institute of Health and Welfare in collaboration with DVA and Defence. This process involved integrating contact information from:

- Defence's PMKeyS database
- DVA client databases
- the National Death Index
- ComSuper's member database
- the MilHOP dataset.

To ensure the information was current and reflected the most recent posting cycles, a final PMKeys download was received immediately before the study began and integrated into the dataset. This integrated dataset was passed on to the research team only after an opt-out process. This involved DVA and Defence contacting participants via their websites, email, hard-copy letter, service newspapers and a media campaign, providing detailed information about the Study Roll and its broader purpose. The contact information, basic service history and demographic information for individuals who did not opt out of this process within four weeks of the campaign

beginning were then passed on to the CTSS for the Transition and Wellbeing Research Programme. Participants could still opt out of the Study Roll after the four-week campaign via an opt-out website or email managed by Defence. This website was open for three months and individuals who opted out of the Study Roll through this website were excluded from sampling. To prevent the families of deceased Defence members being approached, the Study Roll was cross-checked against the National Death Index before the opt-out email was sent to individuals and again approximately four weeks before data collection began. All new deaths recorded by Defence were immediately communicated to the research team.

### **A.11.3 Self-selection procedure**

Details of eligible Ex-Serving members who were not passed on to the CTSS at the beginning of the study period but who subsequently self-selected into the study were sent to the Australian Institute of Health and Welfare for inclusion in the Study Roll. These members were sent an invitation package, following the standard study protocol. Participants Defence deemed ineligible were required to provide proof of their service to the CTSS in order to participate. Reservists who self-selected into the study were included in the dataset only if they appeared on the original Study Roll.

### **A.11.4 Sampling by data integrator**

Before recruitment, the AIHW created samples for the research Programme:

- all members who transitioned from full-time Regular ADF service between 2010 and 2014
- all ADF members who participated in MilHOP, excluding members who indicated they did not wish to be contacted for further research
- a stratified random sample of 5040 2015 Regular ADF members
- 22,638 currently serving Ab-initio Reservists, noting that only Reservists with contact information were invited to participate.

The stratified random sample of 5040 2015 Regular ADF members was drawn from the remainder of members not already listed as MilHOP participants. This sample did not include those who were deceased or who had opted out of the Transition and Wellbeing Research Programme. Stratification was based on:

- Service – Navy, Army, Air Force
- sex
- rank code – Officer/enlistee.

The contact information and demographics for each of the subpopulations just listed, with the exception of individuals who opted out of the Study Roll, were then passed on to CTSS researchers for recruitment and weighting purposes.

#### **A.11.5 Phase 1: distribution of self-report survey**

Recruitment for the study was staggered across the entire data collection period. Online invitation packages were distributed to participants in batches. The first batch of invitation emails was rolled out to participants in June 2015. Each email contained a unique study ID number and token password, as well as a secure link to an online invitation package. This package contained the self-report survey and all associated study materials, including information sheets and consent forms. Invitation packs were uniquely tailored to participants' current serving status and eligibility criteria. Where email addresses were not available or on request, hard-copy versions of the invitation package were posted to participants.

#### ***Follow-up of survey non-respondents***

To maximise participation rates, a multifaceted approach to following up survey non-respondents was used:

- *Reminder emails.* These were sent to all non-respondents two, four and six weeks after the invitation package was distributed and one month before the survey was closed. Participants who preferred to complete a hard-copy version of the survey were directed to call or email the study team. This was specified in all reminder email correspondence.
- *SMS reminders.* These were sent to all non-respondents concurrently to alert them to their emails. This included members who had not yet begun the survey, as well as individuals who had partially completed it.
- *Targeted telephone follow-up.* A selection of high-priority participants was targeted via a structured telephone follow-up process. These participants were members of the MHPWS CIDI cohort. It was important to maximise the response rate for this longitudinal cohort with existing data points, to enable mapping of the trajectory of disorders. Telephone follow-up was also extended to participants without email addresses, partial completers and other target groups with low response rates, to ensure representativeness. Specifically, this included:
  - Transitioned ADF members with a landline phone number but no email address or mobile number
  - Transitioned ADF members with a landline phone number and Defence email address only but no mobile phone number
  - partial completers from all cohorts

- participants with bounced emails from sole non-Defence email addresses, with a landline phone number but no mobile number
- participants who nominated family members for the Family Study but did not provide contact details for family
- all other Transitioned ADF members and Ab-initio Reservists who had not begun the survey.

Trained research staff at the CTSS made the phone calls following a structured script. The calls were made at a variety of times during the day and evening to optimise contact opportunities. A maximum of 10 attempts were made to speak to each participant twice. Where no contact was made and a telephone message service was available, a reminder message was left on two of these 10 occasions only, leaving the study free-call number and email address.

- *Hard-copy letters.* Hard-copy invitation letters containing the study free-call number and email address as well as a link to the online survey were sent to three groups of members:
  - all Transitioned ADF non-respondents
  - all Ab-initio Reservist non-respondents
  - all 2015 Regular ADF non-respondents who did not participate in MilHOP.

#### **A.11.6 Phase 2: diagnostic Interview**

##### ***Selection***

In phase 2 a sub-group of Transitioned and Regular ADF members from eligible samples was targeted to participate in a one-hour telephone interview using the World Mental Health Survey Initiative version of the WHO CIDI 3.0. To be eligible for recruitment, potential interviewees must have completed the self-report measures and have provided consent in the Mental Health and Wellbeing Transition Study consent form to being contacted to participate in a telephone interview. The following groups were targeted:

- a stratified sample of ADF members who had transitioned out of full-time Service since 2010. Transitioned ADF survey respondents were invited to complete a CIDI based on their scores on the PCL and AUDIT screening measures, and demographic characteristics were used to further preference participants to ensure the CIDI sample represented the entire cross-section of population characteristics as far as was possible

- all MHPWS ADF members who were interviewed using the CIDI in 2010. This included individuals who met ICD-10 diagnostic criteria for either a 12-month ICD-10 affective, anxiety or alcohol disorder in 2010, as well as individuals who were sub-syndromal or had no disorder
- a sample of ADF members who participated in the MEAO Prospective Health Study between 2010 and 2012.

### ***Recruitment***

Recruitment calls were made by trained interviewers at the Hunter Research Foundation; the interviewers could not see the scores of participants on the self-report measures. Telephone calls were made at a variety of times during the day and evening, taking into account participants' preferences, so as to optimise contact opportunities.

To ensure that the most recent contact details were used, a download of current phone numbers was obtained from PMKeyS immediately before the study began and intermittently throughout the interview period.

Participants were contacted by telephone using contact details obtained through:

- the Australian Institute of Health and Welfare
- PMKeyS
- participants providing contact details and alternative contact details either online or in hard copy as part of phase 1 of the Mental Health and Wellbeing Transition Study
- participants providing contact details and alternative contact details either online or in hard copy as part of MiLHOP study.

The first telephone call was made using the primary phone number provided in the contact information sheet completed in phase 1. In the absence of this information, a phone number obtained from one of the sources just listed was used.

A maximum of 10 attempts were made to speak to the participant before that participant was removed from the pool. When no contact was made, a reminder message was left on two of the 10 occasions, along with the study's free-call number and email address.

Where telephone contact was made, research officers explained the aims, purpose and requirements of the interview and, if agreement was granted, an interview time was arranged.

## ***Interview***

At the beginning of each interview participants were reminded that participation was voluntary, they could stop the interview at any point, and they could withdraw from the study at any time without any impact on their career or entitlements. If the participant agreed to proceed with the interview, verbal consent was obtained and recorded. Following this, the highly structured interview began.

At the end of the interview participants were given sufficient time to debrief, ask questions and provide interview-related feedback. If at any time the participant indicated that they were feeling distressed or suicidal, interviewers implemented the relevant duty of care protocols.

### **A.12 Medicare and Pharmaceutical Benefits Scheme/Repatriation Pharmaceutical Benefits Scheme data linkage**

As part of the broader research Programme, participants were also invited to fill out a consent form authorising the study to gain access to complete Medicare, Pharmaceutical Benefit Scheme and Repatriation Pharmaceutical Benefits Scheme data. Data for each consenting participant were obtained for a five-year period before their scheduled interview date and included information about their medical visits, procedures, associated costs and prescription medications filled at pharmacies. Consent forms for this component of the research were sent securely to the Department of Human Services, which holds this information confidentially.

### **A.13 Statistical analysis**

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

Subgroup analyses were conducted on each of the 12-month ICD-10 mental disorders using demographic and deployment history predictors, including sex (male, female), age (18–27, 28–37, 38–47, 48–57, 58+), 2015 Regular ADF service or service at transition (Navy, Army, Air Force), 2015 Regular ADF rank or rank on transition (Officer, Non-Commissioned Officer, Other Ranks), years of service in the Regular ADF (<3 months, 3 months – 3.9 years, 4–7.9 years, 8–11.9 years, 12–15.9 years, 16–19.9 years, 20+ years) and deployment status (ever deployed, never deployed). For members of the Transitioned ADF, specific transition factors were included – transition status (Ex-Serving, Inactive Reservist, Active Reservist), reason for discharge (medical discharge, other reason), years since transition (0, 1, 2, 3, 4, 5) and DVA client status (DVA client, not a DVA client).

Comparisons between the prevalence of 12-month ICD-10 disorders among subgroups were analysed using weighted logistic regressions. All regressions involved variables for age, sex, Service and rank. Comparisons between the prevalence of 12-month ICD-10 disorder classes (affective disorders, anxiety disorders, alcohol disorders) among subgroups were analysed using a weighted multinomial logistic regression, with the number of disorder classes as the outcome. The regression involved the covariates age, sex, Service and rank. Comparisons between the prevalence of self-reported suicidal behaviour among subgroups were analysed using weighted logistic regressions. All regressions included the covariates age, sex, Service and rank.

For the self-report measures, the proportion (n%) of ADF members in each subgroup is presented. Comparisons between the mean total scores among subgroups were also analysed where appropriate, using weighted multiple linear regressions. All regressions included the covariates age, sex, Service and rank. Comparisons between the prevalence of self-reported alcohol consumption and problems with drinking were analysed using weighted logistic regressions. A proportional odds model was considered for analysis. The main assumption of this approach was violated, however, so the ordinal response was dichotomised by means of several cut-offs. All regressions included the covariates age, sex, Service and rank.

To compare the mental health and wellbeing of the 2015 Regular ADF with that of the 2010 Regular ADF, a direct numerical comparison was performed. This did not include standardisation or tests of statistical significance. Since these two samples cannot be considered independent, between-group differences should be interpreted with caution, noting that some members of the 2015 Regular ADF sample were also represented in the 2010 Regular ADF sample. The problem of individual change in symptoms and disorders over time in this group will be dealt with in the future longitudinal report.

To compare estimates in the Transitioned ADF with those for the Australian community, direct standardisation was applied to estimates in the 2014–15 National Health Survey. The NHS data were restricted to people aged 18 to 71 (consistent with the Transition and Wellbeing Research Programme transition population). The data were standardised by sex, employment status (employed or not) and age category (18–27, 28–37, 38–47, 48–57 and 58+). Standard errors for the NHS data were estimated using the replication weights provided in the NHS data file.

## **A.14 Ethical considerations**

In order to combat potential risks and ensure that participation in the study was completely free from coercion, participants were made explicitly aware that their involvement in the study was voluntary and that they could decline to participate in

and were free to withdraw from the project at any time. This was emphasised in all study materials. Second, whether or not an individual chose to participate in the study was not communicated to senior staff in the ADF; nor were members asked directly to participate in the study by a uniformed Officer. This also ensured that recruitment was free from coercion.

In order to manage potential risks to participants in relation to both phase 1 and phase 2 of the research, a duty of care protocol was established and strictly adhered to by the research team.

### **A.15 Ethical approvals**

The study protocol was approved by the DVA Human Research Ethics Committee (E014/018) and was mutually recognised by the Directorate, Defence Health Research, and the University of Adelaide Human Research Ethics Committee. The study protocol was also submitted to the Australian Institute of Health and Welfare Ethics Committee and received approval (EO 2015/1/163).

---

## Annex B Odds ratio tables

Tables B.1 and B.2 describe the adjusted odds ratios and interpretations that relate to the corresponding tables throughout this report.

As a general guide to interpreting the strength of the associations, the odds ratios were categorised as follows (Monsoon, 1990):

- OR = 0.9–1.0 to 1.0–1.2 indicates no association.
- OR = 0.7–0.9 to 1.2–1.5 indicates weak association.
- OR = 0.4–0.7 to 1.5–3.0 indicates moderate association.
- OR = 0.1–0.4 to 3.0–10.0 indicates strong association.

**Table B.1 Odds ratios for comparisons of Transitioned vs 2015 Regular ADF and DVA client vs non-DVA client (stratified by Transitioned and 2015 Regular ADF)**

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Health symptoms					
Table 4.5	Avoiding doing things or situations	Transitioned ADF vs 2015 Regular ADF	1.86 (1.43, 2.42)	Transitioned ADF 86% more likely to avoid doing things or situations	Moderate
	Feeling that your bowel movement is not finished	Transitioned ADF vs 2015 Regular ADF	1.52 (1.16, 1.99)	Transitioned ADF 52% more likely to feel that your bowel movement is not finished	Moderate
	Burning sensation in the sex organs	Transitioned ADF vs 2015 Regular ADF	3.47 (2.41, 5.00)	Transitioned ADF 3.4 times more likely to feel burning sensation in the sex organs	Strong
	Changeable bowel function (mixture of diarrhoea/constipation)	Transitioned ADF vs 2015 Regular ADF	1.66 (1.27, 2.16)	Transitioned ADF 66% more likely have changeable bowel function	Moderate
	Chest pain	Transitioned ADF vs 2015 Regular ADF	1.64 (1.11, 2.42)	Transitioned ADF 64% more likely to have chest pain	Moderate
	Constipation	Transitioned ADF vs 2015 Regular ADF	1.45 (1.05, 2.00)	Transitioned ADF 45% more likely to have constipation	Weak
	Diarrhoea	Transitioned ADF vs 2015 Regular ADF	1.12 (0.85, 1.49)	No association	–
	Difficulty finding the right word	Transitioned ADF vs 2015 Regular ADF	1.83 (1.44, 2.32)	Transitioned ADF 83% more likely to have difficulty finding the right word	Moderate
	Difficulty speaking	Transitioned ADF vs 2015 Regular ADF	1.43 (0.88, 2.30)	No association	–
	Feeling disorientated	Transitioned ADF vs 2015 Regular ADF	1.73 (0.93, 3.19)	No association	–
	Distressing dreams	Transitioned ADF vs 2015 Regular ADF	2.82 (2.08, 3.83)	Transitioned ADF 2.8 times more likely to have distressing dreams	Moderate
	Dizziness, fainting or blackouts	Transitioned ADF vs 2015 Regular ADF	1.35 (0.90, 2.04)	No association	–
	Double vision	Transitioned ADF vs 2015 Regular ADF	1.83 (1.11, 3.00)	Transitioned ADF 83% more likely to have double vision	Moderate
	Dry mouth	Transitioned ADF vs 2015 Regular ADF	1.52 (1.10, 2.09)	Transitioned ADF 52% more likely to have dry mouth	Moderate
	Faster breathing than normal	Transitioned ADF vs 2015 Regular ADF	1.20 (0.80, 1.81)	No association	–
	Fatigue	Transitioned ADF vs 2015 Regular ADF	1.12 (0.88, 1.42)	No association	–
	Feeling distant or cut off from others	Transitioned ADF vs 2015 Regular ADF	1.80 (1.38, 2.35)	Transitioned ADF 80% more likely to feel distant or cut off from others	Moderate
	Feeling jumpy/easily startled	Transitioned ADF vs 2015 Regular ADF	2.15 (1.58, 2.92)	Transitioned ADF 2 times more likely to feel jumpy/easily startled	Moderate
	Feeling unrefreshed after sleep	Transitioned ADF vs 2015 Regular ADF	1.48 (1.17, 1.88)	Transitioned ADF 48% more likely to feel unrefreshed after sleep	Weak
	Feeling feverish	Transitioned ADF vs 2015 Regular ADF	1.60 (1.07, 2.41)	Transitioned ADF 60% more likely to feel feverish	Moderate
	Flatulence or burping	Transitioned ADF vs 2015 Regular ADF	1.50 (1.18, 1.90)	Transitioned ADF 50% more likely to have flatulence	Weak

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Forgetfulness	Transitioned ADF vs 2015 Regular ADF	1.67 (1.28, 2.17)	Transitioned ADF 67% more likely to have forgetfulness	Moderate
	Headaches	Transitioned ADF vs 2015 Regular ADF	0.97 (0.77, 1.23)	No association	–
	Indigestion	Transitioned ADF vs 2015 Regular ADF	1.51 (1.11, 2.05)	Transitioned ADF 51% more likely to have indigestion	Moderate
	Intolerance to alcohol	Transitioned ADF vs 2015 Regular ADF	3.02 (1.75, 5.19)	Transitioned ADF 3 times more likely to have intolerance to alcohol	Strong
	Irritability/outbursts of anger	Transitioned ADF vs 2015 Regular ADF	1.67 (1.31, 2.12)	Transitioned ADF 67% more likely to have irritability	Moderate
	Itchy or painful eyes	Transitioned ADF vs 2015 Regular ADF	1.71 (1.34, 2.18)	Transitioned ADF 71% more likely to have itchy or painful eyes	Moderate
	Joint stiffness	Transitioned ADF vs 2015 Regular ADF	1.33 (1.04, 1.69)	Transitioned ADF 33% more likely to have joint stiffness	Weak
	Loss of, or decrease in, appetite	Transitioned ADF vs 2015 Regular ADF	2.26 (1.60, 3.20)	Transitioned ADF 2.2 times more likely to have loss of appetite	Moderate
	Loss of balance or co-ordination	Transitioned ADF vs 2015 Regular ADF	3.47 (2.68, 4.49)	Transitioned ADF 3.5 times more likely to have loss of balance	Strong
	Loss of concentration	Transitioned ADF vs 2015 Regular ADF	1.79 (1.38, 2.32)	Transitioned ADF 79% more likely to have loss of concentration	Moderate
	Loss of interest in sex	Transitioned ADF vs 2015 Regular ADF	2.08 (1.60, 2.71)	Transitioned ADF 2 times more likely to have loss of interest in sex	Moderate
	Low back pain	Transitioned ADF vs 2015 Regular ADF	1.47 (1.16, 1.86)	Transitioned ADF 47% more likely to have low back pain	Weak
	Lump in throat	Transitioned ADF vs 2015 Regular ADF	1.89 (1.09, 3.28)	Transitioned ADF 89% more likely to have lump in throat	Moderate
	General muscle aches or pains	Transitioned ADF vs 2015 Regular ADF	1.24 (0.98, 1.58)	No association	–
	Nausea	Transitioned ADF vs 2015 Regular ADF	1.13 (0.76, 1.67)	No association	–
	Night sweats which soak the bed sheets	Transitioned ADF vs 2015 Regular ADF	2.09 (1.54, 2.85)	Transitioned ADF 2 times more likely to have night sweats	Moderate
	Numbness in fingers/toes	Transitioned ADF vs 2015 Regular ADF	1.56 (1.11, 2.20)	Transitioned ADF 56% more likely to have numbness in fingers/toes	Moderate
	Pain in the face, jaw, in front of ear, or in ear	Transitioned ADF vs 2015 Regular ADF	1.33 (0.97, 1.84)	No association	–
	Pain without swelling or redness in several joints	Transitioned ADF vs 2015 Regular ADF	1.18 (0.89, 1.56)	No association	–
	Pain on passing urine	Transitioned ADF vs 2015 Regular ADF	2.10 (0.78, 5.62)	No association	–
	Passing urine more often	Transitioned ADF vs 2015 Regular ADF	2.40 (1.86, 3.10)	Transitioned ADF 2.4 times more likely to pass urine more often	Moderate
	Persistent cough	Transitioned ADF vs 2015 Regular ADF	1.18 (0.82, 1.71)	No association	–
	Rapid heartbeat	Transitioned ADF vs 2015 Regular ADF	1.51 (1.09, 2.09)	Transitioned ADF 51% more likely to have rapid heartbeat	Moderate
	Rash or skin irritation	Transitioned ADF vs 2015 Regular ADF	1.07 (0.78, 1.46)	No association	–
	ringing in the ears	Transitioned ADF vs 2015 Regular ADF	1.87 (1.45, 2.41)	Transitioned ADF 87% more likely to have ringing in ears	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Seizures	Transitioned ADF vs 2015 Regular ADF	17.58 (6.40, 48.28)	Transitioned ADF 17 times more likely to have seizures. Interpret with caution	Strong
	Increased sensitivity to light	Transitioned ADF vs 2015 Regular ADF	1.64 (1.11, 2.40)	Transitioned ADF 64% more likely to have sensitivity to light	Moderate
	Increased sensitivity to noise	Transitioned ADF vs 2015 Regular ADF	1.96 (1.40, 2.74)	Transitioned ADF almost 2 times more likely to have increased sensitivity to noise	Moderate
	Increased sensitivity to smells or odours	Transitioned ADF vs 2015 Regular ADF	2.42 (1.48, 3.98)	Transitioned ADF 2.4 times more likely to have increased sensitivity to smells/odours	Moderate
	Problems with sexual functioning	Transitioned ADF vs 2015 Regular ADF	1.95 (1.41, 2.70)	Transitioned ADF almost 2 times more likely to have problems with sexual functioning	Moderate
	Shaking	Transitioned ADF vs 2015 Regular ADF	1.61 (1.03, 2.51)	Transitioned ADF 61% more likely to have shaking	Moderate
	Feeling short of breath at rest	Transitioned ADF vs 2015 Regular ADF	1.77 (1.12, 2.79)	Transitioned ADF 77% more likely to have short of breath at rest	Moderate
	Skin infections	Transitioned ADF vs 2015 Regular ADF	1.20 (0.72, 1.99)	No association	–
	Skin ulcers	Transitioned ADF vs 2015 Regular ADF	2.02 (1.02, 4.01)	Transitioned ADF 2 times more likely to have skin ulcers	Moderate
	Sleeping difficulties	Transitioned ADF vs 2015 Regular ADF	1.25 (0.98, 1.59)	No association	–
	Sore throat	Transitioned ADF vs 2015 Regular ADF	0.92 (0.69, 1.24)	No association	–
	Stomach bloating	Transitioned ADF vs 2015 Regular ADF	1.69 (1.25, 2.29)	Transitioned ADF 69% more likely to have stomach bloating	Moderate
	Stomach cramps	Transitioned ADF vs 2015 Regular ADF	1.01 (0.73, 1.41)	No association	–
	Tender/painful swelling of lymph glands in neck armpit or groin	Transitioned ADF vs 2015 Regular ADF	1.87 (1.16, 3.03)	Transitioned ADF 87% more likely to have swelling of lymph glands	Moderate
	Tingling in fingers and arms	Transitioned ADF vs 2015 Regular ADF	1.61 (1.17, 2.22)	Transitioned ADF 61% more likely to have tingling in fingers/arms	Moderate
	Tingling in legs and toes	Transitioned ADF vs 2015 Regular ADF	1.54 (1.08, 2.20)	Transitioned ADF 54% more likely to have tingling in legs/toes	Moderate
	Unable to breathe deeply enough	Transitioned ADF vs 2015 Regular ADF	1.52 (1.05, 2.21)	Transitioned ADF 52% more likely to be unable to breathe deeply enough	Moderate
	Vomiting	Transitioned ADF vs 2015 Regular ADF	0.76 (0.41, 1.39)	No association	–
	Unintended weight gain greater than 4kg	Transitioned ADF vs 2015 Regular ADF	1.24 (0.87, 1.75)	No association	–
	Unintended weight loss greater than 4kg	Transitioned ADF vs 2015 Regular ADF	2.22 (1.40, 3.50)	Transitioned ADF 2 times more likely to have reported unintended weight loss	Moderate
	Wheezing	Transitioned ADF vs 2015 Regular ADF	1.68 (1.17, 2.42)	Transitioned ADF 68% more likely to have wheezing	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Table 4.6	Avoiding doing things or situations	Transitioned ADF (DVA client vs Non-DVA client)	2.92 (2.38, 3.58)	Among Transitioned ADF, DVA clients 2.9 times more likely to avoid doing things	Moderate
	Feeling that your bowel movement is not finished	Transitioned ADF (DVA client vs Non-DVA client)	1.80 (1.44, 2.25)	Among Transitioned ADF, DVA clients 80% more likely to feel that bowel movement is not finished	Moderate
	Burning sensation in the sex organs	Transitioned ADF (DVA client vs Non-DVA client)	2.40 (1.21, 4.78)	Among Transitioned ADF, DVA clients 2.4 times more likely to feel burning sensation in sex organs	Moderate
	Changeable bowel function (mixture of diarrhoea/constipation)	Transitioned ADF (DVA client vs Non-DVA client)	1.72 (1.35, 2.18)	Among Transitioned ADF, DVA clients 72% more likely to feel changeable bowel function	Moderate
	Chest pain	Transitioned ADF (DVA client vs Non-DVA client)	1.79 (1.36, 2.35)	Among Transitioned ADF, DVA clients 79% more likely to have chest pain	Moderate
	Constipation	Transitioned ADF (DVA client vs Non-DVA client)	2.33 (1.81, 3.02)	Among Transitioned ADF, DVA clients 2.3 times more likely to have constipation	Moderate
	Diarrhoea	Transitioned ADF (DVA client vs Non-DVA client)	1.63 (1.31, 2.03)	Among Transitioned ADF, DVA clients 63% more likely to have diarrhoea	Moderate
	Difficulty finding the right word	Transitioned ADF (DVA client vs Non-DVA client)	1.70 (1.40, 2.07)	Among Transitioned ADF, DVA clients 70% more likely to have difficulty finding the right word	Moderate
	Difficulty speaking	Transitioned ADF (DVA client vs Non-DVA client)	1.70 (1.26, 2.29)	Among Transitioned ADF, DVA clients 70% more likely to have difficulty speaking	Moderate
	Feeling disorientated	Transitioned ADF (DVA client vs Non-DVA client)	2.89 (2.01, 4.15)	Among Transitioned ADF, DVA clients 2.8 times more likely to feel disorientated	Moderate
	Distressing dreams	Transitioned ADF (DVA client vs Non-DVA client)	2.54 (2.03, 3.16)	Among Transitioned ADF, DVA clients 2.5 times more likely to have distressing dreams	Moderate
	Dizziness, fainting or blackouts	Transitioned ADF (DVA client vs Non-DVA client)	1.79 (1.33, 2.39)	Among Transitioned ADF, DVA clients 79% more likely to have dizziness, fainting or blackouts	Moderate
	Double vision	Transitioned ADF (DVA client vs Non-DVA client)	2.33 (1.65, 3.28)	Among Transitioned ADF, DVA clients 2.3 times more likely to have double vision	Moderate
	Dry mouth	Transitioned ADF (DVA client vs Non-DVA client)	2.44 (1.92, 3.12)	Among Transitioned ADF, DVA clients 2.4 times more likely to have dry mouth	Moderate
	Faster breathing than normal	Transitioned ADF (DVA client vs Non-DVA client)	2.12 (1.61, 2.78)	Among Transitioned ADF, DVA clients 2.2 times more likely to have faster breathing than normal	Moderate
	Fatigue	Transitioned ADF (DVA client vs Non-DVA client)	2.16 (1.75, 2.65)	Among Transitioned ADF, DVA clients 2 times more likely to have fatigue	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Feeling distant or cut off from others	Transitioned ADF (DVA client vs Non-DVA client)	2.38 (1.94, 2.93)	Among Transitioned ADF, DVA clients 2.4 times more likely to feel distant or cut off from others	Moderate
	Feeling jumpy/easily startled	Transitioned ADF (DVA client vs Non-DVA client)	3.08 (2.47, 3.85)	Among Transitioned ADF, DVA clients 3 times more likely to feel jumpy/easily startled	Strong
	Feeling unrefreshed after sleep	Transitioned ADF (DVA client vs Non-DVA client)	2.50 (2.04, 3.06)	Among Transitioned ADF, DVA clients 2.5 times more likely to feel unrefreshed after sleep	Moderate
	Feeling feverish	Transitioned ADF (DVA client vs Non-DVA client)	2.45 (1.82, 3.31)	Among Transitioned ADF, DVA clients 2.5 times more likely to feel feverish	Moderate
	Flatulence or burping	Transitioned ADF (DVA client vs Non-DVA client)	1.77 (1.46, 2.16)	Among Transitioned ADF, DVA clients 71% more likely to have flatulence	Moderate
	Forgetfulness	Transitioned ADF (DVA client vs Non-DVA client)	2.08 (1.70, 2.54)	Among Transitioned ADF, DVA clients 2 times more likely to have forgetfulness	Moderate
	Headaches	Transitioned ADF (DVA client vs Non-DVA client)	1.95 (1.59, 2.37)	Among Transitioned ADF, DVA clients 95% more likely to have headaches	Moderate
	Indigestion	Transitioned ADF (DVA client vs Non-DVA client)	2.10 (1.67, 2.64)	Among Transitioned ADF, DVA clients 2 times more likely to have indigestion	Moderate
	Intolerance to alcohol	Transitioned ADF (DVA client vs Non-DVA client)	1.94 (1.38, 2.72)	Among Transitioned ADF, DVA clients 94% more likely to have intolerance to alcohol	Moderate
	Irritability/outbursts of anger	Transitioned ADF (DVA client vs Non-DVA client)	2.55 (2.09, 3.11)	Among Transitioned ADF, DVA clients 2.5 times more likely to have irritability	Moderate
	Itchy or painful eyes	Transitioned ADF (DVA client vs Non-DVA client)	1.30 (1.05, 1.60)	Among Transitioned ADF, DVA clients 30% more likely to have itchy or painful eyes	Weak
	Joint stiffness	Transitioned ADF (DVA client vs Non-DVA client)	3.39 (2.78, 4.14)	Among Transitioned ADF, DVA clients 3.4 times more likely to have joint stiffness	Strong
	Loss of, or decrease in, appetite	Transitioned ADF (DVA client vs Non-DVA client)	2.15 (1.66, 2.77)	Among Transitioned ADF, DVA clients 2 times more likely to have loss of appetite	Moderate
	Loss of balance or co-ordination	Transitioned ADF (DVA client vs Non-DVA client)	2.14 (1.62, 2.82)	Among Transitioned ADF, DVA clients 2 times more likely to have loss of balance	Moderate
	Loss of concentration	Transitioned ADF (DVA client vs Non-DVA client)	2.08 (1.70, 2.55)	Among Transitioned ADF, DVA clients 2 times more likely to have loss of concentration	Moderate
	Loss of interest in sex	Transitioned ADF (DVA client vs Non-DVA client)	2.21 (1.80, 2.72)	Among Transitioned ADF, DVA clients 2.2 times more likely to have loss of interest in sex	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Low back pain	Transitioned ADF (DVA client vs Non-DVA client)	2.62 (2.15, 3.19)	Among Transitioned ADF, DVA clients 2.6 times more likely to have low back pain	Moderate
	Lump in throat	Transitioned ADF (DVA client vs Non-DVA client)	2.08 (1.37, 3.14)	Among Transitioned ADF, DVA clients 2 times more likely to have lump in throat	Moderate
	General muscle aches or pains	Transitioned ADF (DVA client vs Non-DVA client)	2.24 (1.84, 2.73)	Among Transitioned ADF, DVA clients 2.2 times more likely to have general muscle aches	Moderate
	Nausea	Transitioned ADF (DVA client vs Non-DVA client)	2.53 (1.88, 3.39)	Among Transitioned ADF, DVA clients 2.5 times more likely to have nausea	Moderate
	Night sweats which soak the bed sheets	Transitioned ADF (DVA client vs Non-DVA client)	2.25 (1.76, 2.88)	Among Transitioned ADF, DVA clients 2.2 times more likely to have night sweats	Moderate
	Numbness in fingers/toes	Transitioned ADF (DVA client vs Non-DVA client)	2.52 (2.00, 3.19)	Among Transitioned ADF, DVA clients 2.5 times more likely to have numbness in fingers/toes	Moderate
	Pain in the face, jaw, in front of ear, or in ear	Transitioned ADF (DVA client vs Non-DVA client)	2.48 (1.91, 3.22)	Among Transitioned ADF, DVA clients 2.5 times more likely to have pain in face	Moderate
	Pain without swelling or redness in several joints	Transitioned ADF (DVA client vs Non-DVA client)	3.32 (2.67, 4.13)	Among Transitioned ADF, DVA clients 3.3 times more likely to have pain without swelling	Strong
	Pain on passing urine	Transitioned ADF (DVA client vs Non-DVA client)	2.16 (1.24, 3.77)	Among Transitioned ADF, DVA clients 2 times more likely to have pain on passing urine	Moderate
	Passing urine more often	Transitioned ADF (DVA client vs Non-DVA client)	1.68 (1.25, 2.26)	Among Transitioned ADF, DVA clients 68% more likely to pass urine more often	Moderate
	Persistent cough	Transitioned ADF (DVA client vs Non-DVA client)	1.44 (1.10, 1.90)	Among Transitioned ADF, DVA clients 44% more likely to have persistent cough	Weak
	Rapid heartbeat	Transitioned ADF (DVA client vs Non-DVA client)	1.70 (1.35, 2.14)	Among Transitioned ADF, DVA clients 70% more likely to have rapid heartbeat	Moderate
	Rash or skin irritation	Transitioned ADF (DVA client vs Non-DVA client)	1.61 (1.28, 2.01)	Among Transitioned ADF, DVA clients 61% more likely to have rash or skin irritation	Moderate
	ringing in the ears	Transitioned ADF (DVA client vs Non-DVA client)	2.24 (1.84, 2.74)	Among Transitioned ADF, DVA clients 2.2 times more likely to have ringing in ears	Moderate
	Seizures	Transitioned ADF (DVA client vs Non-DVA client)	7.83 (2.05, 29.97)	Among Transitioned ADF, DVA clients 7 times more likely to have seizures. Interpret with caution due to wide confidence intervals.	Strong
	Increased sensitivity to light	Transitioned ADF (DVA client vs Non-DVA client)	2.55 (1.90, 3.43)	Among Transitioned ADF, DVA clients 2.5 times more likely to have increased sensitivity to light	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Increased sensitivity to noise	Transitioned ADF (DVA client vs Non-DVA client)	2.29 (1.81, 2.91)	Among Transitioned ADF, DVA clients 2.3 times more likely to have increased sensitivity to noise	Moderate
	Increased sensitivity to smells or odours	Transitioned ADF (DVA client vs Non-DVA client)	2.73 (1.91, 3.90)	Among Transitioned ADF, DVA clients 2.7 times more likely to have increased sensitivity to smell/odour	Moderate
	Problems with sexual functioning	Transitioned ADF (DVA client vs Non-DVA client)	3.14 (2.43, 4.05)	Among Transitioned ADF, DVA clients 3 times more likely to have problem with sexual functioning	Strong
	Shaking	Transitioned ADF (DVA client vs Non-DVA client)	2.59 (1.91, 3.51)	Among Transitioned ADF, DVA clients 2.6 times more likely to have shaking	Moderate
	Feeling short of breath at rest	Transitioned ADF (DVA client vs Non-DVA client)	2.04 (1.52, 2.73)	Among Transitioned ADF, DVA clients 2 times more likely to have shortness of breath at rest	Moderate
	Skin infections	Transitioned ADF (DVA client vs Non-DVA client)	1.69 (1.16, 2.47)	Among Transitioned ADF, DVA clients 69% more likely to have skin infections	Moderate
	Skin ulcers	Transitioned ADF (DVA client vs Non-DVA client)	2.07 (1.07, 4.00)	Among Transitioned ADF, DVA clients 2 times more likely to have skin ulcers	Moderate
	Sleeping difficulties	Transitioned ADF (DVA client vs Non-DVA client)	1.85 (1.51, 2.28)	Among Transitioned ADF, DVA clients 85% more likely to have sleeping difficulties	Moderate
	Sore throat	Transitioned ADF (DVA client vs Non-DVA client)	1.46 (1.14, 1.86)	Among Transitioned ADF, DVA clients 46% more likely to have sore throat	Weak
	Stomach bloating	Transitioned ADF (DVA client vs Non-DVA client)	1.71 (1.34, 2.17)	Among Transitioned ADF, DVA clients 71% more likely to have stomach bloating	Moderate
	Stomach cramps	Transitioned ADF (DVA client vs Non-DVA client)	2.04 (1.60, 2.61)	Among Transitioned ADF, DVA clients 2 times more likely to have stomach cramps	Moderate
	Tender/painful swelling of lymph glands in neck armpit or groin	Transitioned ADF (DVA client vs Non-DVA client)	1.77 (1.20, 2.62)	Among Transitioned ADF, DVA clients 77% more likely to have swelling of lymph glands	Moderate
	Tingling in fingers and arms	Transitioned ADF (DVA client vs Non-DVA client)	2.27 (1.83, 2.82)	Among Transitioned ADF, DVA clients 2.2 times more likely to have tingling in fingers/arms	Moderate
	Tingling in legs and toes	Transitioned ADF (DVA client vs Non-DVA client)	2.85 (2.20, 3.70)	Among Transitioned ADF, DVA clients 2.8 times more likely to have tingling in legs/toes	Moderate
	Unable to breathe deeply enough	Transitioned ADF (DVA client vs Non-DVA client)	2.14 (1.65, 2.77)	Among Transitioned ADF, DVA clients 2 times more likely to be unable to breathe deeply enough	Moderate
	Vomiting	Transitioned ADF (DVA client vs Non-DVA client)	1.80 (1.18, 2.75)	Among Transitioned ADF, DVA clients 80% more likely to have vomiting	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Unintended weight gain greater than 4kg	Transitioned ADF (DVA client vs Non-DVA client)	2.88 (2.21, 3.75)	Among Transitioned ADF, DVA clients 2.9 times more likely to have unintended weight gain	Moderate
	Unintended weight loss greater than 4kg	Transitioned ADF (DVA client vs Non-DVA client)	1.98 (1.20, 3.27)	Among Transitioned ADF, DVA clients 2 times more likely to have unintended weight loss	Moderate
	Wheezing	Transitioned ADF (DVA client vs Non-DVA client)	1.51 (1.16, 1.96)	Among Transitioned ADF, DVA clients 51% more likely to have wheezing	Moderate
Self-reported doctor-diagnosed conditions					
Table 5.5	Any circulatory condition	Transitioned ADF vs 2015 Regular ADF	1.40 (1.07, 1.84)	Transitioned ADF 40% more likely to have any circulatory condition	Weak
	Angina	Transitioned ADF vs 2015 Regular ADF	0.80 (0.24, 2.65)	No association	–
	High blood pressure	Transitioned ADF vs 2015 Regular ADF	1.58 (1.16, 2.14)	Transitioned ADF 58% more likely to have high BP	Moderate
	High cholesterol	Transitioned ADF vs 2015 Regular ADF	1.15 (0.84, 1.58)	No association	–
	Heart attack/myocardial infarction	Transitioned ADF vs 2015 Regular ADF	0.72 (0.29, 1.81)	No association	–
	Stroke	Transitioned ADF vs 2015 Regular ADF	0.83 (0.24, 2.87)	No association	–
	Treated in past year	Transitioned ADF vs 2015 Regular ADF	1.25 (0.90, 1.73)	No association	
	Medications in past month	Transitioned ADF vs 2015 Regular ADF	1.18 (0.96, 1.46)	No association	
Table 5.6	Any circulatory condition	Transitioned ADF (DVA client vs Non-DVA client)	1.30 (1.05, 1.62)	Among Transitioned ADF, DVA clients 30% more likely to have any circulatory condition	Weak
	Angina	Transitioned ADF (DVA client vs Non-DVA client)	0.88 (0.46, 1.69)	No association	–
	High blood pressure	Transitioned ADF (DVA client vs Non-DVA client)	1.17 (0.91, 1.50)	No association	–
	High cholesterol	Transitioned ADF (DVA client vs Non-DVA client)	1.40 (1.11, 1.77)	Among Transitioned ADF, DVA clients 40% more likely to have high cholesterol	Weak
	Heart attack/myocardial infarction	Transitioned ADF (DVA client vs Non-DVA client)	0.90 (0.53, 1.51)	No association	–
	Stroke	Transitioned ADF (DVA client vs Non-DVA client)	1.23 (0.63, 2.41)	No association	–
	Treated in past year	Transitioned ADF (DVA client vs Non-DVA client)	1.69 (1.32, 2.16)	Among Transitioned ADF, DVA clients 1.7 times more likely to have been treated in past year	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Table 5.9	Medications in past month	Transitioned ADF (DVA client vs Non-DVA client)	1.58 (1.23, 2.02)	Among Transitioned ADF, DVA clients 1.6 times more likely to have taken medications in past 12 months	Moderate
	Any digestive conditions	Transitioned ADF vs 2015 Regular ADF	1.09 (0.77, 1.55)	No association	–
	Cirrhosis	Transitioned ADF vs 2015 Regular ADF	0.46 (0.13, 1.63)	No association	–
	Colitis/Crohn's disease	Transitioned ADF vs 2015 Regular ADF	1.00 (0.31, 3.23)	No association	–
	Hepatitis	Transitioned ADF vs 2015 Regular ADF	0.78 (0.25, 2.46)	No association	–
	Irritable bowel syndrome	Transitioned ADF vs 2015 Regular ADF	1.20 (0.62, 2.33)	No association	–
	Polyps in bowel	Transitioned ADF vs 2015 Regular ADF	0.91 (0.60, 1.37)	No association	–
	Temporomandibular dysfunction	Transitioned ADF vs 2015 Regular ADF	0.98 (0.30, 3.17)	No association	–
	Ulcers	Transitioned ADF vs 2015 Regular ADF	0.71 (0.32, 1.57)	No association	–
Table 5.10	Treated in past year	Transitioned ADF vs 2015 Regular ADF	0.75 (0.46, 1.23)	No association	–
	Medications in past month	Transitioned ADF vs 2015 Regular ADF	1.53 (0.87, 2.70)	No association	–
	Any digestive conditions	Transitioned ADF (DVA client vs Non-DVA client)	2.24 (1.68, 2.98)	Among Transitioned ADF, DVA clients 2.2 times more likely to have any digestive conditions	Moderate
	Cirrhosis	Transitioned ADF (DVA client vs Non-DVA client)	1.29 (0.55, 3.04)	No association	–
	Colitis/Crohn's disease	Transitioned ADF (DVA client vs Non-DVA client)	1.33 (0.61, 2.94)	No association	–
	Hepatitis	Transitioned ADF (DVA client vs Non-DVA client)	0.97 (0.43, 2.17)	No association	–
	Irritable bowel syndrome	Transitioned ADF (DVA client vs Non-DVA client)	2.59 (1.58, 4.23)	Among Transitioned ADF, DVA clients 2.5 times more likely to have IBS	Moderate
	Polyps in bowel	Transitioned ADF (DVA client vs Non-DVA client)	2.00 (1.40, 2.85)	Among Transitioned ADF, DVA clients 2 times more likely to have polyps in bowel	Moderate
	Temporomandibular dysfunction	Transitioned ADF (DVA client vs Non-DVA client)	1.21 (0.62, 2.36)	No association	–
	Ulcers	Transitioned ADF (DVA client vs Non-DVA client)	2.27 (1.29, 4.00)	Among Transitioned ADF, DVA clients 2.2 times more likely to have ulcers	Moderate
	Treated in past year	Transitioned ADF (DVA client vs Non-DVA client)	2.82 (1.67, 4.74)	Among Transitioned ADF, DVA clients 2.8 times more likely to have been treated in past year	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Table 5.13	Medications in past month	Transitioned ADF (DVA client vs Non-DVA client)	2.40 (1.32, 4.35)	Among Transitioned ADF, DVA clients 2.4 times more likely to have taken medications in past 12 months	Moderate
	Any musculoskeletal and connective tissue conditions	Transitioned ADF vs 2015 Regular ADF	1.49 (1.14, 1.96)	Transitioned ADF 49% more likely to have any musculoskeletal conditions	Weak
	Chronic low back pain	Transitioned ADF vs 2015 Regular ADF	1.61 (1.13, 2.29)	Transitioned ADF 61% more likely to have chronic low back pain	Moderate
	Carpal tunnel	Transitioned ADF vs 2015 Regular ADF	1.00 (0.51, 1.94)	No association	–
	Fibrositis	Transitioned ADF vs 2015 Regular ADF	0.86 (0.22, 3.34)	No association	–
	Gout	Transitioned ADF vs 2015 Regular ADF	1.26 (0.65, 2.42)	No association	–
	Neck pain	Transitioned ADF vs 2015 Regular ADF	1.65 (0.92, 2.96)	No association	–
	Osteoarthritis	Transitioned ADF vs 2015 Regular ADF	1.55 (0.91, 2.64)	No association	–
	Osteoporosis	Transitioned ADF vs 2015 Regular ADF	0.89 (0.25, 3.16)	No association	–
	Other inflammatory arthritis	Transitioned ADF vs 2015 Regular ADF	1.53 (0.63, 3.71)	No association	–
	Rheumatoid arthritis	Transitioned ADF vs 2015 Regular ADF	1.10 (0.37, 3.27)	No association	–
	Other musculoskeletal condition	Transitioned ADF vs 2015 Regular ADF	1.00 (0.68, 1.49)	No association	–
	Treated in past year	Transitioned ADF vs 2015 Regular ADF	1.10 (0.79, 1.51)	No association	–
Table 5.14	Medications in past month	Transitioned ADF vs 2015 Regular ADF	1.50 (1.05, 2.14)	Transitioned ADF, 1.5 times more likely to have taken medications in past 12 months	Moderate
	Any musculoskeletal and connective tissue conditions	Transitioned ADF (DVA client vs Non-DVA client)	4.61 (3.72, 5.72)	Among Transitioned ADF, DVA clients 4.6 times more likely to have any musculoskeletal conditions	Strong
	Arthritis	Transitioned ADF (DVA client vs Non-DVA client)	3.89 (2.54, 5.96)	Among Transitioned ADF, DVA clients 3.9 times more likely to have arthritis	Strong
	Chronic low back pain	Transitioned ADF (DVA client vs Non-DVA client)	4.92 (3.75, 6.44)	Among Transitioned ADF, DVA clients almost 5 times more likely to have chronic low back pain	Strong
	Carpal tunnel	Transitioned ADF (DVA client vs Non-DVA client)	1.21 (0.74, 1.96)	No association	–
	Fibrositis	Transitioned ADF (DVA client vs Non-DVA client)	1.11 (0.51, 2.42)	No association	–
Gout	Transitioned ADF (DVA client vs Non-DVA client)	1.54 (0.96, 2.48)	No association	–	

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Neck pain	Transitioned ADF (DVA client vs Non-DVA client)	4.07 (2.75, 6.04)	Among Transitioned ADF, DVA clients 4 times more likely to have neck pain	Strong
	Osteoarthritis	Transitioned ADF (DVA client vs Non-DVA client)	4.62 (3.08, 6.92)	Among Transitioned ADF, DVA clients 4.6 times more likely to have osteoarthritis	Strong
	Osteoporosis	Transitioned ADF (DVA client vs Non-DVA client)	1.67 (0.76, 3.66)	No association	–
	Other inflammatory arthritis	Transitioned ADF (DVA client vs Non-DVA client)	3.64 (1.80, 7.36)	Among Transitioned ADF, DVA clients 3.6 times more likely to have inflammatory arthritis	Strong
	Rheumatoid arthritis	Transitioned ADF (DVA client vs Non-DVA client)	2.03 (1.05, 3.92)	Among Transitioned ADF, DVA clients 2 times more likely to have rheumatoid arthritis	Moderate
	Other musculoskeletal condition	Transitioned ADF (DVA client vs Non-DVA client)	3.78 (2.72, 5.25)	Among Transitioned ADF, DVA clients 3.8 times more likely to have other musculoskeletal conditions	Strong
	Treated in past year	Transitioned ADF (DVA client vs Non-DVA client)	5.13 (3.89, 6.76)	Among Transitioned ADF, DVA clients 5.1 times more likely to have been treated in past year	Strong
	Medications in past month	Transitioned ADF (DVA client vs Non-DVA client)	6.18 (4.51, 8.48)	Among Transitioned ADF, DVA clients 6.2 times more likely to have taken medications in past 12 months	Strong
Table 5.17	Any nervous system condition	Transitioned ADF vs 2015 Regular ADF	1.48 (1.01, 2.17)	Transitioned ADF 48% more likely to have any nervous system condition	Weak
	Epilepsy	Transitioned ADF vs 2015 Regular ADF	0.97 (0.26, 3.59)	No association	–
	Migraines	Transitioned ADF vs 2015 Regular ADF	1.50 (0.94, 2.41)	No association	–
	Motor neurone disease	Transitioned ADF vs 2015 Regular ADF	0.64 (0.15, 2.72)	No association	–
	Multiple sclerosis	Transitioned ADF vs 2015 Regular ADF	0.59 (0.14, 2.47)	No association	–
	Sleep apnoea	Transitioned ADF vs 2015 Regular ADF	1.17 (0.65, 2.11)	No association	–
	Treated in past year	Transitioned ADF vs 2015 Regular ADF	1.35 (0.74, 2.47)	No association	–
	Medications in past month	Transitioned ADF vs 2015 Regular ADF	2.51 (1.92, 3.26)	Transitioned ADF, 2.5 times more likely to have taken medications in past 12 months	Moderate
Table 5.18	Any nervous system condition	Transitioned ADF (DVA client vs Non-DVA client)	2.25 (1.69, 3.00)	Among Transitioned ADF, DVA clients 2.2 times more likely to have any nervous system condition	Moderate
	Epilepsy	Transitioned ADF (DVA client vs Non-DVA client)	1.13 (0.55, 2.36)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Migraines	Transitioned ADF (DVA client vs Non-DVA client)	1.85 (1.27, 2.69)	Among Transitioned ADF, DVA clients 85% more likely to have migraines	Moderate
	Motor neurone disease	Transitioned ADF (DVA client vs Non-DVA client)	1.08 (0.44, 2.66)	No association	–
	Multiple sclerosis	Transitioned ADF (DVA client vs Non-DVA client)	1.38 (0.56, 3.38)	No association	–
	Sleep apnoea	Transitioned ADF (DVA client vs Non-DVA client)	2.28 (1.54, 3.38)	Among Transitioned ADF, DVA clients 2.2 times more likely to have sleep apnoea	Moderate
	Treated in past year	Transitioned ADF (DVA client vs Non-DVA client)	2.40 (1.54, 3.75)	Among Transitioned ADF, DVA clients 2.4 times more likely to have been treated in past year	Moderate
	Medications in past month	Transitioned ADF (DVA client vs Non-DVA client)	4.10 (2.42, 6.95)	Among Transitioned ADF, DVA clients 4.1 times more likely to have taken medications in past 12 months	Strong
Table 5.21	Any respiratory conditions	Transitioned ADF vs 2015 Regular ADF	0.93 (0.63, 1.38)	No association	–
	COPD	Transitioned ADF vs 2015 Regular ADF	0.81 (0.24, 2.71)	No association	–
	Pneumonia	Transitioned ADF vs 2015 Regular ADF	1.19 (0.64, 2.21)	No association	–
	Sinus	Transitioned ADF vs 2015 Regular ADF	0.85 (0.55, 1.31)	No association	–
	Treated in past year	Transitioned ADF vs 2015 Regular ADF	0.98 (0.53, 1.80)	No association	–
	Medications in past month	Transitioned ADF vs 2015 Regular ADF	1.30 (0.85, 2.00)	No association	–
Table 5.22	Any respiratory conditions	Transitioned ADF (DVA client vs Non-DVA client)	1.68 (1.26, 2.25)	Among Transitioned ADF, DVA clients 68% more likely to have any respiratory conditions	Moderate
	COPD	Transitioned ADF (DVA client vs Non-DVA client)	1.18 (0.54, 2.59)	No association	–
	Pneumonia	Transitioned ADF (DVA client vs Non-DVA client)	1.40 (0.85, 2.30)	No association	–
	Sinus	Transitioned ADF (DVA client vs Non-DVA client)	1.65 (1.20, 2.26)	Among Transitioned ADF, DVA clients 65% more likely to have sinus	Moderate
	Treated in past year	Transitioned ADF (DVA client vs Non-DVA client)	1.93 (1.20, 3.11)	Among Transitioned ADF, DVA clients 1.9 times more likely to have been treated in past year	Moderate
	Medications in past month	Transitioned ADF (DVA client vs Non-DVA client)	2.26 (1.22, 4.22)	Among Transitioned ADF, DVA clients 2.3 times more likely to have taken medications in past 12 months	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Table 5.25	Any neoplasms, skin cancers including melanoma	Transitioned ADF vs 2015 Regular ADF	0.82 (0.57, 1.18)	No association	–
	Melanoma	Transitioned ADF vs 2015 Regular ADF	0.57 (0.25, 1.31)	No association	–
	Other skin cancer	Transitioned ADF vs 2015 Regular ADF	0.89 (0.64, 1.25)	No association	–
	Treated in past year	Transitioned ADF vs 2015 Regular ADF	0.84 (0.51, 1.41)	No association	–
	Medications in past month	Transitioned ADF vs 2015 Regular ADF	1.34 (0.75, 2.39)	No association	–
Table 5.26	Any neoplasms, skin cancers including melanoma	Transitioned ADF (DVA client vs Non-DVA client)	1.99 (1.45, 2.72)	Among Transitioned ADF, DVA clients 2 times more likely to have any Neoplasms, Skin Cancers including melanoma	Moderate
	Melanoma	Transitioned ADF (DVA client vs Non-DVA client)	1.65 (0.80, 3.39)	Among Transitioned ADF, DVA clients 65% more likely to have other skin cancer	Moderate
	Other skin cancer	Transitioned ADF (DVA client vs Non-DVA client)	1.89 (1.37, 2.61)	Among Transitioned ADF, DVA clients 89% more likely to have other skin cancer	Moderate
	Treated in past year	Transitioned ADF (DVA client vs Non-DVA client)	1.93 (1.21, 3.07)	Among Transitioned ADF, DVA clients 1.9 times more likely to have been treated in past year	Moderate
	Medications in past month	Transitioned ADF (DVA client vs Non-DVA client)	3.53 (1.48, 8.38)	Among Transitioned ADF, DVA clients 3.5 times more likely to have taken medications in past 12 months	Strong
Table 5.29	Any skin conditions	Transitioned ADF vs 2015 Regular ADF	0.92 (0.62, 1.36)	No association	–
	Dermatitis	Transitioned ADF vs 2015 Regular ADF	0.84 (0.47, 1.50)	No association	–
	Eczema	Transitioned ADF vs 2015 Regular ADF	0.96 (0.51, 1.82)	No association	–
	Psoriasis	Transitioned ADF vs 2015 Regular ADF	0.95 (0.50, 1.79)	No association	–
	Treated in past year	Transitioned ADF vs 2015 Regular ADF	0.91 (0.48, 1.71)	No association	–
	Medications in past month	Transitioned ADF vs 2015 Regular ADF	1.57 (1.14, 2.17)	Transitioned ADF, 1.6 times more likely to have taken medications in past 12 months	Moderate
Table 5.30	Any skin conditions	Transitioned ADF (DVA client vs Non-DVA client)	1.24 (0.92, 1.67)	No association	–
	Dermatitis	Transitioned ADF (DVA client vs Non-DVA client)	1.59 (1.04, 2.43)	Among Transitioned ADF, DVA clients 59% more likely to have dermatitis	Moderate
	Eczema	Transitioned ADF (DVA client vs Non-DVA client)	1.21 (0.77, 1.90)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Psoriasis	Transitioned ADF (DVA client vs Non-DVA client)	0.61 (0.26, 1.44)	No association	–
	Treated in past year	Transitioned ADF (DVA client vs Non-DVA client)	1.65 (1.00, 2.71)	Among Transitioned ADF, DVA clients times more likely to have been treated in past year	Moderate
	Medications in past month	Transitioned ADF (DVA client vs Non-DVA client)	1.49 (0.89, 2.47)	No association	–
Table 5.33	Chronic fatigue syndrome	Transitioned ADF vs 2015 Regular ADF	1.05 (0.34, 3.23)	No association	–
	Diabetes	Transitioned ADF vs 2015 Regular ADF	1.29 (0.54, 3.04)	No association	–
	Hearing loss	Transitioned ADF vs 2015 Regular ADF	1.69 (1.15, 2.48)	Transitioned ADF 69% more likely to have hearing loss	Moderate
	Impotence	Transitioned ADF vs 2015 Regular ADF	1.62 (0.72, 3.64)	No association	–
	Kidney disease	Transitioned ADF vs 2015 Regular ADF	1.11 (0.54, 2.28)	No association	–
	Other cancer, tumour or malignancy	Transitioned ADF vs 2015 Regular ADF	1.12 (0.60, 2.11)	No association	–
	Traumatic brain injury	Transitioned ADF vs 2015 Regular ADF	0.92 (0.28, 2.97)	No association	–
Table 5.34	Chronic fatigue syndrome	Transitioned ADF (DVA client vs Non-DVA client)	1.70 (0.86, 3.34)	No association	–
	Diabetes	Transitioned ADF (DVA client vs Non-DVA client)	1.21 (0.74, 1.98)	No association	–
	Hearing loss	Transitioned ADF (DVA client vs Non-DVA client)	3.91 (2.96, 5.15)	Among Transitioned ADF, DVA clients almost 4 times more likely to have hearing loss	Strong
	Impotence	Transitioned ADF (DVA client vs Non-DVA client)	2.35 (1.41, 3.91)	Among Transitioned ADF, DVA clients almost 2.3 times more likely to have impotence	Moderate
	Kidney disease	Transitioned ADF (DVA client vs Non-DVA client)	1.24 (0.74, 2.07)	No association	–
	Other cancer, tumour or malignancy	Transitioned ADF (DVA client vs Non-DVA client)	1.72 (1.12, 2.64)	Among Transitioned ADF, DVA clients almost 72% more likely to have other cancer	Moderate
	Traumatic brain injury	Transitioned ADF (DVA client vs Non-DVA client)	1.97 (0.86, 4.51)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Respiratory health					
Table 6.1	Wheeze	Transitioned ADF vs 2015 Regular ADF	1.29 (0.95, 1.75)	No association	–
	Woken with tightness in chest	Transitioned ADF vs 2015 Regular ADF	1.24 (0.83, 1.85)	No association	–
	Attack of shortness of breath during the day whilst at rest	Transitioned ADF vs 2015 Regular ADF	1.58 (1.04, 2.40)	Transitioned ADF 58% more likely to have had attack of shortness of breath whilst at rest during the day	Moderate
	Attack of shortness of breath following strenuous activity	Transitioned ADF vs 2015 Regular ADF	1.08 (0.76, 1.54)	No association	–
	Woken by attack of shortness of breath	Transitioned ADF vs 2015 Regular ADF	2.21 (1.36, 3.59)	Transitioned ADF 2 times more likely to have been woken by attack of shortness of breath	Moderate
	Woken by attack of coughing	Transitioned ADF vs 2015 Regular ADF	1.25 (0.96, 1.62)	No association	–
	Cough first thing in the morning	Transitioned ADF vs 2015 Regular ADF	1.28 (0.82, 2.00)	No association	–
	Cough during the day or at night	Transitioned ADF vs 2015 Regular ADF	0.96 (0.66, 1.42)	No association	–
	Phlegm from chest in morning during winter	Transitioned ADF vs 2015 Regular ADF	1.45 (1.10, 1.90)	Transitioned ADF 45% more likely to have phlegm from chest in morning during winter	Weak
	Phlegm from chest during day or at night during winter	Transitioned ADF vs 2015 Regular ADF	1.52 (1.10, 2.12)	Transitioned ADF 52% more likely to have phlegm from chest during day or at night during winter	Moderate
	Trouble breathing	Transitioned ADF vs 2015 Regular ADF	1.20 (0.85, 1.69)	No association	–
	Disabled from walking by condition other than heart/lung disease	Transitioned ADF vs 2015 Regular ADF	2.45 (1.31, 4.58)	Transitioned ADF almost 2.5 times more likely to have been disabled from walking by condition other than heart/lung disease	Moderate
	Shortness of breath	Transitioned ADF vs 2015 Regular ADF	1.75 (1.09, 2.81)	Transitioned ADF 75% more likely to have shortness of breath	Moderate
	Nasal allergies	Transitioned ADF vs 2015 Regular ADF	1.02 (0.79, 1.31)	No association	–
	Asthma (ever)	Transitioned ADF vs 2015 Regular ADF	1.27 (0.92, 1.76)	No association	–
	Asthma confirmed by doctor	Transitioned ADF vs 2015 Regular ADF	1.31 (0.96, 1.80)	No association	–
	Asthma in last 12 months	Transitioned ADF vs 2015 Regular ADF	2.45 (1.72, 3.50)	Transitioned ADF 2.5 times more likely to have Asthma in the last 12 months	Moderate
	Asthma medication currently	Transitioned ADF vs 2015 Regular ADF	1.92 (1.23, 3.01)	Transitioned ADF 1.9 times more likely take Asthma medication currently	Moderate
Table 6.2	Wheeze	Transitioned ADF (DVA client vs Non-DVA client)	1.20 (0.94, 1.52)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Woken with tightness in chest	Transitioned ADF (DVA client vs Non-DVA client)	1.85 (1.43, 2.40)	Among Transitioned ADF, DVA clients 85% more likely to have woken with tightness in chest	Moderate
	Attack of shortness of breath during the day whilst at rest	Transitioned ADF (DVA client vs Non-DVA client)	1.84 (1.37, 2.49)	Among Transitioned ADF, DVA clients 85% more likely to have attack of shortness of breath during the day whilst at rest	Moderate
	Attack of shortness of breath following strenuous activity	Transitioned ADF (DVA client vs Non-DVA client)	1.72 (1.31, 2.25)	Among Transitioned ADF, DVA clients 72% more likely to have attack of shortness of breath following strenuous activity	Moderate
	Woken by attack of shortness of breath	Transitioned ADF (DVA client vs Non-DVA client)	2.38 (1.66, 3.42)	Among Transitioned ADF, DVA clients 2 times more likely to have been woken by attack of shortness of breath	Moderate
	Woken by attack of coughing	Transitioned ADF (DVA client vs Non-DVA client)	1.47 (1.16, 1.85)	Among Transitioned ADF, DVA clients 47% more likely to have woken by attack of coughing	Weak
	Cough first thing in the morning	Transitioned ADF (DVA client vs Non-DVA client)	1.46 (1.07, 1.98)	Among Transitioned ADF, DVA clients 46% more likely to have cough first thing in the morning	Weak
	Cough during the day or at night	Transitioned ADF (DVA client vs Non-DVA client)	1.46 (1.11, 1.93)	Among Transitioned ADF, DVA clients 46% more likely to have cough during the day or night	Weak
	Phlegm from chest in morning during winter	Transitioned ADF (DVA client vs Non-DVA client)	2.11 (1.61, 2.76)	Among Transitioned ADF, DVA clients 2 times more likely to have phlegm from chest in the morning during winter	Moderate
	Phlegm from chest during day or at night during winter	Transitioned ADF (DVA client vs Non-DVA client)	1.98 (1.49, 2.63)	Among Transitioned ADF, DVA clients 2 times more likely to have phlegm from chest during day or night during winter	Moderate
	Trouble breathing	Transitioned ADF (DVA client vs Non-DVA client)	1.88 (1.46, 2.43)	Among Transitioned ADF, DVA clients 88% more likely to have trouble breathing	Moderate
	Disabled from walking by condition other than heart/lung disease	Transitioned ADF (DVA client vs Non-DVA client)	8.32 (4.78, 14.48)	Among Transitioned ADF, DVA clients 8 times more likely to have been disabled from walking by condition other than heart/lung disease	Strong
	Shortness of breath	Transitioned ADF (DVA client vs Non-DVA client)	2.38 (1.75, 3.25)	Among Transitioned ADF, DVA clients 2.3 times more likely to have shortness of breath	Moderate
	Nasal allergies	Transitioned ADF (DVA client vs Non-DVA client)	1.07 (0.87, 1.32)	No association	–
	Asthma ever	Transitioned ADF (DVA client vs Non-DVA client)	1.08 (0.84, 1.40)	No association	–
	Asthma confirmed by doctor	Transitioned ADF (DVA client vs Non-DVA client)	1.09 (0.83, 1.42)	No association	–
	Asthma in last 12 months	Transitioned ADF (DVA client vs Non-DVA client)	0.88 (0.51, 1.52)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Asthma medication currently	Transitioned ADF (DVA client vs Non-DVA client)	1.15 (0.73, 1.82)	No association	–
<b>Injuries</b>					
Table 7.5	Injury type (any)	Transitioned ADF vs 2015 Regular ADF	1.35 (1.03, 1.77)	Transitioned ADF 35% more likely to have had any type of injury	Weak
	Injury type (fracture)	Transitioned ADF vs 2015 Regular ADF	1.10 (0.85, 1.42)	No association	–
	Injury type (musculoskeletal)	Transitioned ADF vs 2015 Regular ADF	1.26 (0.99, 1.62)	No association	–
	Injury type (heat stress)	Transitioned ADF vs 2015 Regular ADF	2.15 (1.50, 3.08)	Transitioned ADF 2 times more likely to have had heat stress type of injury	Moderate
	Injury type (cold/exposure)	Transitioned ADF vs 2015 Regular ADF	1.36 (0.89, 2.08)	No association	–
	Injury type (burn, excl sunburn)	Transitioned ADF vs 2015 Regular ADF	1.80 (1.37, 2.37)	Transitioned ADF 80% more likely to have had burn type of injury	Moderate
Table 7.6	Injury type (any)	Transitioned ADF (DVA client vs Non-DVA client)	4.01 (3.11, 5.17)	Among Transitioned ADF, DVA clients 4 times more likely to have had any type of injury	Strong
	Injury type (fracture)	Transitioned ADF (DVA client vs Non-DVA client)	1.84 (1.50, 2.26)	Among Transitioned ADF, DVA clients 84% more likely to have had a fracture	Moderate
	Injury type (musculoskeletal)	Transitioned ADF (DVA client vs Non-DVA client)	3.37 (2.72, 4.17)	Among Transitioned ADF, DVA clients 3 times more likely to have had a musculoskeletal type injury	Strong
	Injury type (heat stress)	Transitioned ADF (DVA client vs Non-DVA client)	1.64 (1.22, 2.19)	Among Transitioned ADF, DVA clients 64% more likely to have had a heat stress type injury	Moderate
	Injury type (cold/exposure)	Transitioned ADF (DVA client vs Non-DVA client)	2.07 (1.19, 3.59)	Among Transitioned ADF, DVA clients 2 times more likely to have had a cold/exposure type injury	Moderate
	Injury type (burn, excl sunburn)	Transitioned ADF (DVA client vs Non-DVA client)	1.77 (1.05, 3.00)	Among Transitioned ADF, DVA clients 77% more likely to have had a burn type injury	Moderate
<b>Pain</b>					
Table 8.1	Pain (low vs none)	Transitioned ADF vs 2015 Regular ADF	0.82 (0.54, 1.25)	No association	–
	Pain (high vs none)	Transitioned ADF vs 2015 Regular ADF	1.16 (0.71, 1.91)	No association	–
Table 8.2	Pain (high vs none)	Transitioned ADF (DVA client vs Non-DVA client)	6.27 (4.16, 9.46)	Among Transitioned ADF, DVA clients 6 times more likely to have higher pain	Strong
<b>Sleep problems</b>					
Table 9.1	Sleep (insomnia vs no insomnia)	Transitioned ADF vs 2015 Regular ADF	2.52 (1.84, 3.47)	Transitioned ADF 2.5 times more likely to have insomnia	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Table 9.2	Sleep (insomnia vs no insomnia)	Transitioned ADF (DVA client vs Non-DVA client)	3.06 (2.44, 3.82)	Among Transitioned ADF, DVA clients 3 times more likely to have insomnia	Strong
<b>Lifestyle risk factors</b>					
Table 10.1	Body mass index (overweight vs normal)	Transitioned ADF vs 2015 Regular ADF	1.02 (0.75, 1.39)	No association	–
	Body mass index (obese vs normal)	Transitioned ADF vs 2015 Regular ADF	1.26 (0.89, 1.78)	No association	–
Table 10.2	Body mass index (obese vs normal)	Transitioned ADF (DVA client vs Non-DVA client)	2.20 (1.66, 2.92)	Among Transitioned ADF, DVA clients 2.2 times more likely to be obese	Moderate
Table 10.5	Physical exercise (inactive vs HEPA active)	Transitioned ADF vs 2015 Regular ADF	1.64 (1.18, 2.29)	Transitioned ADF 64% more likely to be inactive (compared to being HEPA active)	Moderate
	Physical exercise (minimally active vs HEPA active)	Transitioned ADF vs 2015 Regular ADF	1.19 (0.88, 1.60)	No association	–
Table 10.6	Physical exercise (inactive vs HEPA active)	Transitioned ADF (DVA client vs Non-DVA client)	1.29 (1.00, 1.64)	No association	–
Table 10.9	Smoking (former vs never smoked)	Transitioned ADF vs 2015 Regular ADF	1.18 (0.94, 1.48)	No association	–
	Smoking (smoker vs never smoked)	Transitioned ADF vs 2015 Regular ADF	1.09 (0.77, 1.53)	No association	–
Table 10.10	Smoking (smoker vs never smoked)	Transitioned ADF (DVA client vs Non-DVA client)	1.17 (0.89, 1.56)	No association	–
<b>Self-perceived health and quality of life</b>					
Table 11.1	Self-perceived health (fair–poor vs excellent–good)	Transitioned ADF vs 2015 Regular ADF	1.53 (1.21, 1.94)	Transitioned ADF are 53% more likely to have lower self-perceived health	Moderate
	Self-perceived health (fair–poor vs excellent–good)	Transitioned ADF (DVA client vs Non-DVA client)	4.16 (3.44, 5.03)	Among Transitioned ADF, DVA clients 4 times more likely to have lower self-perceived health	Strong
Table 11.5	Self-perceived satisfaction with health (dissatisfied vs satisfied)	Transitioned ADF vs 2015 Regular ADF	1.43 (1.15, 1.79)	Transitioned ADF are 43% more likely to have lower self-perceived satisfaction with health	Weak
Table 11.6	Self-perceived satisfaction with health (dissatisfied vs satisfied)	Transitioned ADF (DVA client vs Non-DVA client)	3.43 (2.82, 4.18)	Among Transitioned ADF, DVA clients almost 3.5 times more likely to have lower self-perceived satisfaction with health	Strong
Table 11.9	Self-perceived quality of life (poor vs good)	Transitioned ADF vs 2015 Regular ADF	2.57 (1.72, 3.85)	Transitioned ADF are 2.5 times more likely to have lower self-perceived quality of life	Moderate
Table 11.10	Self-perceived quality of life (poor vs good)	Transitioned ADF (DVA client vs Non-DVA client)	4.95 (3.72, 6.58)	Among Transitioned ADF, DVA clients 5 times more likely to have lower self-perceived quality of life	Strong

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Table 11.13	Self-perceived satisfaction with life (dissatisfied vs satisfied)	Transitioned ADF vs 2015 Regular ADF	1.23 (0.97, 1.57)	No association	–
Table 11.14	Self-perceived satisfaction with life (dissatisfied vs satisfied)	Transitioned ADF (DVA client vs Non-DVA client)	2.22 (1.82, 2.72)	Among Transitioned ADF, DVA clients 2 times more likely to have lower self-perceived satisfaction with life	Moderate
Table 11.17	Physical health (past year) (fair vs excellent)	Transitioned ADF vs 2015 Regular ADF	1.33 (1.05, 1.68)	Transitioned ADF 33% more likely to have lower self-perceived physical health	Weak
Table 11.8	Physical health (past year) (fair vs excellent)	Transitioned ADF (DVA client vs Non-DVA client)	2.89 (2.36, 3.54)	Among Transitioned ADF, DVA clients almost 3 times more likely to have lower self-perceived physical health	Moderate
Health service use					
<i>12-month health professionals</i>					
Table 12.1	Any health service	Transitioned vs 2015 Regular ADF	0.61 (0.44, 0.83)	Transitioned 39% less likely to have gone to 'any' health service (2015 Regular ADF 1.6 times more likely)	Moderate
	Alcohol or drug worker	Transitioned vs 2015 Regular ADF	0.72 (0.26, 2.03)	No association	–
	Audiologist	Transitioned vs 2015 Regular ADF	0.75 (0.52, 1.07)	No association	–
	Casualty or emergency ward	Transitioned vs 2015 Regular ADF	1.31 (0.96, 1.80)	No association	–
	Chiropractor	Transitioned vs 2015 Regular ADF	2.45 (1.68, 3.58)	Transitioned 2.4 time more likely to have seen chiropractor	Moderate
	Accredited counsellor	Transitioned vs 2015 Regular ADF	1.18 (0.79, 1.75)	No association	–
	Day clinic for minor surgery or diagnostic tests (excl. x-ray)	Transitioned vs 2015 Regular ADF	0.66 (0.52, 0.83)	Transitioned 34% less likely to have gone to day clinic for minor surgery (2015 Regular ADF 1.5 times more likely)	Weak
	Dentist or dental professional	Transitioned vs 2015 Regular ADF	0.27 (0.22, 0.34)	Transitioned 73% less likely to have gone to dentist (2015 Regular ADF 3.7 times more likely)	Strong
	Diabetes educator	Transitioned vs 2015 Regular ADF	2.26 (1.49, 3.42)	Transitioned 2.2 time more likely to have seen diabetes educator	Moderate
	Dietician/nutritionist	Transitioned vs 2015 Regular ADF	0.53 (0.35, 0.80)	Transitioned 47% less likely to have gone to dietician/nutritionist (2015 Regular ADF 1.9 times more likely)	Moderate
	General practitioner	Transitioned vs 2015 Regular ADF	1.33 (1.03, 1.72)	Transitioned 33% more likely to have seen GP	Weak
	Naturopath	Transitioned vs 2015 Regular ADF	1.55 (0.60, 4.00)	No association	–
	Osteopath	Transitioned vs 2015 Regular ADF	3.13 (2.29, 4.26)	Transitioned 3 time more likely to have seen osteopath	Moderate
	Outpatients section of a hospital	Transitioned vs 2015 Regular ADF	0.68 (0.53, 0.87)	Transitioned 32% less likely to have gone to outpatients (2015 Regular ADF 1.5 times more likely)	Weak

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Physiotherapist/hydrotherapist	Transitioned vs 2015 Regular ADF	0.68 (0.53, 0.88)	Transitioned 32% less likely to have gone to physiotherapist (2015 Regular ADF 1.5 times more likely)	Weak
	Psychologist	Transitioned vs 2015 Regular ADF	0.70 (0.53, 0.92)	Transitioned ADF 30% less likely to have gone to psychologist (2015 Regular ADF 1.4 times more likely)	Weak
	Social worker/welfare officer	Transitioned vs 2015 Regular ADF	1.48 (1.04, 2.09)	Transitioned ADF 48% more likely to have seen social worker/welfare officer	Weak
	Specialist doctor	Transitioned vs 2015 Regular ADF	0.61 (0.50, 0.76)	Transitioned ADF 39% less likely to have gone to specialist doctor (2015 Regular ADF 1.6 times more likely)	Moderate
	Other health professional	Transitioned vs 2015 Regular ADF	1.38 (0.82, 2.33)	No association	–
Table 12.2	Any health service	Transitioned ADF (DVA client vs Non-DVA client)	1.94 (1.39, 2.69)	Among Transitioned ADF, DVA clients 94% more likely to have seen GP	Moderate
	Alcohol or drug worker	Transitioned ADF (DVA client vs Non-DVA client)	3.28 (1.21, 8.88)	Among Transitioned ADF, DVA clients 3.3 times more likely to have seen alcohol/drug worker	Moderate
	Audiologist	Transitioned ADF (DVA client vs Non-DVA client)	2.27 (1.67, 3.08)	Among Transitioned ADF, DVA clients 2.3 times more likely to have seen audiologist	Moderate
	Casualty or emergency ward	Transitioned ADF (DVA client vs Non-DVA client)	1.44 (1.12, 1.87)	Among Transitioned ADF, DVA clients 44% more likely to have been to casualty or emergency ward	Weak
	Chiropractor	Transitioned ADF (DVA client vs Non-DVA client)	1.54 (1.17, 2.02)	Among Transitioned ADF, DVA clients 54% more likely to have seen chiropractor	Moderate
	Accredited counsellor	Transitioned ADF (DVA client vs Non-DVA client)	2.29 (1.64, 3.19)	Among Transitioned ADF, DVA clients 2.3 times more likely to have seen accredited counsellor	Moderate
	Day clinic for minor surgery or diagnostic tests (excl. x-ray)	Transitioned ADF (DVA client vs Non-DVA client)	2.02 (1.63, 2.50)	Among Transitioned ADF, DVA clients 2 times more likely to have been to day clinic for minor surgery	Moderate
	Dentist or dental professional	Transitioned ADF (DVA client vs Non-DVA client)	1.16 (0.96, 1.40)	No association	–
	Diabetes educator	Transitioned ADF (DVA client vs Non-DVA client)	1.14 (0.63, 2.05)	No association	–
	Dietician/nutritionist	Transitioned ADF (DVA client vs Non-DVA client)	2.47 (1.59, 3.83)	Among Transitioned ADF, DVA clients 2.5 times more likely to have seen dietician/nutritionist	Moderate
	General practitioner	Transitioned ADF (DVA client vs Non-DVA client)	2.40 (1.85, 3.10)	Among Transitioned ADF, DVA clients 2.4 times more likely to have seen GP	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Naturopath	Transitioned ADF (DVA client vs Non-DVA client)	1.47 (0.92, 2.35)	No association	–
	Osteopath	Transitioned ADF (DVA client vs Non-DVA client)	2.02 (1.22, 3.33)	Among Transitioned ADF, DVA clients 2 times more likely to have seen osteopath	Moderate
	Outpatients section of a hospital	Transitioned ADF (DVA client vs Non-DVA client)	1.67 (1.27, 2.19)	Among Transitioned ADF, DVA clients 67% more likely to have been outpatients of hospital	Moderate
	Physiotherapist/hydrotherapist	Transitioned ADF (DVA client vs Non-DVA client)	2.99 (2.38, 3.77)	Among Transitioned ADF, DVA clients 3 times more likely to have seen physiotherapist/hydrotherapist	Moderate
	Psychologist	Transitioned ADF (DVA client vs Non-DVA client)	3.87 (3.02, 4.95)	Among Transitioned ADF, DVA clients 3.9 times more likely to have seen psychologist	Strong
	Social worker/welfare officer	Transitioned ADF (DVA client vs Non-DVA client)	2.42 (1.51, 3.87)	Among Transitioned ADF, DVA clients 2.4 times more likely to have seen social worker/welfare officer	Moderate
	Specialist doctor	Transitioned ADF (DVA client vs Non-DVA client)	3.01 (2.49, 3.64)	Among Transitioned ADF, DVA clients 3 times more likely to have seen special doctor	Strong
	Other health professional	Transitioned ADF (DVA client vs Non-DVA client)	1.57 (1.08, 2.29)	Among Transitioned ADF, DVA clients 57% more likely to have seen other health professional	Moderate
	<i>2-week health professionals</i>				
Table 12.1	General practitioner	Transitioned vs 2015 Regular ADF	0.66 (0.52, 0.85)	Transitioned 34% less likely to have seen GP in the past 2 weeks	Weak
	Specialist doctor	Transitioned vs 2015 Regular ADF	0.73 (0.55, 0.97)	Transitioned 27% less likely to have seen a specialist doctor in the past 2 weeks	Weak
	General practitioner	Transitioned ADF (DVA client vs Non-DVA client)	2.44 (1.95, 3.04)	Among Transitioned ADF, DVA clients 2.4 times more likely to have seen a GP in the past 2 weeks	Moderate
	Specialist doctor	Transitioned ADF (DVA client vs Non-DVA client)	3.97 (2.99, 5.28)	Among Transitioned ADF, DVA clients 4.0 times more likely to have seen a specialist doctor in the past 2 weeks	Strong

**Table B.2 Odds ratios for comparisons of Ex-Serving ADF vs Active Reservists, Ex-Serving ADF vs Inactive Reservists, and medical discharge vs other discharge (among Transitioned ADF)**

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Health symptoms					
Table 4.7	Avoiding doing things or situations	Ex-Serving ADF vs Active	2.43 (1.95, 3.04)	Ex-Serving ADF are 2.4 times more likely to avoid doing things or situations	Moderate
	Avoiding doing things or situations	Ex-Serving ADF vs Inactive	1.84 (1.47, 2.31)	Ex-Serving ADF are 84% more likely to avoid doing things or situations	Moderate
	Feeling that your bowel movement is not finished	Ex-Serving ADF vs Active	1.39 (1.08, 1.78)	Ex-Serving ADF are 39% more likely to have feeling that your bowel movement is not finished	Weak
	Feeling that your bowel movement is not finished	Ex-Serving ADF vs Inactive	1.19 (0.93, 1.52)	No association	–
	Burning sensation in the sex organs	Ex-Serving ADF vs Active	1.46 (0.68, 3.16)	No association	–
	Burning sensation in the sex organs	Ex-Serving ADF vs Inactive	2.09 (1.02, 4.26)	Ex-Serving ADF are 2 times more likely to have burning sensation in sex organs	Moderate
	Changeable bowel function (mixture of diarrhoea/constipation)	Ex-Serving ADF vs Active	1.80 (1.39, 2.33)	Ex-Serving ADF are 80% more likely to have changeable bowel function	Moderate
	Changeable bowel function (mixture of diarrhoea/constipation)	Ex-Serving ADF vs Inactive	1.74 (1.33, 2.27)	Ex-Serving ADF are 74% more likely to have changeable bowel function	Moderate
	Chest pain	Ex-Serving ADF vs Active	1.37 (1.02, 1.84)	Ex-Serving ADF are 37% more likely to have chest pain	Moderate
	Chest pain	Ex-Serving ADF vs Inactive	1.32 (0.97, 1.80)	No association	–
	Constipation	Ex-Serving ADF vs Active	1.92 (1.47, 2.52)	Ex-Serving ADF are 92% more likely to have constipation	Moderate
	Constipation	Ex-Serving ADF vs Inactive	1.74 (1.31, 2.32)	Ex-Serving ADF are 74% more likely to have constipation	Moderate
	Diarrhoea	Ex-Serving ADF vs Active	1.64 (1.29, 2.08)	Ex-Serving ADF are 64% more likely to have diarrhoea	Moderate
	Diarrhoea	Ex-Serving ADF vs Inactive	1.49 (1.17, 1.90)	Ex-Serving ADF are 49% more likely to have diarrhoea	Weak
	Difficulty finding the right word	Ex-Serving ADF vs Active	1.39 (1.12, 1.74)	Ex-Serving ADF are 39% more likely to have difficulty finding the right word	Weak
	Difficulty finding the right word	Ex-Serving ADF vs Inactive	1.25 (1.00, 1.55)	No association	–
	Difficulty speaking	Ex-Serving ADF vs Active	2.28 (1.56, 3.34)	Ex-Serving ADF are 2.3 times more likely to have difficulty speaking	Moderate
	Difficulty speaking	Ex-Serving ADF vs Inactive	1.86 (1.31, 2.65)	Ex-Serving ADF are 86% more likely to have difficulty speaking	Moderate
	Feeling disorientated	Ex-Serving ADF vs Active	2.78 (1.85, 4.17)	Ex-Serving ADF are 2.8 times more likely to have feeling disorientated	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Feeling disorientated	Ex-Serving ADF vs Inactive	2.37 (1.61, 3.48)	Ex-Serving ADF are 2.4 times more likely to have feeling disorientated	Moderate
	Distressing dreams	Ex-Serving ADF vs Active	2.78 (2.19, 3.54)	Ex-Serving ADF are 2.8 times more likely to have distressing dreams	Moderate
	Distressing dreams	Ex-Serving ADF vs Inactive	2.01 (1.58, 2.56)	Ex-Serving ADF are 2 times more likely to have distressing dreams	Moderate
	Dizziness, fainting or blackouts	Ex-Serving ADF vs Active	2.18 (1.58, 3.01)	Ex-Serving ADF are 2 times more likely to have dizziness, fainting or blackouts	Moderate
	Dizziness, fainting or blackouts	Ex-Serving ADF vs Inactive	2.00 (1.41, 2.82)	Ex-Serving ADF are 2 times more likely to have dizziness, fainting or blackouts	Moderate
	Double vision	Ex-Serving ADF vs Active	1.58 (1.07, 2.35)	Ex-Serving ADF are 58% more likely to have double vision	Moderate
	Double vision	Ex-Serving ADF vs Inactive	2.44 (1.72, 3.47)	Ex-Serving ADF are 2.4 times more likely to have double vision	Moderate
	Dry mouth	Ex-Serving ADF vs Active	2.23 (1.72, 2.88)	Ex-Serving ADF are 2.2 times more likely to have dry mouth	Moderate
	Dry mouth	Ex-Serving ADF vs Inactive	1.61 (1.24, 2.08)	Ex-Serving ADF are 61% more likely to have dry mouth	Moderate
	Faster breathing than normal	Ex-Serving ADF vs Active	2.19 (1.60, 3.01)	Ex-Serving ADF are 2.2 times more likely to have faster breathing than normal	Moderate
	Faster breathing than normal	Ex-Serving ADF vs Inactive	2.00 (1.49, 2.69)	Ex-Serving ADF are 2 times more likely to have faster breathing than normal	Moderate
	Fatigue	Ex-Serving ADF vs Active	1.50 (1.20, 1.89)	Ex-Serving ADF are 50% more likely to have fatigue	Weak
	Fatigue	Ex-Serving ADF vs Inactive	1.45 (1.15, 1.84)	Ex-Serving ADF are 45% more likely to have fatigue	Weak
	Feeling distant or cut off from others	Ex-Serving ADF vs Active	2.01 (1.59, 2.54)	Ex-Serving ADF are 2 times more likely to have feeling distant or cut off from others	Moderate
	Feeling distant or cut off from others	Ex-Serving ADF vs Inactive	1.70 (1.36, 2.13)	Ex-Serving ADF are 70% more likely to have feeling distant or cut off from others	Moderate
	Feeling jumpy/easily startled	Ex-Serving ADF vs Active	2.46 (1.94, 3.12)	Ex-Serving ADF are 2.5 times more likely to have feeling jumpy/easily startled	Moderate
	Feeling jumpy/easily startled	Ex-Serving ADF vs Inactive	1.81 (1.42, 2.29)	Ex-Serving ADF are 80% more likely to have feeling jumpy/easily startled	Moderate
	Feeling unrefreshed after sleep	Ex-Serving ADF vs Active	1.77 (1.41, 2.23)	Ex-Serving ADF are 77% more likely to have feeling unrefreshed after sleep	Moderate
	Feeling unrefreshed after sleep	Ex-Serving ADF vs Inactive	1.61 (1.27, 2.03)	Ex-Serving ADF are 61% more likely to have feeling unrefreshed after sleep	Moderate
	Feeling feverish	Ex-Serving ADF vs Active	1.81 (1.32, 2.49)	Ex-Serving ADF are 81% more likely to have feeling feverish	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Feeling feverish	Ex-Serving ADF vs Inactive	1.68 (1.19, 2.36)	Ex-Serving ADF are 68% more likely to have feeling feverish	Moderate
	Flatulence or burping	Ex-Serving ADF vs Active	1.44 (1.16, 1.78)	Ex-Serving ADF are 44% more likely to have flatulence or burping	Weak
	Flatulence or burping	Ex-Serving ADF vs Inactive	1.29 (1.03, 1.62)	Ex-Serving ADF are 29% more likely to have flatulence or burping	Weak
	Forgetfulness	Ex-Serving ADF vs Active	1.60 (1.28, 2.01)	Ex-Serving ADF are 60% more likely to have forgetfulness	Moderate
	Forgetfulness	Ex-Serving ADF vs Inactive	1.66 (1.32, 2.09)	Ex-Serving ADF are 66% more likely to have forgetfulness	Moderate
	Headaches	Ex-Serving ADF vs Active	1.22 (0.97, 1.53)	No association	–
	Headaches	Ex-Serving ADF vs Inactive	1.23 (0.98, 1.55)	No association	–
	Indigestion	Ex-Serving ADF vs Active	1.37 (1.08, 1.75)	Ex-Serving ADF are 37% more likely to have indigestion	Weak
	Indigestion	Ex-Serving ADF vs Inactive	1.41 (1.09, 1.82)	Ex-Serving ADF are 41% more likely to have indigestion	Weak
	Intolerance to alcohol	Ex-Serving ADF vs Active	1.58 (1.05, 2.37)	Ex-Serving ADF are 58% more likely to have intolerance to alcohol	Moderate
	Intolerance to alcohol	Ex-Serving ADF vs Inactive	1.21 (0.83, 1.76)	No association	–
	Irritability/outbursts of anger	Ex-Serving ADF vs Active	1.72 (1.38, 2.14)	Ex-Serving ADF are 82% more likely to have irritability/outbursts of anger	Moderate
	Irritability/outbursts of anger	Ex-Serving ADF vs Inactive	1.36 (1.09, 1.70)	Ex-Serving ADF are 36% more likely to have irritability/outbursts of anger	Weak
	Itchy or painful eyes	Ex-Serving ADF vs Active	1.01 (0.80, 1.28)	No association	–
	Itchy or painful eyes	Ex-Serving ADF vs Inactive	1.01 (0.80, 1.28)	No association	–
	Joint stiffness	Ex-Serving ADF vs Active	2.00 (1.61, 2.49)	Ex-Serving ADF are 2 times more likely to have joint stiffness	Moderate
	Joint stiffness	Ex-Serving ADF vs Inactive	1.85 (1.47, 2.32)	Ex-Serving ADF are 88% more likely to have joint stiffness	Moderate
	Loss of, or decrease in, appetite	Ex-Serving ADF vs Active	2.13 (1.58, 2.87)	Ex-Serving ADF are 2 times more likely to have loss of, or decrease in, appetite	Moderate
	Loss of, or decrease in, appetite	Ex-Serving ADF vs Inactive	2.17 (1.62, 2.90)	Ex-Serving ADF are 2.2 times more likely to have loss of, or decrease in, appetite	Moderate
	Loss of balance or co-ordination	Ex-Serving ADF vs Active	2.45 (1.78, 3.38)	Ex-Serving ADF are 2.5 times more likely to have loss of balance or co-ordination	Moderate
	Loss of balance or co-ordination	Ex-Serving ADF vs Inactive	2.32 (1.69, 3.20)	Ex-Serving ADF are 2.3 times more likely to have loss of balance or co-ordination	Moderate
	Loss of concentration	Ex-Serving ADF vs Active	2.02 (1.61, 2.53)	Ex-Serving ADF are 2 times more likely to have loss of concentration	Moderate
	Loss of concentration	Ex-Serving ADF vs Inactive	1.86 (1.48, 2.34)	Ex-Serving ADF are 86% more likely to have loss of concentration	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Loss of interest in sex	Ex-Serving ADF vs Active	1.85 (1.47, 2.32)	Ex-Serving ADF are 85% more likely to have loss of interest in sex	Moderate
	Loss of interest in sex	Ex-Serving ADF vs Inactive	1.58 (1.26, 1.99)	Ex-Serving ADF are 58% more likely to have loss of interest in sex	Moderate
	Low back pain	Ex-Serving ADF vs Active	1.56 (1.25, 1.96)	Ex-Serving ADF are 56% more likely to have low back pain	Moderate
	Low back pain	Ex-Serving ADF vs Inactive	1.41 (1.12, 1.77)	Ex-Serving ADF are 41% more likely to have low back pain	Weak
	Lump in throat	Ex-Serving ADF vs Active	1.98 (1.31, 2.99)	Ex-Serving ADF are 98% more likely to have lump in throat	Moderate
	Lump in throat	Ex-Serving ADF vs Inactive	1.57 (1.02, 2.41)	Ex-Serving ADF are 57% more likely to have lump in throat	Moderate
	General muscle aches or pains	Ex-Serving ADF vs Active	1.49 (1.19, 1.86)	Ex-Serving ADF are 49% more likely to have general muscle aches or pains	Weak
	General muscle aches or pains	Ex-Serving ADF vs Inactive	1.47 (1.17, 1.84)	Ex-Serving ADF are 47% more likely to have general muscle aches or pains	Weak
	Nausea	Ex-Serving ADF vs Active	2.30 (1.69, 3.13)	Ex-Serving ADF are 2.3 times more likely to have nausea	Moderate
	Nausea	Ex-Serving ADF vs Inactive	1.79 (1.30, 2.45)	Ex-Serving ADF are 79% more likely to have nausea	Moderate
	Night sweats which soak the bed sheets	Ex-Serving ADF vs Active	1.90 (1.45, 2.49)	Ex-Serving ADF are 90% more likely to have night sweats which soak the bed sheets	Moderate
	Night sweats which soak the bed sheets	Ex-Serving ADF vs Inactive	1.74 (1.34, 2.28)	Ex-Serving ADF are 74% more likely to have night sweats which soak the bed sheets	Moderate
	Numbness in fingers/toes	Ex-Serving ADF vs Active	2.23 (1.77, 2.81)	Ex-Serving ADF are 2.2 times more likely to have numbness in fingers/toes	Moderate
	Numbness in fingers/toes	Ex-Serving ADF vs Inactive	2.06 (1.59, 2.66)	Ex-Serving ADF are 2 times more likely to have numbness in fingers/toes	Moderate
	Pain in the face, jaw, in front of ear, or in ear	Ex-Serving ADF vs Active	1.76 (1.34, 2.31)	Ex-Serving ADF are 76% more likely to have pain in the face, jaw, in front of ear, or in ear	Moderate
	Pain in the face, jaw, in front of ear, or in ear	Ex-Serving ADF vs Inactive	1.54 (1.17, 2.03)	Ex-Serving ADF are 54% more likely to have pain in the face, jaw, in front of ear, or in ear	Moderate
	Pain without swelling or redness in several joints	Ex-Serving ADF vs Active	2.24 (1.79, 2.79)	Ex-Serving ADF are 2.2 times more likely to have pain without swelling or redness in several joints	Moderate
	Pain without swelling or redness in several joints	Ex-Serving ADF vs Inactive	1.70 (1.35, 2.16)	Ex-Serving ADF are 70% more likely to have pain without swelling or redness in several joints	Moderate
	Pain on passing urine	Ex-Serving ADF vs Active	2.01 (1.10, 3.68)	Ex-Serving ADF are 2 times more likely to have pain on passing urine	Moderate
	Pain on passing urine	Ex-Serving ADF vs Inactive	1.50 (0.83, 2.69)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Passing urine more often	Ex-Serving ADF vs Active	1.49 (1.11, 2.02)	Ex-Serving ADF are 49% more likely to have passing urine more often	Weak
	Passing urine more often	Ex-Serving ADF vs Inactive	1.04 (0.76, 1.43)	No association	–
	Persistent cough	Ex-Serving ADF vs Active	1.14 (0.83, 1.57)	No association	–
	Persistent cough	Ex-Serving ADF vs Inactive	1.34 (0.98, 1.83)	No association	–
	Rapid heartbeat	Ex-Serving ADF vs Active	2.03 (1.57, 2.61)	Ex-Serving ADF are 2 times more likely to have rapid heartbeat	Moderate
	Rapid heartbeat	Ex-Serving ADF vs Inactive	1.45 (1.12, 1.88)	Ex-Serving ADF are 45% more likely to have rapid heartbeat	Weak
	Rash or skin irritation	Ex-Serving ADF vs Active	1.25 (0.99, 1.58)	No association	–
	Rash or skin irritation	Ex-Serving ADF vs Inactive	1.24 (0.96, 1.62)	No association	–
	ringing in the ears	Ex-Serving ADF vs Active	1.32 (1.05, 1.65)	Ex-Serving ADF are 32% more likely to have ringing in the ears	Weak
	ringing in the ears	Ex-Serving ADF vs Inactive	1.14 (0.91, 1.44)	No association	–
	Seizures	Ex-Serving ADF vs Active	1.67 (0.35, 7.83)	No association	–
	Seizures	Ex-Serving ADF vs Inactive	7.41 (2.34, 23.48)	Ex-Serving ADF are 7 times more likely to have seizures [interpret with caution due to wide CIs]	Strong
	Increased sensitivity to light	Ex-Serving ADF vs Active	1.82 (1.31, 2.54)	Ex-Serving ADF are 82% more likely to have increased sensitivity to light	Moderate
	Increased sensitivity to light	Ex-Serving ADF vs Inactive	1.45 (1.07, 1.98)	Ex-Serving ADF are 45% more likely to have increased sensitivity to light	Weak
	Increased sensitivity to noise	Ex-Serving ADF vs Active	1.84 (1.43, 2.36)	Ex-Serving ADF are 84% more likely to have increased sensitivity to noise	Moderate
	Increased sensitivity to noise	Ex-Serving ADF vs Inactive	1.74 (1.34, 2.26)	Ex-Serving ADF are 74% more likely to have increased sensitivity to noise	Moderate
	Increased sensitivity to smells or odours	Ex-Serving ADF vs Active	2.53 (1.73, 3.72)	Ex-Serving ADF are 2.5 times more likely to have increased sensitivity to smells or odours	Moderate
	Increased sensitivity to smells or odours	Ex-Serving ADF vs Inactive	1.78 (1.22, 2.61)	Ex-Serving ADF are 78% more likely to have increased sensitivity to smells or odours	Moderate
	Problems with sexual functioning	Ex-Serving ADF vs Active	2.40 (1.84, 3.13)	Ex-Serving ADF are 2.4 times more likely to have problems with sexual functioning	Moderate
	Problems with sexual functioning	Ex-Serving ADF vs Inactive	2.61 (1.96, 3.49)	Ex-Serving ADF are 2.6 times more likely to have problems with sexual functioning	Moderate
	Shaking	Ex-Serving ADF vs Active	2.54 (1.77, 3.65)	Ex-Serving ADF are 2.5 times more likely to have shaking	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Shaking	Ex-Serving ADF vs Inactive	2.04 (1.47, 2.83)	Ex-Serving ADF are 2 times more likely to have shaking	Moderate
	Feeling short of breath at rest	Ex-Serving ADF vs Active	1.77 (1.27, 2.46)	Ex-Serving ADF are 77% more likely to have feeling short of breath at rest	Moderate
	Feeling short of breath at rest	Ex-Serving ADF vs Inactive	1.80 (1.29, 2.51)	Ex-Serving ADF are 80% more likely to have feeling short of breath at rest	Moderate
	Skin infections	Ex-Serving ADF vs Active	1.40 (0.90, 2.16)	No association	–
	Skin infections	Ex-Serving ADF vs Inactive	1.40 (0.93, 2.13)	No association	–
	Skin ulcers	Ex-Serving ADF vs Active	0.97 (0.50, 1.89)	No association	–
	Skin ulcers	Ex-Serving ADF vs Inactive	0.74 (0.38, 1.45)	No association	–
	Sleeping difficulties	Ex-Serving ADF vs Active	1.76 (1.39, 2.22)	Ex-Serving ADF are 76% more likely to have sleeping difficulties	Moderate
	Sleeping difficulties	Ex-Serving ADF vs Inactive	1.51 (1.19, 1.91)	Ex-Serving ADF are 51% more likely to have sleeping difficulties	Moderate
	Sore throat	Ex-Serving ADF vs Active	0.93 (0.71, 1.22)	No association	–
	Sore throat	Ex-Serving ADF vs Inactive	1.14 (0.87, 1.49)	No association	–
	Stomach bloating	Ex-Serving ADF vs Active	1.36 (1.05, 1.75)	Ex-Serving ADF are 36% more likely to have stomach bloating	Weak
	Stomach bloating	Ex-Serving ADF vs Inactive	1.27 (0.96, 1.68)	No association	–
	Stomach cramps	Ex-Serving ADF vs Active	1.71 (1.31, 2.24)	Ex-Serving ADF are 71% more likely to have stomach cramps	Moderate
	Stomach cramps	Ex-Serving ADF vs Inactive	1.45 (1.11, 1.91)	Ex-Serving ADF are 45% more likely to have stomach cramps	Weak
	Tender/painful swelling of lymph glands in neck armpit or groin	Ex-Serving ADF vs Active	1.20 (0.79, 1.81)	No association	–
	Tender/painful swelling of lymph glands in neck armpit or groin	Ex-Serving ADF vs Inactive	1.07 (0.70, 1.63)	No association	–
	Tingling in fingers and arms	Ex-Serving ADF vs Active	2.31 (1.84, 2.91)	Ex-Serving ADF are 2.3 times more likely to have tingling in fingers and arms	Moderate
	Tingling in fingers and arms	Ex-Serving ADF vs Inactive	2.01 (1.58, 2.57)	Ex-Serving ADF are 2 times more likely to have tingling in fingers and arms	Moderate
	Tingling in legs and toes	Ex-Serving ADF vs Active	2.60 (2.01, 3.36)	Ex-Serving ADF are 2.6 times more likely to have tingling in legs and toes	Moderate
	Tingling in legs and toes	Ex-Serving ADF vs Inactive	2.57 (1.95, 3.39)	Ex-Serving ADF are 2.6 times more likely to have tingling in legs and toes	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Unable to breathe deeply enough	Ex-Serving ADF vs Active	2.18 (1.63, 2.93)	Ex-Serving ADF are 2 times more likely to be unable to breathe deeply enough	Moderate
	Unable to breathe deeply enough	Ex-Serving ADF vs Inactive	1.71 (1.28, 2.28)	Ex-Serving ADF are 71% more likely to be unable to breathe deeply enough	Moderate
	Vomiting	Ex-Serving ADF vs Active	1.76 (1.12, 2.76)	Ex-Serving ADF are 76% more likely to have vomiting	Moderate
	Vomiting	Ex-Serving ADF vs Inactive	1.41 (0.90, 2.22)	No association	
	Unintended weight gain greater than 4kg	Ex-Serving ADF vs Active	2.46 (1.84, 3.29)	Ex-Serving ADF are 2.5 times more likely to have unintended weight gain greater than 4kg	Moderate
	Unintended weight gain greater than 4kg	Ex-Serving ADF vs Inactive	1.84 (1.39, 2.42)	Ex-Serving ADF are 84% more likely to have unintended weight gain greater than 4kg	Moderate
	Unintended weight loss greater than 4kg	Ex-Serving ADF vs Active	2.19 (1.11, 4.35)	Ex-Serving ADF are 2.2 times more likely to have unintended weight loss greater than 4kg	Moderate
	Unintended weight loss greater than 4kg	Ex-Serving ADF vs Inactive	1.60 (0.97, 2.64)	No association	–
	Wheezing	Ex-Serving ADF vs Active	1.42 (1.06, 1.89)	Ex-Serving ADF are 42% more likely to have wheezing	Weak
	Wheezing	Ex-Serving ADF vs Inactive	1.20 (0.88, 1.63)	No association	–
Table 4.8	Avoiding doing things or situations	Medical discharge vs other discharge	4.20 (3.34, 5.27)	Medically discharged are 4.2 times more likely to avoid doing things or situations	Strong
	Feeling that your bowel movement is not finished	Medical discharge vs other discharge	2.08 (1.66, 2.59)	Medically discharged are 2 times more likely to have feeling that your bowel movement is not finished	Moderate
	Burning sensation in the sex organs	Medical discharge vs other discharge	2.60 (1.54, 4.37)	Medically discharged are 2.6 times more likely to have burning sensation in the sex organs	Moderate
	Changeable bowel function (mixture of diarrhoea/constipation)	Medical discharge vs other discharge	2.46 (1.95, 3.10)	Medically discharged are 2.5 times more likely to have changeable bowel function	Moderate
	Chest pain	Medical discharge vs other discharge	2.03 (1.56, 2.64)	Medically discharged are 2 times more likely to have chest pain	Moderate
	Constipation	Medical discharge vs other discharge	2.95 (2.32, 3.75)	Medically discharged are 3 times more likely to have constipation	Moderate
	Diarrhoea	Medical discharge vs other discharge	2.38 (1.91, 2.98)	Medically discharged are 2.4 times more likely to have diarrhoea	Moderate
	Difficulty finding the right word	Medical discharge vs other discharge	2.20 (1.77, 2.74)	Medically discharged are 2.2 times more likely to have difficulty finding the right word	Moderate
	Difficulty speaking	Medical discharge vs other discharge	2.79 (2.11, 3.69)	Medically discharged are 2.8 times more likely to have difficulty speaking	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Feeling disorientated	Medical discharge vs other discharge	3.88 (2.88, 5.24)	Medically discharged are 3.9 times more likely to have feeling disorientated	Strong
	Distressing dreams	Medical discharge vs other discharge	3.34 (2.68, 4.16)	Medically discharged are 3.3 times more likely to have distressing dreams	Strong
	Dizziness, fainting or blackouts	Medical discharge vs other discharge	3.22 (2.46, 4.22)	Medically discharged are 3.2 times more likely to have dizziness, fainting or blackouts	Strong
	Double vision	Medical discharge vs other discharge	3.41 (2.55, 4.55)	Medically discharged are 3.4 times more likely to have double vision	Strong
	Dry mouth	Medical discharge vs other discharge	2.86 (2.28, 3.59)	Medically discharged are 2.9 times more likely to have dry mouth	Moderate
	Faster breathing than normal	Medical discharge vs other discharge	3.82 (2.97, 4.91)	Medically discharged are 3.8 times more likely to have faster breathing than normal	Strong
	Fatigue	Medical discharge vs other discharge	3.12 (2.38, 4.10)	Medically discharged are 3 times more likely to have fatigue	Strong
	Feeling distant or cut off from others	Medical discharge vs other discharge	3.78 (3.01, 4.74)	Medically discharged are 3.8 times more likely to have feeling distant or cut off from others	Strong
	Feeling jumpy/easily startled	Medical discharge vs other discharge	3.84 (3.07, 4.79)	Medically discharged are 3.8 times more likely to have feeling jumpy/easily startled	Strong
	Feeling unrefreshed after sleep	Medical discharge vs other discharge	3.29 (2.54, 4.28)	Medically discharged are 3.3 times more likely to have feeling unrefreshed after sleep	Strong
	Feeling feverish	Medical discharge vs other discharge	3.04 (2.31, 3.99)	Medically discharged are 3 times more likely to have feeling feverish	Strong
	Flatulence or burping	Medical discharge vs other discharge	1.93 (1.56, 2.39)	Medically discharged are 93% more likely to have flatulence or burping	Moderate
	Forgetfulness	Medical discharge vs other discharge	2.86 (2.30, 3.56)	Medically discharged are 2.8 times more likely to have forgetfulness	Moderate
	Headaches	Medical discharge vs other discharge	2.16 (1.70, 2.75)	Medically discharged are 2 times more likely to have headaches	Moderate
	Indigestion	Medical discharge vs other discharge	2.12 (1.69, 2.66)	Medically discharged are 2 times more likely to have indigestion	Moderate
	Intolerance to alcohol	Medical discharge vs other discharge	1.97 (1.43, 2.71)	Medically discharged are 97% more likely to have intolerance to alcohol	Moderate
	Irritability/outbursts of anger	Medical discharge vs other discharge	3.13 (2.48, 3.95)	Medically discharged are 3 times more likely to have irritability/outbursts of anger	Strong
	Itchy or painful eyes	Medical discharge vs other discharge	1.76 (1.42, 2.19)	Medically discharged are 76% more likely to have itchy or painful eyes	Moderate
	Joint stiffness	Medical discharge vs other discharge	4.11 (3.23, 5.24)	Medically discharged are 4 times more likely to have joint stiffness	Strong
	Loss of, or decrease in, appetite	Medical discharge vs other discharge	3.04 (2.40, 3.86)	Medically discharged are 3 times more likely to have loss of, or decrease in, appetite	Strong

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Loss of balance or co-ordination	Medical discharge vs other discharge	4.09 (3.18, 5.25)	Medically discharged are 4 times more likely to have loss of balance or co-ordination	Strong
	Loss of concentration	Medical discharge vs other discharge	3.31 (2.65, 4.13)	Medically discharged are 3.3 times more likely to have loss of concentration	Strong
	Loss of interest in sex	Medical discharge vs other discharge	2.96 (2.37, 3.69)	Medically discharged are 2.9 times more likely to have loss of interest in sex	Moderate
	Low back pain	Medical discharge vs other discharge	2.66 (2.10, 3.38)	Medically discharged are 2.7 times more likely to have low back pain	Moderate
	Lump in throat	Medical discharge vs other discharge	2.35 (1.64, 3.37)	Medically discharged are 2.3 times more likely to have lump in throat	Moderate
	General muscle aches or pains	Medical discharge vs other discharge	2.84 (2.23, 3.61)	Medically discharged are 2.8 times more likely to have general muscle aches or pains	Moderate
	Nausea	Medical discharge vs other discharge	3.79 (2.92, 4.91)	Medically discharged are 3.8 times more likely to have nausea	Strong
	Night sweats which soak the bed sheets	Medical discharge vs other discharge	3.09 (2.45, 3.90)	Medically discharged are 3 times more likely to have night sweats which soak the bed sheets	Strong
	Numbness in fingers/toes	Medical discharge vs other discharge	4.30 (3.41, 5.42)	Medically discharged are 4.3 times more likely to have numbness in fingers/toes	Strong
	Pain in the face, jaw, in front of ear, or in ear	Medical discharge vs other discharge	2.71 (2.12, 3.46)	Medically discharged are 2.7 times more likely to have pain in the face, jaw, in front of ear, or in ear	Moderate
	Pain without swelling or redness in several joints	Medical discharge vs other discharge	3.93 (3.15, 4.92)	Medically discharged are 3.9 times more likely to have pain without swelling or redness in several joints	Strong
	Pain on passing urine	Medical discharge vs other discharge	2.38 (1.51, 3.73)	Medically discharged are 2.4 times more likely to have pain on passing urine	Moderate
	Passing urine more often	Medical discharge vs other discharge	2.14 (1.62, 2.83)	Medically discharged are 2 times more likely to have passing urine more often	Moderate
	Persistent cough	Medical discharge vs other discharge	1.44 (1.09, 1.90)	Medically discharged are 44% more likely to have persistent cough	Weak
	Rapid heartbeat	Medical discharge vs other discharge	2.68 (2.13, 3.38)	Medically discharged are 2.7 times more likely to have rapid heartbeat	Moderate
	Rash or skin irritation	Medical discharge vs other discharge	2.01 (1.60, 2.53)	Medically discharged are 2 times more likely to have rash or skin irritation	Moderate
	ringing in the ears	Medical discharge vs other discharge	1.93 (1.54, 2.42)	Medically discharged are 93% more likely to have ringing in the ears	Moderate
	Seizures	Medical discharge vs other discharge	6.40 (2.36, 17.34)	Medically discharged are 6.4 times more likely to have seizures [interpret with caution due to wide CIs]	Strong

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Increased sensitivity to light	Medical discharge vs other discharge	3.15 (2.43, 4.07)	Medically discharged are 3 times more likely to have increased sensitivity to light	Strong
	Increased sensitivity to noise	Medical discharge vs other discharge	3.11 (2.47, 3.90)	Medically discharged are 3 times more likely to have increased sensitivity to noise	Strong
	Increased sensitivity to smells or odours	Medical discharge vs other discharge	3.36 (2.50, 4.52)	Medically discharged are 3.4 times more likely to have increased sensitivity to smells or odours	Strong
	Problems with sexual functioning	Medical discharge vs other discharge	4.51 (3.50, 5.81)	Medically discharged are 4.5 times more likely to have problems with sexual functioning	Strong
	Shaking	Medical discharge vs other discharge	3.66 (2.79, 4.80)	Medically discharged are 3.7 times more likely to have shaking	Strong
	Feeling short of breath at rest	Medical discharge vs other discharge	2.80 (2.14, 3.66)	Medically discharged are 2.8 times more likely to have feeling short of breath at rest	Moderate
	Skin infections	Medical discharge vs other discharge	2.11 (1.47, 3.02)	Medically discharged are 2 times more likely to have skin infections	Moderate
	Skin ulcers	Medical discharge vs other discharge	2.02 (1.14, 3.57)	Medically discharged are 2 times more likely to have skin ulcers	Moderate
	Sleeping difficulties	Medical discharge vs other discharge	3.76 (2.83, 4.99)	Medically discharged are 3.8 times more likely to have sleeping difficulties	Strong
	Sore throat	Medical discharge vs other discharge	1.47 (1.15, 1.88)	Medically discharged are 47% more likely to have sore throat	Weak
	Stomach bloating	Medical discharge vs other discharge	2.31 (1.82, 2.92)	Medically discharged are 2.3 times more likely to have stomach bloating	Moderate
	Stomach cramps	Medical discharge vs other discharge	2.40 (1.89, 3.05)	Medically discharged are 2.4 times more likely to have stomach cramps	Moderate
	Tender/painful swelling of lymph glands in neck armpit or groin	Medical discharge vs other discharge	1.68 (1.18, 2.39)	Medically discharged are 68% more likely to have Tender/painful swelling of lymph glands in neck armpit or groin	Moderate
	Tingling in fingers and arms	Medical discharge vs other discharge	3.66 (2.93, 4.57)	Medically discharged are 3.7 times more likely to have tingling in fingers and arms	Strong
	Tingling in legs and toes	Medical discharge vs other discharge	5.14 (4.08, 6.47)	Medically discharged are 5 times more likely to have tingling in legs and toes	Strong
	Unable to breathe deeply enough	Medical discharge vs other discharge	2.75 (2.16, 3.51)	Medically discharged are 2.7 times more likely to be unable to breathe deeply enough	Moderate
	Vomiting	Medical discharge vs other discharge	2.98 (2.08, 4.29)	Medically discharged are 3 times more likely to have vomiting	Moderate
	Unintended weight gain greater than 4kg	Medical discharge vs other discharge	3.25 (2.57, 4.11)	Medically discharged are 3 times more likely to have unintended weight gain greater than 4kg	Strong

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Unintended weight loss greater than 4kg	Medical discharge vs other discharge	2.36 (1.52, 3.66)	Medically discharged are 2.4 times more likely to have unintended weight loss greater than 4kg	Moderate
	Wheezing	Medical discharge vs other discharge	2.03 (1.56, 2.63)	Medically discharged are 2 times more likely to have wheezing	Moderate
Self-reported doctor-diagnosed conditions					
Table 5.7	Any circulatory condition	Ex-Serving ADF vs Active	1.61 (1.26, 2.06)	Ex-Serving ADF are 61% more likely to have any circulatory condition	Moderate
	Any circulatory condition	Ex-Serving ADF vs Inactive	1.14 (0.87, 1.49)	No association	–
	Angina	Ex-Serving ADF vs Active	2.35 (1.12, 4.91)	Ex-Serving ADF are 2.3 times more likely to have angina	Moderate
	Angina	Ex-Serving ADF vs Inactive	0.97 (0.42, 2.26)	No association	–
	High blood pressure	Ex-Serving ADF vs Active	1.60 (1.21, 2.11)	Ex-Serving ADF are 60% more likely to have high blood pressure	Moderate
	High blood pressure	Ex-Serving ADF vs Inactive	1.16 (0.86, 1.57)	No association	–
	High cholesterol	Ex-Serving ADF vs Active	1.34 (1.04, 1.71)	Ex-Serving ADF are 34% more likely to have high cholesterol	Weak
	High cholesterol	Ex-Serving ADF vs Inactive	1.17 (0.87, 1.57)	No association	–
	Heart attack/myocardial infarction	Ex-Serving ADF vs Active	1.50 (0.83, 2.71)	No association	–
	Heart attack/myocardial infarction	Ex-Serving ADF vs Inactive	0.79 (0.39, 1.60)	No association	–
	Stroke	Ex-Serving ADF vs Active	3.32 (1.55, 7.13)	Ex-Serving ADF are 3.3 times more likely to have a stroke	Moderate
	Stroke	Ex-Serving ADF vs Inactive	1.27 (0.53, 3.09)	No association	–
	Treated in past year	Ex-Serving ADF vs Active	1.91 (1.48, 2.46)	Ex-Serving ADF are 1.9 times more likely to have been treated for a circulatory condition in the past year	Moderate
	Treated in past year	Ex-Serving ADF vs Inactive	1.63 (1.24, 2.15)	Ex-Serving ADF are 1.6 times more likely to have been treated for a circulatory condition in the past year	Moderate
	Medications in past month	Ex-Serving ADF vs Active	1.91 (1.45, 2.51)	Ex-Serving ADF are 1.9 times more likely to have been taken medications for a circulatory condition in the past month	Moderate
	Medications in past month	Ex-Serving ADF vs Inactive	0.86 (0.66, 1.12)	No association	–
Table 5.8	Any circulatory condition	Medical discharge vs other discharge	1.98 (1.53, 2.57)	Medically discharged are 98% more likely to have any circulatory condition	Moderate
	Angina	Medical discharge vs other discharge	1.44 (0.64, 3.24)	No association	–
	High blood pressure	Medical discharge vs other discharge	1.81 (1.38, 2.38)	Medically discharged are 81% more likely to have high blood pressure	Moderate
	High cholesterol	Medical discharge vs other discharge	1.75 (1.32, 2.33)	Medically discharged are 75% more likely to have high Cholesterol	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Heart attack/myocardial infarction	Medical discharge vs other discharge	1.37 (0.74, 2.55)	No association	–
	Stroke	Medical discharge vs other discharge	1.88 (0.88, 4.02)	No association	–
	Treated in past year	Medical discharge vs other discharge	2.79 (2.11, 3.69)	Medically discharged are 2.8 times more likely to have been treated in past year	Moderate
	Medications in past month	Medical discharge vs other discharge	3.14 (2.37, 4.16)	Medically discharged are 3.1 times more likely to have taken medications in the past month	Moderate
Table 5.11	Any digestive conditions	Ex-Serving ADF vs Active	1.32 (0.96, 1.80)	No association	–
	Any digestive conditions	Ex-Serving ADF vs Inactive	1.68 (1.23, 2.31)	Ex-Serving ADF are 68% more likely to have any digestive conditions	Moderate
	Cirrhosis	Ex-Serving ADF vs Active	2.24 (0.86, 5.82)	No association	–
	Cirrhosis	Ex-Serving ADF vs Inactive	0.81 (0.25, 2.56)	No association	–
	Colitis/Crohn's disease	Ex-Serving ADF vs Active	2.29 (1.07, 4.89)	Ex-Serving ADF are 2.3 times more likely to have colitis/Crohn's disease	Moderate
	Colitis/Crohn's disease	Ex-Serving ADF vs Inactive	0.92 (0.39, 2.18)	No association	–
	Hepatitis	Ex-Serving ADF vs Active	3.11 (1.44, 6.69)	Ex-Serving ADF are 3 times more likely to have hepatitis	Strong
	Hepatitis	Ex-Serving ADF vs Inactive	0.84 (0.35, 2.01)	No association	–
	Irritable bowel syndrome	Ex-Serving ADF vs Active	2.51 (1.63, 3.87)	Ex-Serving ADF are 2.5 times more likely to have IBS	Moderate
	Irritable bowel syndrome	Ex-Serving ADF vs Inactive	2.03 (1.20, 3.43)	Ex-Serving ADF are 2 times more likely to have IBS	Moderate
	Polyps in bowel	Ex-Serving ADF vs Active	1.04 (0.71, 1.51)	No association	–
	Polyps in bowel	Ex-Serving ADF vs Inactive	1.42 (0.95, 2.12)	No association	–
	Temporomandibular dysfunction	Ex-Serving ADF vs Active	0.69 (0.28, 1.69)	No association	–
	Temporomandibular dysfunction	Ex-Serving ADF vs Inactive	0.82 (0.33, 2.03)	No association	–
	Ulcers	Ex-Serving ADF vs Active	2.07 (1.10, 3.88)	Ex-Serving ADF are 2 times more likely to have ulcers	Moderate
	Ulcers	Ex-Serving ADF vs Inactive	1.53 (0.85, 2.77)	No association	–
	Treated in past year	Ex-Serving ADF vs Active	1.25 (0.82, 1.90)	No association	–
	Treated in past year	Ex-Serving ADF vs Inactive	1.75 (1.00, 3.07)	Ex-Serving ADF are 1.8 times more likely to have been treated in the past year	Moderate
	Medications in past month	Ex-Serving ADF vs Active	1.98 (1.15, 3.43)	Ex-Serving ADF are 2 times more likely to have taken medications in the past month	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Table 5.12	Medications in past month	Ex-Serving ADF vs Inactive	2.86 (1.61, 5.08)	Ex-Serving ADF are 2.9 times more likely to have ulcers	Moderate
	Any digestive conditions	Medical discharge vs other discharge	2.08 (1.57, 2.75)	Medically discharged are 2 times more likely to have any digestive conditions	Moderate
	Cirrhosis	Medical discharge vs other discharge	1.29 (0.46, 3.57)	No association	–
	Colitis/Crohn's disease	Medical discharge vs other discharge	1.76 (0.80, 3.89)	No association	–
	Hepatitis	Medical discharge vs other discharge	0.76 (0.26, 2.18)	No association	–
	Irritable bowel syndrome	Medical discharge vs other discharge	2.64 (1.72, 4.04)	Medically discharged are 2.6 times more likely to have IBS	Moderate
	Polyps in bowel	Medical discharge vs other discharge	1.80 (1.27, 2.55)	Medically discharged are 80% more likely to have polyps in bowel	Moderate
	Temporomandibular dysfunction	Medical discharge vs other discharge	0.97 (0.45, 2.10)	No association	–
	Ulcers	Medical discharge vs other discharge	2.00 (1.18, 3.39)	Medically discharged are 2 times more likely to have ulcers	Moderate
	Treated in past year	Medical discharge vs other discharge	2.67 (1.75, 4.08)	Medically discharged are 2.7 times more likely to have been treated in the past year	Moderate
Table 5.15	Medications in past month	Medical discharge vs other discharge	4.38 (2.78, 6.90)	Medically discharged are 4.4 times more likely to have taken medications in the past month	Strong
	Any musculoskeletal and connective tissue conditions	Ex-Serving ADF vs Active	2.22 (1.79, 2.76)	Ex-Serving ADF are 2.2 times more likely to have any Musculoskeletal and Connective Tissue Conditions	Moderate
	Any musculoskeletal and connective tissue conditions	Ex-Serving ADF vs Inactive	2.31 (1.82, 2.93)	Ex-Serving ADF are 2.3 times more likely to have any Musculoskeletal and Connective Tissue Conditions	Moderate
	Arthritis	Ex-Serving ADF vs Active	1.89 (1.37, 2.61)	Ex-Serving ADF are 89% more likely to have arthritis	Moderate
	Arthritis	Ex-Serving ADF vs Inactive	1.79 (1.18, 2.71)	Ex-Serving ADF are 79% more likely to have arthritis	Moderate
	Chronic low back pain	Ex-Serving ADF vs Active	2.51 (1.99, 3.17)	Ex-Serving ADF are 2.5 times more likely to have chronic low back pain	Moderate
	Chronic low back pain	Ex-Serving ADF vs Inactive	2.69 (2.08, 3.48)	Ex-Serving ADF are 2.7 times more likely to have chronic low back pain	Moderate
	Carpal tunnel	Ex-Serving ADF vs Active	1.63 (1.11, 2.41)	Ex-Serving ADF are 63% more likely to have carpal tunnel	Moderate
	Carpal tunnel	Ex-Serving ADF vs Inactive	1.15 (0.62, 2.13)	No association	–
	Fibrositis	Ex-Serving ADF vs Active	1.00 (0.36, 2.75)	No association	–
	Fibrositis	Ex-Serving ADF vs Inactive	1.18 (0.37, 3.76)	No association	–
	Gout	Ex-Serving ADF vs Active	1.38 (0.90, 2.10)	No association	–
	Gout	Ex-Serving ADF vs Inactive	0.94 (0.54, 1.63)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Neck pain	Ex-Serving ADF vs Active	2.00 (1.54, 2.61)	Ex-Serving ADF are 2 times more likely to have neck pain	Moderate
	Neck pain	Ex-Serving ADF vs Inactive	2.18 (1.48, 3.22)	Ex-Serving ADF are 2.2 times more likely to have neck pain	Moderate
	Osteoarthritis	Ex-Serving ADF vs Active	2.53 (1.94, 3.29)	Ex-Serving ADF are 2.5 times more likely to have osteoarthritis	Moderate
	Osteoarthritis	Ex-Serving ADF vs Inactive	2.48 (1.72, 3.58)	Ex-Serving ADF are 2.5 times more likely to have osteoarthritis	Moderate
	Osteoporosis	Ex-Serving ADF vs Active	0.87 (0.32, 2.36)	No association	–
	Osteoporosis	Ex-Serving ADF vs Inactive	1.02 (0.38, 2.73)	No association	–
	Other inflammatory arthritis	Ex-Serving ADF vs Active	1.57 (0.87, 2.83)	No association	–
	Other inflammatory arthritis	Ex-Serving ADF vs Inactive	1.59 (0.82, 3.06)	No association	–
	Rheumatoid arthritis	Ex-Serving ADF vs Active	1.98 (1.12, 3.51)	Ex-Serving ADF are 98% more likely to have rheumatoid arthritis	Moderate
	Rheumatoid arthritis	Ex-Serving ADF vs Inactive	1.25 (0.58, 2.70)	No association	–
	Other musculoskeletal condition	Ex-Serving ADF vs Active	1.93 (1.49, 2.51)	Ex-Serving ADF are 93% more likely to have other musculoskeletal condition	Moderate
	Other musculoskeletal condition	Ex-Serving ADF vs Inactive	1.72 (1.26, 2.35)	Ex-Serving ADF are 72% more likely to have other musculoskeletal condition	Moderate
	Treated in past year	Ex-Serving ADF vs Active	2.28 (1.81, 2.87)	Ex-Serving ADF are 2.3 times more likely to have been treated in the past year	Moderate
	Treated in past year	Ex-Serving ADF vs Inactive	2.47 (1.90, 3.21)	Ex-Serving ADF are 2.5 times more likely to have been treated in the past year	Moderate
	Medications in past month	Ex-Serving ADF vs Active	2.81 (2.17, 3.65)	Ex-Serving ADF are 2.8 times more likely to have taken medications in the past month	Moderate
	Medications in past month	Ex-Serving ADF vs Inactive	2.99 (2.23, 4.00)	Ex-Serving ADF are 3 times more likely to have taken medications in the past month	Moderate
Table 5.16	Any musculoskeletal and connective tissue conditions	Medical discharge vs other discharge	5.06 (3.96, 6.47)	Medically discharged are 5 times more likely to have any Musculoskeletal and Connective Tissue Conditions	Strong
	Arthritis	Medical discharge vs other discharge	3.04 (2.19, 4.24)	Medically discharged are 3 times more likely to have arthritis	Strong
	Chronic low back pain	Medical discharge vs other discharge	4.28 (3.36, 5.45)	Medically discharged are 4.3 times more likely to have chronic low back pain	Strong
	Carpal tunnel	Medical discharge vs other discharge	1.85 (1.16, 2.94)	Medically discharged are 85% more likely to have carpal tunnel	Moderate
	Fibrositis	Medical discharge vs other discharge	1.35 (0.58, 3.12)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Gout	Medical discharge vs other discharge	1.37 (0.82, 2.27)	No association	–
	Neck pain	Medical discharge vs other discharge	3.68 (2.73, 4.96)	Medically discharged are 3.7 times more likely to have neck pain	Strong
	Osteoarthritis	Medical discharge vs other discharge	4.37 (3.24, 5.88)	Medically discharged are 4.4 times more likely to have osteoarthritis	Strong
	Osteoporosis	Medical discharge vs other discharge	1.18 (0.52, 2.69)	No association	–
	Other inflammatory arthritis	Medical discharge vs other discharge	2.72 (1.59, 4.64)	Medically discharged are 2.7 times more likely to have other inflammatory arthritis	Moderate
	Rheumatoid arthritis	Medical discharge vs other discharge	2.12 (1.13, 3.98)	Medically discharged are 2 times more likely to have rheumatoid arthritis	Moderate
	Other musculoskeletal condition	Medical discharge vs other discharge	2.78 (2.13, 3.64)	Medically discharged are 2.8 times more likely to have other musculoskeletal condition	Moderate
	Treated in past year	Medical discharge vs other discharge	5.13 (3.89, 6.76)	Medically discharged are 5.1 times more likely to have been treated in the past year	Strong
	Medications in past month	Medical discharge vs other discharge	6.18 (4.51, 8.48)	Medically discharged are 4.4 times more likely to have taken medications in the past month	Strong
Table 5.19	Any nervous system condition	Ex-Serving ADF vs Active	2.52 (1.91, 3.32)	Ex-Serving ADF are 2.5 times more likely to have any nervous system condition	Moderate
	Any nervous system condition	Ex-Serving ADF vs Inactive	1.62 (1.15, 2.27)	Ex-Serving ADF are 62% more likely to have any nervous system condition	Moderate
	Epilepsy	Ex-Serving ADF vs Active	4.06 (1.94, 8.51)	Ex-Serving ADF are 4 times more likely to have epilepsy	Strong
	Epilepsy	Ex-Serving ADF vs Inactive	1.83 (0.67, 5.03)	No association	–
	Migraines	Ex-Serving ADF vs Active	1.85 (1.25, 2.74)	Ex-Serving ADF are 85% more likely to have migraines	Moderate
	Migraines	Ex-Serving ADF vs Inactive	1.11 (0.71, 1.73)	No association	–
	Motor neurone disease	Ex-Serving ADF vs Active	2.42 (0.86, 6.79)	No association	–
	Motor neurone disease	Ex-Serving ADF vs Inactive	0.70 (0.22, 2.16)	No association	–
	Multiple sclerosis	Ex-Serving ADF vs Active	2.46 (0.85, 7.12)	No association	–
	Multiple sclerosis	Ex-Serving ADF vs Inactive	0.63 (0.21, 1.89)	No association	–
	Sleep apnoea	Ex-Serving ADF vs Active	2.84 (2.04, 3.96)	Ex-Serving ADF are 2.8 times more likely to have sleep apnoea	Moderate
	Sleep apnoea	Ex-Serving ADF vs Inactive	1.78 (1.14, 2.78)	Ex-Serving ADF are 78% more likely to have sleep apnoea	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Treated in past year	Ex-Serving ADF vs Active	3.07 (2.06, 4.59)	Ex-Serving ADF are 3 times more likely to have been treated in the past year	Strong
	Treated in past year	Ex-Serving ADF vs Inactive	1.73 (1.00, 2.99)	Ex-Serving ADF are 73% more likely to have been treated in the past year	Moderate
	Medications in past month	Ex-Serving ADF vs Active	3.54 (1.79, 7.00)	Ex-Serving ADF are 3.5 times more likely to have taken medications in the past month	Strong
	Medications in past month	Ex-Serving ADF vs Inactive	1.57 (0.89, 2.80)	Ex-Serving ADF are 57% more likely to have taken medications in the past month	Moderate
Table 5.20	Any nervous system condition	Medical discharge vs other discharge	3.07 (2.32, 4.07)	Medically discharged are 3 times more likely to have any nervous system condition	Strong
	Epilepsy	Medical discharge vs other discharge	2.10 (0.92, 4.81)	No association	–
	Migraines	Medical discharge vs other discharge	2.29 (1.59, 3.30)	Medically discharged are 2.3 times more likely to have migraines	Moderate
	Motor neurone disease	Medical discharge vs other discharge	0.83 (0.24, 2.81)	No association	–
	Multiple sclerosis	Medical discharge vs other discharge	1.28 (0.44, 3.70)	No association	–
	Sleep apnoea	Medical discharge vs other discharge	3.00 (2.09, 4.32)	Medically discharged are 3 times more likely to have sleep apnoea	Strong
	Treated in past year	Medical discharge vs other discharge	3.70 (2.43, 5.63)	Medically discharged are 3.7 times more likely to have been treated in the past year	Strong
	Medications in past month	Medical discharge vs other discharge	3.42 (2.16, 5.40)	Medically discharged are 3.4 times more likely to have taken medications in the past month	Strong
Table 5.23	Any respiratory conditions	Ex-Serving ADF vs Active	1.26 (0.95, 1.68)	No association	–
	Any respiratory conditions	Ex-Serving ADF vs Inactive	0.98 (0.69, 1.40)	No association	–
	COPD	Ex-Serving ADF vs Active	2.89 (1.24, 6.73)	Ex-Serving ADF are 2.9 times more likely to have COPD	Moderate
	COPD	Ex-Serving ADF vs Inactive	0.93 (0.33, 2.62)	No association	–
	Pneumonia	Ex-Serving ADF vs Active	1.60 (1.00, 2.55)	No association	–
	Pneumonia	Ex-Serving ADF vs Inactive	1.07 (0.58, 1.96)	No association	–
	Sinus	Ex-Serving ADF vs Active	1.14 (0.82, 1.57)	No association	–
	Sinus	Ex-Serving ADF vs Inactive	0.90 (0.61, 1.33)	No association	–
	Treated in past year	Ex-Serving ADF vs Active	1.56 (0.97, 2.52)	No association	Moderate
	Treated in past year	Ex-Serving ADF vs Inactive	1.53 (0.84, 2.79)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Table 5.24	Medications in past month	Ex-Serving ADF vs Active	1.83 (1.07, 3.14)	Ex-Serving ADF are 1.8 times more likely to have been treated in the past year	Moderate
	Medications in past month	Ex-Serving ADF vs Inactive	1.46 (0.73, 2.90)	No association	–
	Any respiratory conditions	Medical discharge vs other discharge	1.62 (1.19, 2.21)	Medically discharged are 62% more likely to have any respiratory conditions	Moderate
	COPD	Medical discharge vs other discharge	0.95 (0.34, 2.63)	No association	–
	Pneumonia	Medical discharge vs other discharge	1.28 (0.80, 2.06)	No association	–
	Sinus	Medical discharge vs other discharge	1.65 (1.16, 2.34)	Medically discharged are 65% more likely to have sinus	Moderate
	Treated in past year	Medical discharge vs other discharge	2.08 (1.30, 3.32)	Medically discharged are 2.0 times more likely to have been treated in the past year	Moderate
Table 5.27	Medications in past month	Medical discharge vs other discharge	2.29 (1.36, 3.85)	Medically discharged are 2.3 times more likely to have taken medications in the past month	Moderate
	Any neoplasms, skin cancers including melanoma	Ex-Serving ADF vs Active	1.26 (0.95, 1.68)	No association	–
	Any neoplasms, skin cancers including melanoma	Ex-Serving ADF vs Inactive	0.91 (0.65, 1.29)	No association	–
	Melanoma	Ex-Serving ADF vs Active	1.55 (0.88, 2.71)	No association	–
	Melanoma	Ex-Serving ADF vs Inactive	0.92 (0.44, 1.91)	No association	–
	Other skin cancer	Ex-Serving ADF vs Active	1.22 (0.90, 1.64)	No association	–
	Other skin cancer	Ex-Serving ADF vs Inactive	0.90 (0.63, 1.29)	No association	–
	Treated in past year	Ex-Serving ADF vs Active	1.14 (0.77, 1.69)	No association	–
	Treated in past year	Ex-Serving ADF vs Inactive	1.03 (0.64, 1.64)	No association	–
	Medications in past month	Ex-Serving ADF vs Active	1.62 (0.82, 3.17)	No association	–
Table 5.28	Medications in past month	Ex-Serving ADF vs Inactive	2.16 (0.95, 4.90)	No association	–
	Any neoplasms, skin cancers including melanoma	Medical discharge vs other discharge	1.15 (0.85, 1.57)	No association	–
	Melanoma	Medical discharge vs other discharge	1.32 (0.71, 2.47)	No association	–
	Other skin cancer	Medical discharge vs other discharge	1.04 (0.76, 1.43)	No association	–
	Treated in past year	Medical discharge vs other discharge	1.25 (0.83, 1.87)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Table 5.31	Medications in past month	Medical discharge vs other discharge	0.97 (0.36, 2.59)	No association	–
	Any skin conditions	Ex-Serving ADF vs Active	0.74 (0.51, 1.07)	No association	–
	Any skin conditions	Ex-Serving ADF vs Inactive	1.07 (0.73, 1.57)	No association	–
	Dermatitis	Ex-Serving ADF vs Active	1.04 (0.61, 1.78)	No association	–
	Dermatitis	Ex-Serving ADF vs Inactive	1.14 (0.69, 1.90)	No association	–
	Eczema	Ex-Serving ADF vs Active	0.93 (0.60, 1.44)	No association	–
	Eczema	Ex-Serving ADF vs Inactive	1.59 (0.84, 3.04)	No association	Moderate
	Psoriasis	Ex-Serving ADF vs Active	0.45 (0.24, 0.84)	Ex-Serving ADF are 56% less likely to have psoriasis	Moderate
	Psoriasis	Ex-Serving ADF vs Inactive	0.58 (0.31, 1.07)	No association	–
	Treated in past year	Ex-Serving ADF vs Active	0.75 (0.42, 1.32)	No association	–
Table 5.32	Treated in past year	Ex-Serving ADF vs Inactive	1.40 (0.72, 2.71)	No association	–
	Medications in past month	Ex-Serving ADF vs Active	1.04 (0.61, 1.78)	No association	–
	Medications in past month	Ex-Serving ADF vs Inactive	1.44 (0.75, 2.74)	No association	–
	Any skin conditions	Medical discharge vs other discharge	1.43 (1.03, 1.98)	Medically discharged are 43% more likely to have any skin conditions	Weak
	Dermatitis	Medical discharge vs other discharge	1.76 (1.14, 2.73)	Medically discharged are 76% more likely to have dermatitis	Moderate
	Eczema	Medical discharge vs other discharge	1.34 (0.84, 2.13)	No association	–
	Psoriasis	Medical discharge vs other discharge	1.01 (0.59, 1.73)	No association	–
	Treated in past year	Medical discharge vs other discharge	1.89 (1.17, 3.06)	Medically discharged are 1.9 times more likely to have been treated in the past year	Moderate
	Medications in past month	Medical discharge vs other discharge	2.02 (1.23, 3.34)	Medically discharged are 2.0 times more likely to have taken medication in the past month	Moderate
	Table 5.35	Chronic fatigue syndrome	Ex-Serving ADF vs Active	3.26 (1.72, 6.20)	Ex-Serving ADF are 3.3 times more likely to have chronic fatigue syndrome
Chronic fatigue syndrome		Ex-Serving ADF vs Inactive	1.90 (0.79, 4.54)	No association	–
Diabetes		Ex-Serving ADF vs Active	2.02 (1.27, 3.21)	Ex-Serving ADF are 2 times more likely to have diabetes	Moderate
Diabetes		Ex-Serving ADF vs Inactive	1.46 (0.81, 2.63)	No association	–
Hearing loss		Ex-Serving ADF vs Active	1.41 (1.11, 1.79)	Ex-Serving ADF are 41% more likely to have hearing loss	Weak
Hearing loss		Ex-Serving ADF vs Inactive	1.42 (1.06, 1.91)	Ex-Serving ADF are 42% more likely to have hearing loss	Weak

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Impotence	Ex-Serving ADF vs Active	2.82 (1.79, 4.45)	Ex-Serving ADF are 2.8 times more likely to have impotence	Moderate
	Impotence	Ex-Serving ADF vs Inactive	1.95 (1.13, 3.36)	Ex-Serving ADF are 95% more likely to have impotence	Moderate
	Kidney disease	Ex-Serving ADF vs Active	1.59 (0.98, 2.59)	No association	–
	Kidney disease	Ex-Serving ADF vs Inactive	1.57 (0.87, 2.82)	No association	–
	Other cancer, tumour or malignancy	Ex-Serving ADF vs Active	1.12 (0.73, 1.71)	No association	–
	Other cancer, tumour or malignancy	Ex-Serving ADF vs Inactive	1.36 (0.77, 2.39)	No association	–
	Traumatic Brain Injury	Ex-Serving ADF vs Active	1.83 (0.88, 3.80)	No association	–
	Traumatic Brain Injury	Ex-Serving ADF vs Inactive	1.13 (0.44, 2.89)	No association	–
Table 5.36	Chronic fatigue syndrome	Medical discharge vs other discharge	2.79 (1.45, 5.38)	Medically discharged are 2.8 times more likely to have chronic fatigue syndrome	Moderate
	Diabetes	Medical discharge vs other discharge	2.38 (1.48, 3.84)	Medically discharged are 2.4 times more likely to have diabetes	Moderate
	Hearing loss	Medical discharge vs other discharge	2.06 (1.60, 2.67)	Medically discharged are 2 times more likely to have hearing loss	Moderate
	Impotence	Medical discharge vs other discharge	3.45 (2.27, 5.23)	Medically discharged are 3.5 times more likely to have impotence	Strong
	Kidney disease	Medical discharge vs other discharge	1.89 (1.11, 3.21)	Medically discharged are 89% more likely to have kidney disease	Moderate
	Other cancer, tumour or malignancy	Medical discharge vs other discharge	1.52 (0.99, 2.35)	No association	–
	Traumatic Brain Injury	Medical discharge vs other discharge	1.95 (0.88, 4.30)	No association	–
Respiratory health					
Table 6.3	Wheeze	Ex-Serving ADF vs Active	1.13 (0.87, 1.46)	No association	–
	Wheeze	Ex-Serving ADF vs Inactive	1.27 (0.96, 1.68)	No association	–
	Woken with tightness in chest	Ex-Serving ADF vs Active	1.90 (1.42, 2.55)	Ex-Serving ADF are 90% more likely to have woken with tightness in chest	Moderate
	Woken with tightness in chest	Ex-Serving ADF vs Inactive	1.82 (1.34, 2.47)	Ex-Serving ADF are 82% more likely to have woken with tightness in chest	Moderate
	Attack of shortness of breath during the day whilst at rest	Ex-Serving ADF vs Active	2.48 (1.80, 3.43)	Ex-Serving ADF are 2.5 times more likely to have attack of shortness of breath whilst at rest during the day	Moderate
	Attack of shortness of breath during the day whilst at rest	Ex-Serving ADF vs Inactive	1.93 (1.37, 2.73)	Ex-Serving ADF are 93 % more likely to have attack of shortness of breath whilst at rest during the day	Moderate
	Attack of shortness of breath following strenuous activity	Ex-Serving ADF vs Active	1.61 (1.21, 2.15)	Ex-Serving ADF are 61% more likely to have attack of shortness of breath following strenuous activity	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Attack of shortness of breath following strenuous activity	Ex-Serving ADF vs Inactive	1.24 (0.91, 1.67)	No association	–
	Woken by attack of shortness of breath	Ex-Serving ADF vs Active	2.25 (1.54, 3.29)	Ex-Serving ADF are 2.2 times more likely to have woken by attack of shortness of breath	Moderate
	Woken by attack of shortness of breath	Ex-Serving ADF vs Inactive	1.97 (1.32, 2.93)	Ex-Serving ADF are 97% more likely to have woken by attack of shortness of breath	Moderate
	Woken by attack of coughing	Ex-Serving ADF vs Active	1.46 (1.12, 1.90)	Ex-Serving ADF are 46% more likely to have woken by attack of coughing	Weak
	Woken by attack of coughing	Ex-Serving ADF vs Inactive	1.89 (1.44, 2.48)	Ex-Serving ADF are 89% more likely to have woken by attack of coughing	Moderate
	Cough first thing in the morning	Ex-Serving ADF vs Active	1.29 (0.89, 1.85)	No association	–
	Cough first thing in the morning	Ex-Serving ADF vs Inactive	1.63 (1.13, 2.34)	Ex-Serving ADF are 63% more likely to have cough first thing in the morning	Moderate
	Cough during the day or at night	Ex-Serving ADF vs Active	1.37 (0.98, 1.90)	No association	–
	Cough during the day or at night	Ex-Serving ADF vs Inactive	1.56 (1.14, 2.14)	Ex-Serving ADF are 56% more likely to have cough during the day or at night	Moderate
	Phlegm from chest in morning during winter	Ex-Serving ADF vs Active	1.18 (0.88, 1.57)	No association	–
	Phlegm from chest in morning during winter	Ex-Serving ADF vs Inactive	1.69 (1.25, 2.29)	Ex-Serving ADF are 69% more likely to have phlegm from chest in morning during winter	Moderate
	Phlegm from chest during day or at night during winter	Ex-Serving ADF vs Active	1.32 (0.97, 1.79)	No association	–
	Phlegm from chest during day or at night during winter	Ex-Serving ADF vs Inactive	1.47 (1.09, 1.99)	Ex-Serving ADF are 47% more likely to have phlegm from chest during day or at night during winter	Weak
	Trouble breathing	Ex-Serving ADF vs Active	1.51 (1.14, 1.99)	Ex-Serving ADF are 51% more likely to have trouble breathing	Moderate
	Trouble breathing	Ex-Serving ADF vs Inactive	1.65 (1.23, 2.22)	Ex-Serving ADF are 65% more likely to have trouble breathing	Moderate
	Disabled from walking by condition other than heart/lung disease	Ex-Serving ADF vs Active	4.15 (3.03, 5.69)	Ex-Serving ADF are 4 times more likely to have been disabled from walking by condition other than heart/lung disease	Strong
	Disabled from walking by condition other than heart/lung disease	Ex-Serving ADF vs Inactive	5.66 (3.83, 8.37)	Ex-Serving ADF are 5.6 times more likely to have been disabled from walking by condition other than heart/lung disease	Strong
	Shortness of breath	Ex-Serving ADF vs Active	1.83 (1.32, 2.52)	Ex-Serving ADF are 83% more likely to have shortness of breath	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Shortness of breath	Ex-Serving ADF vs Inactive	1.67 (1.15, 2.42)	Ex-Serving ADF are 67% more likely to have shortness of breath	Moderate
	Nasal allergies	Ex-Serving ADF vs Active	0.92 (0.73, 1.16)	No association	–
	Nasal allergies	Ex-Serving ADF vs Inactive	0.94 (0.74, 1.19)	No association	–
	Asthma ever	Ex-Serving ADF vs Active	1.02 (0.76, 1.36)	No association	–
	Asthma ever	Ex-Serving ADF Inactive	1.11 (0.82, 1.50)	No association	–
	Asthma confirmed by doctor	Ex-Serving ADF vs Active	0.92 (0.68, 1.25)	No association	–
	Asthma confirmed by doctor	Ex-Serving ADF Inactive	1.01 (0.74, 1.38)	No association	–
	Asthma in last 12 months	Ex-Serving ADF vs Active	1.57 (0.82, 3.00)	No association	–
	Asthma in last 12 months	Ex-Serving ADF Inactive	1.33 (0.58, 3.02)	No association	–
	Asthma medication currently	Ex-Serving ADF vs Active	1.28 (0.78, 2.09)	No association	–
	Asthma medication currently	Ex-Serving ADF Inactive	1.39 (0.75, 2.56)	No association	–
Table 6.4	Wheeze	Medical discharge vs other discharge	1.40 (1.09, 1.79)	Medically discharged are 40% more likely to have wheeze	Weak
	Woken with tightness in chest	Medical discharge vs other discharge	2.02 (1.56, 2.62)	Medically discharged are 2 times more likely to have woken with tightness in chest	Moderate
	Attack of shortness of breath during the day whilst at rest	Medical discharge vs other discharge	2.72 (2.05, 3.60)	Medically discharged are 2.7 times more likely to have attack of shortness of breath during the day whilst at rest	Moderate
	Attack of shortness of breath following strenuous activity	Medical discharge vs other discharge	1.97 (1.51, 2.57)	Medically discharged are 97% more likely to have attack of shortness of breath following strenuous activity	Moderate
	Woken by attack of shortness of breath	Medical discharge vs other discharge	2.82 (2.05, 3.86)	Medically discharged are 2.8 times more likely to have woken by attack of shortness of breath	Moderate
	Woken by attack of coughing	Medical discharge vs other discharge	2.00 (1.57, 2.55)	Medically discharged are 2 times more likely to have woken by attack of coughing	Moderate
	Cough first thing in the morning	Medical discharge vs other discharge	1.68 (1.22, 2.32)	Medically discharged are 68% more likely to have cough first thing in the morning	Moderate
	Cough during the day or at night	Medical discharge vs other discharge	1.62 (1.23, 2.14)	Medically discharged are 62% more likely to have cough during the day or at night	Moderate
	Phlegm from chest in morning during winter	Medical discharge vs other discharge	2.09 (1.62, 2.72)	Medically discharged are 2 times more likely to have phlegm from chest in morning during winter	Moderate
	Phlegm from chest during day or at night during winter	Medical discharge vs other discharge	2.01 (1.55, 2.63)	Medically discharged are 2 times more likely to have phlegm from chest during day or at night during winter	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Trouble breathing	Medical discharge vs other discharge	2.28 (1.78, 2.93)	Medically discharged are 2.3 times more likely to have trouble breathing	Moderate
	Disabled from walking by condition other than heart/lung disease	Medical discharge vs other discharge	8.01 (5.68, 11.31)	Medically discharged are 8 times more likely to have been disabled from walking by condition other than heart/lung disease	Strong
	Shortness of breath	Medical discharge vs other discharge	3.21 (2.39, 4.30)	Medically discharged are 3 times more likely to have shortness of breath	Strong
	Nasal allergies	Medical discharge vs other discharge	1.13 (0.90, 1.41)	No association	–
	Asthma ever	Medical discharge vs other discharge	1.19 (0.90, 1.57)	No association	–
	Asthma confirmed by doctor	Medical discharge vs other discharge	1.18 (0.88, 1.58)	No association	–
	Asthma in last 12 months	Medical discharge vs other discharge	1.87 (1.01, 3.47)	Medically discharged are 1.9 times more likely to have had asthma in the last 12 months	Moderate
	Asthma medication currently	Medical discharge vs other discharge	1.88 (1.15, 3.08)	Medically discharged are 1.9 times more likely to be taking asthma medication currently	Moderate
Injuries					
Table 7.7	Injury type (any)	Ex-Serving ADF vs Active	1.51 (1.15, 2.00)	Ex-Serving ADF are 51% more likely to have any type of injury	Moderate
	Injury type (any)	Ex-Serving ADF vs Inactive	1.32 (1.01, 1.73)	Ex-Serving ADF are 32% more likely to have any type of injury	Weak
	Injury type (fracture)	Ex-Serving ADF vs Active	1.15 (0.91, 1.45)	No association	–
	Injury type (fracture)	Ex-Serving ADF vs Inactive	1.17 (0.92, 1.48)	No association	–
	Injury type (musculoskeletal)	Ex-Serving ADF vs Active	1.34 (1.05, 1.71)	Ex-Serving ADF are 34% more likely to have musculoskeletal injury	Weak
	Injury type (musculoskeletal)	Ex-Serving ADF vs Inactive	1.42 (1.12, 1.80)	Ex-Serving ADF are 42% more likely to have musculoskeletal injury	Weak
	Injury type (heat stress)	Ex-Serving ADF vs Active	1.89 (1.39, 2.57)	Ex-Serving ADF are 89% more likely to have heat stress injury	Moderate
	Injury type (heat stress)	Ex-Serving ADF vs Inactive	1.74 (1.26, 2.40)	Ex-Serving ADF are 74% more likely to have heat stress injury	Moderate
	Injury type (cold/exposure)	Ex-Serving ADF vs Active	1.40 (0.81, 2.43)	No association	–
	Injury type (cold/exposure)	Ex-Serving ADF vs Inactive	1.75 (1.05, 2.93)	Ex-Serving ADF are 75% more likely to have Cold/Exposure injury	Moderate
	Injury type (burn, excl sunburn)	Ex-Serving ADF vs Active	0.95 (0.56, 1.59)	No association	–
	Injury type (burn, excl sunburn)	Ex-Serving ADF vs Inactive	1.78 (0.93, 3.41)	No association	–
Table 7.8	Injury type (any)	Medical discharge vs other discharge	3.44 (2.49, 4.75)	Medically discharged are 3.4 times more likely to have any type of injury	Strong
	Injury type (fracture)	Medical discharge vs other discharge	1.55 (1.24, 1.94)	Medically discharged are 55% more likely to have fracture	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Injury type (musculoskeletal)	Medical discharge vs other discharge	2.77 (2.13, 3.60)	Medically discharged are 2.7 times more likely to have musculoskeletal injury	Moderate
	Injury type (heat stress)	Medical discharge vs other discharge	2.31 (1.75, 3.05)	Medically discharged are 2.3 times more likely to have heat stress injury	Moderate
	Injury type (cold/exposure)	Medical discharge vs other discharge	2.14 (1.34, 3.44)	Medically discharged are 2 times more likely to have cold/exposure type injury	Moderate
	Injury type (burn, excl sunburn)	Medical discharge vs other discharge	1.47 (0.92, 2.35)	No association	–
<b>Pain</b>					
Table 8.3	Pain (low vs none)	Ex-Serving ADF vs Active	0.71 (0.49, 1.02)	No association	–
	Pain (low vs none)	Ex-Serving ADF vs Inactive	1.17 (0.82, 1.68)	No association	–
	Pain (high vs none)	Ex-Serving ADF vs Active	2.89 (1.95, 4.28)	Ex-Serving ADF are 2.9 times more likely to have higher pain	Moderate
	Pain (high vs none)	Ex-Serving ADF vs Inactive	4.20 (2.76, 6.39)	Ex-Serving ADF are 4.2 times more likely to have higher pain	Strong
Table 8.4	Pain (low vs none)	Medical discharge vs other discharge	1.17 (0.76, 1.81)	No association	–
	Pain (high vs none)	Medical discharge vs other discharge	8.21 (5.25, 12.83)	Medically discharged are 8.2 times more likely to have higher pain	Strong
<b>Sleep problems</b>					
Table 9.3	Sleep (insomnia vs no insomnia)	Ex-Serving ADF vs Active	2.99 (2.31, 3.88)	Ex-Serving ADF are 3 times more likely to have insomnia	Strong
	Sleep (insomnia vs no insomnia)	Ex-Serving ADF vs Inactive	2.77 (2.18, 3.53)	Ex-Serving ADF are 2.8 times more likely to have insomnia	Moderate
Table 9.4	Sleep (insomnia vs no insomnia)	Medical discharge vs other discharge	5.29 (4.30, 6.51)	Medically discharged are 5.3 times more likely to have insomnia	Strong
<b>Lifestyle risk factors</b>					
Table 10.3	Body Mass Index (overweight vs normal)	Ex-Serving ADF vs Active	1.03 (0.76, 1.40)	No association	–
	Body Mass Index (overweight vs normal)	Ex-Serving ADF vs Inactive	0.91 (0.67, 1.22)	No association	–
	Body Mass Index (obese vs normal)	Ex-Serving ADF vs Active	2.07 (1.52, 2.84)	Ex-Serving ADF are 2 times more likely to be obese	Moderate
	Body Mass Index (obese vs normal)	Ex-Serving ADF vs Inactive	1.44 (1.05, 1.99)	Ex-Serving ADF are 44% more likely to be obese	Weak
Table 10.4	Body Mass Index (obese vs normal)	Medical discharge vs other discharge	1.61 (1.20, 2.15)	Medically discharged are 61% more likely to be obese	Moderate
Table 10.7	Physical exercise (inactive vs HEPA active)	Ex-Serving ADF vs Active	1.41 (1.06, 1.87)	Ex-Serving ADF are 41% more likely to be inactive (compared to HEPA active)	Weak
	Physical exercise (inactive vs HEPA active)	Ex-Serving ADF vs Inactive	1.15 (0.86, 1.55)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Physical exercise (minimally active vs HEPA active)	Ex-Serving ADF vs Active	1.19 (0.92, 1.55)	No association	–
	Physical exercise (minimally active vs HEPA active)	Ex-Serving ADF vs Inactive	1.08 (0.80, 1.45)	No association	–
Table 10.8	Physical exercise (inactive vs HEPA active)	Medical discharge vs other discharge	2.03 (1.53, 2.69)	Medically discharged are 2 times more likely to be inactive (compared to HEPA active)	Moderate
	Physical exercise (minimally active vs HEPA active)	Medical discharge vs other discharge	1.59 (1.20, 2.12)	Medically discharged are 59% more likely to be minimally active (compared to HEPA active)	Moderate
Table 10.11	Smoking (former vs never smoked)	Ex-Serving ADF vs Active	0.94 (0.75, 1.18)	No association	–
	Smoking (former vs never smoked)	Ex-Serving ADF vs Inactive	0.79 (0.63, 1.00)	No association	–
	Smoking (smoker vs never smoked)	Ex-Serving ADF vs Active	1.74 (1.24, 2.43)	Ex-Serving ADF are 74% more likely to be a smoker	Moderate
	Smoking (smoker vs never smoked)	Ex-Serving ADF vs Inactive	1.18 (0.85, 1.63)	No association	–
Table 10.12	Smoking (smoker vs never smoked)	Medical discharge vs other discharge	1.61 (1.20, 2.15)	Medically discharged are 61% more likely to be a smoker	Moderate
Self-perceived health and quality of life					
Table 11.3	Self-perceived health (fair vs excellent)	Ex-Serving ADF vs Active	5.18 (4.23, 6.34)	Ex-Serving ADF are 5 times more likely to have lower self-perceived health	Strong
	Self-perceived health (fair vs excellent)	Ex-Serving ADF vs Inactive	3.56 (2.88, 4.41)	Ex-Serving ADF are 3.6 times more likely to have lower self-perceived health	Strong
Table 11.4	Self-perceived health (fair vs excellent)	Medical discharge vs other discharge	9.30 (7.49, 11.54)	Medically discharged are 9.3 times more likely to have lower self-perceived health	Strong
Table 11.7	Self-perceived satisfaction with health (dissatisfied vs satisfied)	Ex-Serving ADF vs Active	3.06 (2.46, 3.81)	Ex-Serving ADF are 3 times more likely to have lower self-perceived satisfaction with health	Strong
	Self-perceived satisfaction with health (dissatisfied vs satisfied)	Ex-Serving ADF vs Inactive	2.53 (2.02, 3.17)	Ex-Serving ADF are 2.5 times more likely to have lower self-perceived satisfaction with health	Moderate
Table 11.8	Self-perceived satisfaction with health (dissatisfied vs satisfied)	Medical discharge vs other discharge	10.04 (7.61, 13.23)	Medically discharged are 10 times more likely to have lower self-perceived satisfaction with health	Strong
Table 11.11	Self-perceived quality of life (poor vs good)	Ex-Serving ADF vs Active	6.71 (4.78, 9.40)	Ex-Serving ADF are 6.7 times more likely to have lower self-perceived quality of life	Strong
	Self-perceived quality of life (poor vs good)	Ex-Serving ADF vs Inactive	4.88 (3.62, 6.57)	Ex-Serving ADF are 4.9 times more likely to have lower self-perceived quality of life	Strong

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
Table 11.12	Self-perceived quality of life (poor vs good)	Medical discharge vs other discharge	13.21 (10.20, 17.12)	Medically discharged are 13 times more likely to have lower self-perceived quality of life	Strong
Table 11.15	Self-perceived satisfaction with life (dissatisfied vs satisfied)	Ex-Serving ADF vs Active	2.75 (2.18, 3.46)	Ex-Serving ADF are 2.7 times more likely to have lower self-perceived satisfaction with life	Moderate
	Self-perceived satisfaction with life (dissatisfied vs satisfied)	Ex-Serving ADF vs Inactive	2.60 (2.07, 3.26)	Ex-Serving ADF are 2.6 times more likely to have lower self-perceived satisfaction with life	Moderate
Table 11.6	Self-perceived satisfaction with life (dissatisfied vs satisfied)	Medical discharge vs other discharge	4.80 (3.82, 6.04)	Medically discharged are 4.8 times more likely to have lower self-perceived satisfaction with life	Strong
Table 11.19	Physical health (past year) (fair vs excellent)	Ex-Serving ADF vs Active	2.90 (2.31, 3.64)	Ex-Serving ADF are 2.9 times more likely to have lower self-perceived physical health	Strong
	Self-perceived satisfaction with life (dissatisfied vs satisfied)	Ex-Serving ADF vs Inactive	2.31 (1.83, 2.90)	Ex-Serving ADF are 2.3 times more likely to have lower self-perceived physical health	Moderate
Table 11.20	Physical health (past year) (fair vs excellent)	Medical discharge vs other discharge	4.80 (3.82, 6.04)	Medically discharged are 4.8 times more likely to have lower self-perceived physical health	Strong
<b>Health services</b>					
<i>12-month health professionals</i>					
Table 12.3	Any health service	Ex-Serving ADF vs Active	1.46 (1.02, 2.10)	Ex-Serving ADF are 46% more likely to have seen any Health Service	Weak
	Any health service	Ex-Serving ADF vs Inactive	1.55 (1.10, 2.19)	Ex-Serving ADF are 55% more likely to have seen any health service	Moderate
	Alcohol or drug worker	Ex-Serving ADF vs Active	2.67 (1.37, 5.20)	Ex-Serving ADF are 2.7 times more likely to have seen alcohol or drug worker	Moderate
	Alcohol or drug worker	Ex-Serving ADF vs Inactive	3.42 (1.30, 9.00)	Ex-Serving ADF are 3.4 times more likely to have seen alcohol or drug worker	Strong
	Audiologist	Ex-Serving ADF vs Active	1.27 (0.94, 1.70)	No association	–
	Audiologist	Ex-Serving ADF vs Inactive	1.62 (1.16, 2.25)	Ex-Serving ADF are 62% more likely to have seen audiologist	Moderate
	Casualty or emergency ward	Ex-Serving ADF vs Active	1.58 (1.17, 2.14)	Ex-Serving ADF are 58% more likely to have been to casualty or emergency ward	Moderate
	Casualty or emergency ward	Ex-Serving ADF vs Inactive	2.00 (1.49, 2.67)	Ex-Serving ADF are 2 times more likely to have been to casualty or emergency ward	Moderate
	Chiropractor	Ex-Serving ADF vs Active	0.91 (0.66, 1.26)	No association	–
	Chiropractor	Ex-Serving ADF vs Inactive	0.99 (0.72, 1.34)	No association	–

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Accredited counsellor	Ex-Serving ADF vs Active	2.37 (1.63, 3.43)	Ex-Serving ADF are 2.4 times more likely to have seen accredited counsellor	Moderate
	Accredited counsellor	Ex-Serving ADF vs Inactive	1.52 (1.06, 2.19)	Ex-Serving ADF are 52% more likely to have seen accredited counsellor	Moderate
	Day clinic for minor surgery or diagnostic tests (excl. x-ray)	Ex-Serving ADF vs Active	1.52 (1.23, 1.87)	Ex-Serving ADF are 52% more likely to have been to day clinic for minor surgery or diagnostic tests (excl. x-ray)	Moderate
	Day clinic for minor surgery or diagnostic tests (excl. x-ray)	Ex-Serving ADF vs Inactive	1.61 (1.26, 2.05)	Ex-Serving ADF are 61% more likely to have been to day clinic for minor surgery or diagnostic tests (excl. x-ray)	Moderate
	Dentist or dental professional	Ex-Serving ADF vs Active	0.83 (0.67, 1.02)	No association	–
	Dentist or dental professional	Ex-Serving ADF vs Inactive	1.27 (1.03, 1.57)	Ex-Serving ADF are 27% more likely to have been to dentist or dental professional	Weak
	Diabetes educator	Ex-Serving ADF vs Active	1.97 (1.09, 3.57)	Ex-Serving ADF are 97% more likely to have been to diabetes educator	Moderate
	Diabetes educator	Ex-Serving ADF vs Inactive	1.46 (0.84, 2.52)	No association	–
	Dietician/nutritionist	Ex-Serving ADF vs Active	1.83 (1.23, 2.73)	Ex-Serving ADF are 83% more likely to have been to dietician/Nutritionist	Moderate
	Dietician/nutritionist	Ex-Serving ADF vs Inactive	2.20 (1.29, 3.77)	Ex-Serving ADF are 2.2 times more likely to have been to dietician/Nutritionist	Moderate
	General practitioner	Ex-Serving ADF vs Active	1.66 (1.24, 2.22)	Ex-Serving ADF are 66% more likely to have been to General Practitioner	Moderate
	General practitioner	Ex-Serving ADF vs Inactive	1.86 (1.41, 2.46)	Ex-Serving ADF are 86% more likely to have been to General Practitioner	Moderate
	Naturopath	Ex-Serving ADF vs Active	1.10 (0.59, 2.07)	No association	–
	Naturopath	Ex-Serving ADF vs Inactive	1.23 (0.73, 2.09)	No association	–
	Osteopath	Ex-Serving ADF vs Active	1.89 (1.22, 2.92)	Ex-Serving ADF are 89% more likely to have been to osteopath	Moderate
	Osteopath	Ex-Serving ADF vs Inactive	1.47 (0.83, 2.59)	No association	–
	Outpatients section of a hospital	Ex-Serving ADF vs Active	1.70 (1.26, 2.30)	Ex-Serving ADF are 70% more likely to have been to outpatients section of a hospital	Moderate
	Outpatients section of a hospital	Ex-Serving ADF vs Inactive	1.65 (1.21, 2.26)	Ex-Serving ADF are 65% more likely to have been to outpatients section of a hospital	Moderate
	Physiotherapist/hydrotherapist	Ex-Serving ADF vs Active	1.82 (1.45, 2.29)	Ex-Serving ADF are 82% more likely to have been to Physiotherapist/hydrotherapist	Moderate

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Physiotherapist/hydrotherapist	Ex-Serving ADF vs Inactive	1.81 (1.41, 2.31)	Ex-Serving ADF are 81% more likely to have been to Physiotherapist/hydrotherapist	Moderate
	Psychologist	Ex-Serving ADF vs Active	3.00 (2.26, 3.98)	Ex-Serving ADF are 3 times more likely to have been to Psychologist	Strong
	Psychologist	Ex-Serving ADF vs Inactive	2.27 (1.74, 2.97)	Ex-Serving ADF are 2.3 times more likely to have been to Psychologist	Moderate
	Social worker/welfare officer	Ex-Serving ADF vs Active	2.09 (1.24, 3.53)	Ex-Serving ADF are 2 times more likely to have been to social worker/welfare officer	Moderate
	Social worker/welfare officer	Ex-Serving ADF vs Inactive	1.70 (1.01, 2.88)	Ex-Serving ADF are 70% more likely to have been to social worker/welfare officer	Moderate
	Specialist doctor	Ex-Serving ADF vs Active	1.75 (1.42, 2.15)	Ex-Serving ADF are 75% more likely to have been to specialist doctor	Moderate
	Specialist doctor	Ex-Serving ADF vs Inactive	1.99 (1.61, 2.48)	Ex-Serving ADF are 2 times more likely to have been to specialist doctor	Moderate
	Other health professional	Ex-Serving ADF vs Active	1.47 (1.00, 2.15)	No association	–
	Other health professional	Ex-Serving ADF vs Inactive	2.13 (1.38, 3.27)	Ex-Serving ADF are 2 times more likely to have been to other health professional	Moderate
Table 12.4	Any health service	Medical discharge vs other discharge	2.67 (1.74, 4.10)	Medically discharged are 2.7 times more likely to have been to any Health Service	Moderate
	Alcohol or drug worker	Medical discharge vs other discharge	3.78 (1.81, 7.87)	Medically discharged are 3.8 times more likely to have been to alcohol or drug worker	Strong
	Audiologist	Medical discharge vs other discharge	2.33 (1.74, 3.11)	Medically discharged are 2.3 times more likely to have been to an audiologist	Moderate
	Casualty or emergency ward	Medical discharge vs other discharge	2.35 (1.83, 3.03)	Medically discharged are 2.3 times more likely to have been to casualty or emergency ward	Moderate
	Chiropractor	Medical discharge vs other discharge	1.03 (0.78, 1.38)	No association	–
	Accredited counsellor	Medical discharge vs other discharge	2.57 (1.90, 3.48)	Medically discharged are 2.6 times more likely to have been to accredited counsellor	Moderate
	Day clinic for minor surgery or diagnostic tests (excl. x-ray)	Medical discharge vs other discharge	2.20 (1.77, 2.75)	Medically discharged are 2.2 times more likely to have been to day clinic for minor surgery or diagnostic tests (excl. x-ray)	Moderate
	Dentist or dental professional	Medical discharge vs other discharge	1.07 (0.87, 1.32)	No association	–
	Diabetes educator	Medical discharge vs other discharge	5.11 (3.15, 8.30)	Medically discharged are 5 times more likely to have been to diabetes educator	Strong

Results table	Outcome	Cohort (comparison)	Adjusted OR (95% CI)	Interpretation	Strength of association
	Dietician/nutritionist	Medical discharge vs other discharge	4.26 (2.92, 6.21)	Medically discharged are 4.3 times more likely to have been to dietician/Nutritionist	Strong
	General practitioner	Medical discharge vs other discharge	3.30 (2.33, 4.68)	Medically discharged are 3.3 times more likely to have been to General Practitioner	Strong
	Naturopath	Medical discharge vs other discharge	1.78 (1.09, 2.91)	Medically discharged are 78% more likely to have been to Naturopath	Moderate
	Osteopath	Medical discharge vs other discharge	2.14 (1.28, 3.57)	Medically discharged are 2 times more likely to have been to Osteopath	Moderate
	Outpatients section of a hospital	Medical discharge vs other discharge	2.40 (1.83, 3.13)	Medically discharged are 2.4 times more likely to have been to Outpatients section of a hospital	Moderate
	Physiotherapist/hydrotherapist	Medical discharge vs other discharge	3.47 (2.80, 4.31)	Medically discharged are 3.5 times more likely to have been to Physiotherapist/hydrotherapist	Strong
	Psychologist	Medical discharge vs other discharge	3.90 (3.10, 4.91)	Medically discharged are 3.9 times more likely to have been to Psychologist	Strong
	Social worker/welfare officer	Medical discharge vs other discharge	3.23 (2.12, 4.93)	Medically discharged are 3.2 times more likely to have been to Social worker/welfare officer	Strong
	Specialist doctor	Medical discharge vs other discharge	4.28 (3.43, 5.34)	Medically discharged are 4.3 times more likely to have been to specialist doctor	Strong
	Other health professional	Medical discharge vs other discharge	1.94 (1.34, 2.81)	Medically discharged are 94% more likely to have been to other health professional	Moderate
<i>2-week health professionals</i>					
Table 12.3	General practitioner	Ex-Serving ADF vs Active	1.67 (1.33, 2.11)	Ex-Serving ADF are 67% more likely than active reservists to have been to a GP in the last 2 weeks	Moderate
	General practitioner	Ex-Serving ADF vs Inactive	1.42 (1.12, 1.81)	Ex-Serving ADF are 42% more likely than inactive reservists to have been to a GP in the last 2 weeks	Weak
	Specialist doctor	Ex-Serving ADF vs Active	2.09 (1.62, 2.69)	Ex-Serving ADF are 2.1 times more likely to have been to a specialist doctor in the last 2 weeks	Moderate
	Specialist doctor	Ex-Serving ADF vs Inactive	2.30 (1.70, 3.11)	Ex-Serving ADF are 2.3 times more likely to have been to a specialist doctor in the last 2 weeks	Moderate
Table 12.4	General practitioner	Medical discharge vs other discharge	2.90 (2.34, 3.58)	Medically discharged are 2.9 times more likely to have been to a GP in the last 2 weeks	Moderate
	Specialist doctor	Medical discharge vs other discharge	3.81 (3.01, 4.84)	Medically discharged are 3.8 times more likely to have been to a Specialist doctor in the last 2 weeks	Strong

## Annex C Methodological interpretive tables

**Table C.1 Strata description, MilHOP Regular ADF**

Strata Sex   Rank   Medical fitness   Service	2015 Regular ADF			No. of persons in population each respondent represents
	Population	Respondent	%	
MilHOP				
Female   OFFR   fit   Navy	170	88	51.8	1.9
Female   OFFR   fit   Army	237	120	50.6	2.0
Female   OFFR   fit   Air Force	249	121	48.6	2.1
Female   OFFR   unfit   Navy	48	27	56.3	1.8
Female   OFFR   unfit   Army	75	39	52.0	1.9
Female   OFFR   unfit   Air Force	76	34	44.7	2.2
Female   NCO   fit   Navy	197	71	36.0	2.8
Female   NCO   fit   Army	245	99	40.4	2.5
Female   NCO   fit   Air Force	255	110	43.1	2.3
Female   NCO   unfit   Navy	65	23	35.4	2.8
Female   NCO   unfit   Army	117	49	41.9	2.4
Female   NCO   unfit   Air Force	100	37	37.0	2.7
Female   Other Rank   fit   Navy	41	12	29.3	3.4
Female   Other Rank   fit   Army	33	4	12.1	8.3
Female   Other Rank   fit   Air Force	51	18	35.3	2.8
Female   Other Rank   unfit   Navy	31	5	16.1	6.2
Female   Other Rank   unfit   Army	19	9	47.4	2.1
Female   Other Rank   unfit   Air Force	31	5	16.1	6.2
Male   OFFR   fit   Navy	902	418	46.3	2.2
Male   OFFR   fit   Army	1585	723	45.6	2.2
Male   OFFR   fit   Air Force	1428	596	41.7	2.4
Male   OFFR   unfit   Navy	81	54	66.7	1.5
Male   OFFR   unfit   Army	153	75	49.0	2.0
Male   OFFR   unfit   Air Force	117	58	49.6	2.0
Male   NCO   fit   Navy	1386	522	37.7	2.7
Male   NCO   fit   Army	2629	1037	39.4	2.6
Male   NCO   fit   Air Force	2153	789	36.6	2.7
Male   NCO   unfit   Navy	214	96	44.9	2.2
Male   NCO   unfit   Army	503	244	48.5	2.1
Male   NCO   unfit   Air Force	309	130	42.1	2.4
Male   Other Rank   fit   Navy	176	46	26.1	3.8
Male   Other Rank   fit   Army	433	57	13.2	7.6
Male   Other Rank   fit   Air Force	320	75	23.4	4.3
Male   Other Rank   unfit   Navy	39	11	28.2	3.5
Male   Other Rank   unfit   Army	105	25	23.8	4.2
Male   Other   unfit   Air Force	43	13	30.2	3.3

**Table C.2 Strata description, non-MilHOP Regular ADF**

Strata Sex   Rank   Medical fitness   Service	2015 Regular ADF			No. of persons in population each respondent represents
	Population	Respondent	%	
Non-MilHOP				
Female   OFFR   fit   Navy	305	114	37.4	2.7
Female   OFFR   fit   Army	374	112	29.9	3.3
Female   OFFR   fit   Air Force	406	139	34.2	2.9
Female   OFFR   unfit   Navy	66	23	34.8	2.9
Female   OFFR   unfit   Army	87	31	35.6	2.8
Female   OFFR   unfit   Air Force	70	28	40.0	2.5
Female   NCO   fit   Navy	120	50	41.7	2.4
Female   NCO   fit   Army	138	70	50.7	2.0
Female   NCO   fit   Air Force	157	79	50.3	2.0
Female   NCO   unfit   Navy	48	24	50.0	2.0
Female   NCO   unfit   Army	50	32	64.0	1.6
Female   NCO   unfit   Air Force	69	36	52.2	1.9
Female   Other Rank   fit   Navy	256	39	15.2	6.6
Female   Other Rank   fit   Army	271	33	12.2	8.2
Female   Other Rank   fit   Air Force	226	58	25.7	3.9
Female   Other Rank   unfit   Navy	59	14	23.7	4.2
Female   Other Rank   unfit   Army	58	14	24.1	4.1
Female   Other Rank   unfit   Air Force	55	20	36.4	2.8
Male   OFFR   fit   Navy	1450	188	13.0	7.7
Male   OFFR   fit   Army	2977	269	9.0	11.1
Male   OFFR   fit   Air Force	2098	213	10.2	9.8
Male   OFFR   unfit   Navy	95	11	11.6	8.6
Male   OFFR   unfit   Army	238	31	13.0	7.7
Male   OFFR   unfit   Air Force	157	26	16.6	6.0
Male   NCO   fit   Navy	2257	149	6.6	15.1
Male   NCO   fit   Army	3447	311	9.0	11.1
Male   NCO   fit   Air Force	1866	268	14.4	7.0
Male   NCO   unfit   Navy	334	23	6.9	14.5
Male   NCO   unfit   Army	575	59	10.3	9.7
Male   NCO   unfit   Air Force	257	28	10.9	9.2
Male   Other Rank   fit   Navy	4451	28	0.6	159.0
Male   Other Rank   fit   Army	10,074	43	0.4	234.3
Male   Other Rank   fit   Air Force	2659	47	1.8	56.6
Male   Other Rank   unfit   Navy	491	4	0.8	122.8
Male   Other Rank   unfit   Army	1375	14	1.0	98.2
Male   Other   unfit   Air Force	268	12	4.5	22.3

**Table C.3 Strata description, Transitioned ADF**

Strata Sex   Rank   Medical fitness   Service	Transitioned ADF			No. of persons in population each respondent represents
	Population	Respondent	%	
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



---

## Glossary

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

**Affective disorders.** A class of mental health disorders. The Mental Health and Wellbeing Transition Study examined three types of affective disorder – depressive episodes, dysthymia and bipolar affective disorder. A key feature of these mental disorders is mood disturbance.

**Agoraphobia.** Marked fear or avoidance of situations such as crowds, public places, travelling alone or travelling away from home, which is accompanied by palpitations, sweating, shaking or dry mouth, as well as other anxiety symptoms such as chest pain, choking sensations, dizziness, and sometimes feelings of unreality, or a fear of dying, losing control or going mad.

**Alcohol dependence.** Characterised by an increased prioritisation of alcohol in a person's life. The defining feature of alcohol dependence is a strong, overwhelming desire to use alcohol despite experiencing a number of associated problems. A diagnosis was given if the person reported three or more of the following symptoms in the preceding 12 months:

- a strong and irresistible urge to consume alcohol
- a tolerance to the effects of alcohol
- an inability to stop or reduce alcohol consumption
- withdrawal symptoms upon cessation or reduction of alcohol intake
- continuing to drink despite it causing emotional or physical problems
- a reduction in important activities because of or in order to drink.

**Alcohol harmful use.** Diagnosis not only requires high levels of alcohol consumption but that the alcohol use is damaging to the person's physical or mental health. Each participant was initially asked if they consumed 12 or more standard alcoholic drinks in a 12-month period. If so, they were then asked a series of questions about their level of consumption. A diagnosis of 'alcohol harmful use' was applied if the alcohol interfered with either work or other responsibilities, caused arguments with family or friends, was consumed in a situation where the person could be hurt, resulted in being stopped or arrested by police, or if the participant continued to consume alcohol

despite experiencing social or interpersonal problems as a consequence of their drinking during the preceding 12 months. A person could not meet criteria for alcohol harmful use if they met the criteria for alcohol dependence.

**Alcohol Use Disorders Identification Test, or AUDIT.** Alcohol consumption and problem drinking were examined using AUDIT (Saunders et al., 1993), a brief self-report screening instrument developed by the World Health Organization. The instrument consists of 10 questions designed to reveal the quantity and frequency of alcohol consumption, possible symptoms of dependence, and reactions or problems related to alcohol. AUDIT is widely used in epidemiological and clinical practice for defining at-risk patterns of drinking.

**Anxiety disorders.** A class of mental health disorders. It involves the experience of intense and debilitating anxiety. The disorders covered in the survey were panic attacks, panic disorder, social phobia, specific phobia, agoraphobia, generalised anxiety disorder, posttraumatic stress disorder and obsessive–compulsive disorder.

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

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

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

**Australian Institute of Health and Welfare.** Australia's national agency for health and welfare statistics and information. It was used in this Programme to develop a Study Roll by integrating contact information from various sources and databases.

**Bipolar affective disorder.** A class of mental disorder associated with fluctuations of mood that are significantly disturbed. The fluctuations are markedly elevated on some occasions (hypomania or mania) and can be markedly lowered on other occasions (depressive episodes). A diagnosis of bipolar affective disorder was applied in this study if the individual had met criteria for mania or hypomania in the preceding 12 months

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

**Chain of command.** A line of authority and responsibility along which orders are passed within a military unit and between different units.

**Class of mental disorder.** Mental disorders are grouped into classes of disorder that have features in common. Three classes of mental disorder were included in the survey – affective disorders, anxiety disorders and alcohol disorders.

**Comorbidity.** The occurrence of more than one disorder at the same time. Comorbidity was defined by grouping any alcohol disorders, any affective disorders, any anxiety disorders (excluding PTSD) and PTSD according to their co-occurrence. In addition to a breakdown of the individual patterns of co-occurrence, five categories were defined, representing those with no mental health disorder and those with one, two, three or four disorder categories.

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

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

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

**Deployment status.** The Mental Health and Wellbeing Transition Study defined deployment status, based on survey responses, as:

- *Never deployed.* Individuals who did not endorse any deployments listed in the self-report survey (Your Military Career: Deployments) and did not endorse any deployment exposures (Your Military Career: Deployment Exposure).
- *Deployed.* Individuals who endorsed one or more of the listed deployments (Your Military Career: Deployments) or endorsed one or more of the deployment exposures (Your Military Career: Deployment Exposure).

**Depressive episodes.** Characteristic of a major depressive disorder, a depressive episode requires that an individual has suffered from depressed mood lasting a minimum of two weeks, with associated symptoms or feelings of worthlessness, lack of appetite, difficulty with memory, reduction in energy, low self-esteem, concentration problems and suicidal thoughts. Depressive episodes can be mild, moderate or severe. All three are included under the same heading. Hierarchy rules were applied to depressive episodes, such that a person could not have met criteria for either a hypomanic or a manic episode.

**Diagnostic criteria.** The survey was designed to estimate the prevalence of common mental health disorders defined according to clinical diagnostic criteria, as directed by the International Classification of Diseases, 10th Revision (ICD-10). Diagnostic criteria for a disorder usually involve specification of:

- the nature, number and combination of symptoms
- the time during which the symptoms have been continuously reported
- the level of distress or impairment reported
- the circumstances for exclusion of a diagnosis, such as it being due to a general medical condition or the symptoms being associated with another mental disorder.

**Dimensions of Anger Reactions Scale.** A concise measure of anger consisting of five items that focus on anger frequency, intensity and duration, aggression and interference with social functioning. Items are scored on a five-point Likert scale, generating a severity score ranging from 5 to 25, with higher scores indicating worse

symptomatology. This scale has been used previously to assess Australian Vietnam veterans, as well as US Afghanistan and Iraq veterans, and shows strong unidimensionality and high levels of internal consistency and criterion validity.

**DVA client.** The term used when referring to DVA clients for the purpose of analysis. In the construction of the DVA dataset for the Study Roll, DVA created an indicator of confidence against each veteran with respect to the level of interaction DVA had with each of them for assessing how confident DVA was about the accuracy of their address. Members of each of the following groups were considered DVA clients:

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

**Dysthymia.** Characterised as a chronic or pervasive disturbance of mood lasting several years that is not sufficiently severe or in which the depressive episodes are not sufficiently prolonged to warrant a diagnosis of a recurrent depressive disorder. Hierarchy rules were applied to dysthymia such that, to have this disorder, a person could not have met criteria for either a hypomanic or a manic episode and could not have reported episodes of severe or moderate depression within the first two years of dysthymia.

**Ex-service organisations.** Organisations that provide assistance to current and former ADF members. Services can include welfare support, help with DVA claims, and employment programs and social support.

**Generalised anxiety disorder, or GAD.** A generalised and persistent worry, anxiety or apprehension about everyday events and activities lasting a minimum of six months that is accompanied by anxiety symptoms as described for 'agoraphobia'. Other symptoms can be symptoms of tension (such as an inability to relax and muscle

tension) and other non-specific symptoms (such as irritability and difficulty concentrating).

**Generalised Anxiety Disorder 7-item Scale, or GAD-7.** A brief seven-item screening measure based on the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* criteria for generalised anxiety disorder. Originally validated for use in primary care, the GAD-7 performs well in detecting probable cases of the disorder, with a sensitivity of 89% and a specificity of 82%.

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

**Help-seeking latency.** The delay in time between first becoming concerned about a health problem and first seeking help for that problem. To assess help-seeking latency in the study, participants were asked to indicate when they first sought help for their own mental health. Options included ‘within three months of becoming concerned’ and ‘within one year of becoming concerned’. Alternatively, participants were able to specify the number of years since becoming concerned. This item was developed by researchers for use in the study.

**Hypomanic episodes.** Episodes that last at least four consecutive days and are considered abnormal to the individual. These episodes are characterised by increased activity, talkativeness, elevated mood, disrupted concentration, decreased need for sleep and disrupted judgment, manifesting as risk taking (for example, mild spending sprees). In a subgroup of people these disorders are particularly characterised by irritability. To meet the criteria for the ‘with hierarchy’ version, the person cannot have met criteria for an episode of mania.

**Kessler Psychological Distress Scale, or K10.** A short 10-item screening questionnaire that yields a global measure of psychological distress based on symptoms of anxiety and depression reported in the most recent four-week period. Items are scored from 1 to 5 and are summed to give a total score between 10 and 50. Various methods have been used to stratify the scores of the K10. The categories of low (10–15), moderate (16–21), high (22–29) and very high (30–50) that are used in this report derive from the cut-offs of the K10 that were used in the 2007 Australian Bureau of Statistics National Survey of Mental Health and Wellbeing (Slade et al., 2009).

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

**Lifetime trauma.** Exposure questions used in this study were drawn from the posttraumatic stress disorder module of the CIDI (Haro et al., 2006). Participants were asked to indicate whether or not they had reported the following traumatic events: combat (military or organised non-military group); being a peacekeeper in a war zone or a place of ongoing terror; being an unarmed civilian in a place of war, revolution, military coup or invasion; living as a civilian in a place of ongoing terror for political, ethnic, religious or other reasons; being a refugee; being kidnapped or held captive; being exposed to a toxic chemical that could cause serious harm; being in a life-threatening automobile accident; being in any other life-threatening accident; being in a major natural disaster; being in a man-made disaster; having a life-threatening illness; being beaten by a spouse or romantic partner; being badly beaten by anyone else; being mugged, held up or threatened with a weapon; being raped; being sexually assaulted; being stalked; having someone close to you die; having a child with a life-threatening illness or injury; witnessing serious physical fights at home as a child; having someone close experience a traumatic event; witnessing someone badly injured or killed or unexpectedly seeing a dead body; accidentally injuring or killing someone; purposefully injuring, torturing or killing someone; seeing atrocities or carnage such as mutilated bodies or mass killings; experiencing any other traumatic event.

**Mania.** Similar to hypomania but more severe in nature. Lasting slightly longer (a minimum of a week), these episodes often lead to severe interference with personal functioning. In addition to the symptoms outlined for ‘hypomania’, mania is often associated with feelings of grandiosity, marked sexual indiscretion and racing thoughts.

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

- *MEC 1.* Members who are medically fit for employment in a deployed or seagoing environment without restriction.
- *MEC 2.* Members with medical conditions that require access to various levels of medical support or employment restrictions but who remain medically fit for duty in their occupation in a deployed or seagoing environment. In allocating the subclassifications of MEC 2, access to the level of medical support will always take precedence over specified employment restrictions.
- *MEC 3.* Members who are medically unfit for duty in their occupation in a deployed or seagoing environment. The member so classified should be medically managed towards recovery and should be receiving active medical management with the intention of regaining MEC 1 or 2 within 12 months of allocation of MEC 3. After a maximum of 12 months their MEC is to be reviewed. If still medically unfit for military duties in any operational environment, they are to be

downgraded to MEC 4 or, if appropriate, referred to a MEC Review Board for consideration of an extension to remain MEC 3.

- *MEC 4.* Members who are medically unfit for deployment or seagoing service in the long term. Members who are classified as MEC 4 for their military occupation will be subject to review and confirmation of their classification by a MEC Review Board.

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

- *Fit.* Those who are categorised as fully employable and deployable or deployable with restrictions. Participants are classified as fit if they fall into MEC 1 or 2, as just described, or are assigned a perturbed MEC value of fit.
- *Unfit.* Those not fit for deployment, their original occupation and/or further service. This can include those undergoing rehabilitation or transitioning to alternative return-to-work arrangements or in the process of medically separating from the ADF. Participants were classified as unfit if they fell into MEC 3 or 4, as just described, or were assigned a perturbed MEC value of unfit.

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

**Mental health disorders.** Defined according to the detailed diagnostic criteria in the World Health Organization International Classification of Diseases. This publication reports data for ICD-10 criteria.

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

**Middle East Area of Operations.** Australia's military involvement in Afghanistan and Iraq is often referred to as the Middle East Area of Operations, or MEAO. Thousands of members have deployed to the MEAO since 2001, with many completing multiple tours of duty. The Transition and Wellbeing Research Programme will build on the Military Health Outcomes Program, which detailed the prevalence of mental disorder in service women and men.

**Military Health Outcomes Program.** MilHOP detailed the prevalence of mental disorders among serving ADF members in 2010, as well as deployment-related health issues for those deployed to the Middle East Area of Operations. The Transition and Wellbeing Research Programme aims to redress a number of gaps identified following MilHOP, including the mental health of Reservists, Ex-Serving members and ADF

members in high-risk roles, along with the trajectory of disorder and pathways to care for individuals identified with a mental disorder in 2010.

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

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

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

**Obsessive–compulsive disorder.** A disorder characterised by obsessional thoughts (ideas, images, impulses) or compulsive acts (ritualised behaviour). These thoughts and acts are often distressing and typically cannot be avoided, despite the sufferer being aware of their ineffectiveness.

**Optimal epidemiological cut-off.** The value that brings the number of false positives (mistaken identifications of a disorder) and false negatives (missed identifications of a disorder) closest together, thereby counterbalancing these sources of error most accurately. This cut-off gives the closest estimate to the true prevalence of a 30-day ICD-10 disorder, as measured by the CIDI, and should be used to monitor disorder trends.

**Optimal screening cut-off.** The value that maximises the sum of sensitivity and specificity (the proportion of those with and without a disease who are correctly classified). This cut-off can be used to identify individuals who might need further care.

**Panic attack.** Sudden onset of extreme fear or anxiety, often accompanied by palpitations, chest pain, choking sensations, dizziness, and sometimes feelings of unreality or fear of dying, losing control or going mad.

**Panic disorder.** Recurrent panic attacks that are unpredictable in nature.

**Patient Health Questionnaire-9.** Self-reported depression was examined using the Patient Health Questionnaire – 9, or PHQ9. The nine items of the PHQ9 are scored from zero to three and summed to give a total score between zero and 27. The PHQ9

gives various levels of diagnostic severity, with higher scores indicating higher levels of depression symptoms.

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

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

**The Posttraumatic Stress Disorder Checklist – civilian version.** A 17-item self-report measure designed to assess the symptomatic criteria of PTSD according to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*. The 17 questions of the PCL-C are scored from 1 to 5 and are summed to give a total symptom severity score of between 17 and 85. An additional four items from the newly released PCL-5 were also included, giving researchers flexibility to also measure PTSD symptoms according to the most recent definitional criteria.

**Personnel Management Key System.** An integrated human resource management system that provides for the ADF a single source of personnel management information. PMKeyS manages information about the entire Defence workforce – Navy, Army and Air Force.

**Prevalence of mental disorders.** The proportion of people in a given population who meet diagnostic criteria for any mental disorder in a given time frame. (*See also* '12-month prevalence' and 'lifetime prevalence'.)

**Probable mental disorder.** Where probable rates of mental health disorder are presented these are based on self-report epidemiological cut-offs.

**Psychopathology.** The scientific study of mental disorders.

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

- *Commissioned Officer (OFFR)*. Senior Commissioned Officers (Commander, Lieutenant Colonel, Wing Commander and above) and Commissioned Officers (Lieutenant Commander, Major, Squadron Leader and more junior ranks).
- *Non-Commissioned Officer (NCO)*. Senior Non-Commissioned Officers (Petty Officer, Sergeant and more senior ranks), and Junior Non-Commissioned Officers (Leading Seaman, Corporal and more junior ranks).
- *Other Ranks*. Able Seaman, Seaman, Private, Leading Aircraftman, Aircraftman or equivalent.

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

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

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

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

- *Royal Australian Navy*. A maritime force that contributes to regional security, supports global interests, shapes the strategic environment and protects national interests.
- *Australian Army*. The military land force, a potent, versatile and modern army that contributes to the security of Australia, protecting its interests and people.
- *Royal Australian Air Force*. An air force that provides immediate and responsive military options across the spectrum of operations as part of a whole-of-government joint or coalition response, either from Australia or in deployment

overseas. It does this through its key air power roles – control of the air; precision strikes; intelligence, surveillance and responses; and air mobility – enabled by combat and operational support.

**Social phobia.** Marked fear or avoidance of being the centre of attention in situations where it is possible to behave in a humiliating or embarrassing way, accompanied by anxiety symptoms, as well as either blushing, fear of vomiting, or fear of defecation or micturition.

**Specific phobia.** Marked fear or avoidance of a specific object or situation – such as animals, birds, insects, heights, thunder, flying, small enclosed spaces, sight of blood or injury, injections, dentists or hospitals – accompanied by anxiety symptoms as described in ‘agoraphobia’.

**Stratification.** Grouping outcomes by variables of interest. In Report 1, 12-month diagnosable mental disorder and self-reported suicidality were stratified by age, sex, rank, Service, years of service in the Regular ADF, deployment status, transition status, years since transition, reason for transition and DVA client status.

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

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

**Suicidal ideation.** Serious thoughts about taking one’s own life.

**Suicidality.** Suicidal ideation, suicide plans and attempts.

**Subsyndromal disorder.** Characterised by or exhibiting symptoms that are not severe enough for diagnosis as a clinically recognised syndrome.

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

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

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

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

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

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

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

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

- injuries or conditions that are accepted as being caused by war or as service related

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

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

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

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

---

## References

- Abouzeid, M., Kelsall, H. L., Forbes, A. B., Sim, M. R. & Creamer, M. C. (2012). Posttraumatic stress disorder and hypertension in Australian veterans of the 1991 Gulf War. *Journal of Psychosomatic Research*, 72(1), 33–38.
- Abraham, J. H. & Baird, C. P. (2012). A case-crossover study of ambient particulate matter and cardiovascular and respiratory medical encounters among US military personnel deployed to southwest Asia. *Journal of Occupational and Environmental Medicine*, 54(6), 733–739.
- Allen, N. J. & John, P. M. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, 63(1), 1–18.
- Andersen, J., Wade, M., Possemato, K. & Ouimette, P. (2010). Association between posttraumatic stress disorder and primary care provider-diagnosed disease among Iraq and Afghanistan veterans. *Psychosomatic Medicine*, 72(5), 498–504.
- Andrews, F. M. & Crandall, R. (1976). The validity of measures of self-reported well-being. *Social Indicators Research*, 3, 1–19.
- Atwoli, L., Stein, D. J., Koenen, K. C. & McLaughlin, K. A. (2015). Epidemiology of posttraumatic stress disorder: prevalence, correlates and consequences. *Current Opinion in Psychiatry*, 28(4), 307–311.
- Australian Bureau of Statistics. (2008). *2007 National Survey of Mental Health and Wellbeing: Summary of Results*. [Online]. Cat no. 4326.0. Canberra: Australian Bureau of Statistics. Available: [http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/6AE6DA447F985FC2CA2574EA00122BD6/\\$File/43260\\_2007.pdf](http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/6AE6DA447F985FC2CA2574EA00122BD6/$File/43260_2007.pdf) [Accessed October 2017].
- Australian Bureau of Statistics. (2011). *General Social Survey-Summary Results* [Online]. Cat. 4159.0. Canberra: Australian Bureau of Statistics. Available: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4159.02010> [Accessed September 2017].
- Australian Bureau of Statistics. (2012). *Australian Health Survey: First Results 2011–12* [Online]. Cat. no 4364.0.55.001. Canberra: Australian Bureau of Statistics. Available: [http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/1680ECA402368CFCFA257AC90015AA4E/\\$File/4364.0.55.001.pdf](http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/1680ECA402368CFCFA257AC90015AA4E/$File/4364.0.55.001.pdf) [Accessed September 2017].

- Australian Bureau of Statistics. (2015). *National Health Survey: First Results 2014–2015* [Online]. Cat. no. 4364.0.55.001. Canberra: Australian Bureau of Statistics. Available: [http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/CDA852A349B4CE E6CA257F150009FC53/\\$File/national%20health%20survey%20first%20results ,%202014-15.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/CDA852A349B4CE E6CA257F150009FC53/$File/national%20health%20survey%20first%20results ,%202014-15.pdf) [Accessed September 2017].
- Australian Institute of Health and Welfare. (2002). *Australia's health 2002: The eighth biennial health report of the Australian Institute of Health and Welfare*, Canberra: AIHW.
- Australian Institute of Health and Welfare. (2012). *Comorbidity of Mental Disorders and Physical Conditions 2007* [Online]. Cat no. PHE 155. Canberra: AIHW. Available: <https://www.aihw.gov.au/reports/primary-health-care/comorbidity-of-mental-disorders-and-physical-condi/contents/publication> [Accessed November 2016].
- Australian Institute of Health and Welfare. (2014). *National Drug Strategy Household Survey detailed report: 2013* [Online]. Drug statistics series no. 28. Cat. no. PHE 183. Canberra: AIHW. Available: <https://www.aihw.gov.au/reports/illicit-use-of-drugs/ndshs-2013-detailed/contents/table-of-contents> [Accessed November 2016].
- Australian Institute of Health and Welfare. (2016). *Australia's Health 2016* [Online]. Australia's health series no. 15. Cat. no. AUS 199. Canberra: AIHW. Available: <https://www.aihw.gov.au/reports/australias-health/australias-health-2016/contents/summary> [Accessed November 2016].
- Babor, E., Fuente, J., Saunders, J. & Grant, M. (1989). *The Alcohol Use Disorder Identification Test: Guidelines for use in primary health care*, Geneva: World Health Organization, Division of Mental Health.
- Babor, T. F., Higgins-Biddle, J., Saunders, J. B. & Monteiro, M. (2001). *The Alcohol Use Disorders Identification Test (AUDIT): Guidelines for use in primary care*, Geneva: World Health Organization, Department of Mental Health and Substance Dependence.
- Bailey, J. & Williams, F. (2009). Asthma and eligibility for the Australian Defence Force. *Australian Family Physician*, 38(11), 897–900.
- Baird, C. P., DeBakey, S., Reid, L., Hauschild, V. D., Petrucci, B. & Abraham, J. H. (2012). Respiratory health status of US Army personnel potentially exposed to smoke from 2003 Al-Mishraq sulfur plant fire. *Journal of Occupational and Environmental Medicine*, 54(6), 717–723.

- Bastien, C. H., Vallieres, A. & Morin, C. M. (2001). Validation of the Insomnia Severity Index as an outcome measure for insomnia research. *Sleep Medicine*, 2(4), 297–307.
- Baune, B. T., Caniato, R. N., Garcia-Alcaraz, M. A. & Berger, K. (2008). Combined effects of major depression, pain and somatic disorders on general functioning in the general adult population. *Pain*, 138(2), 310–317.
- Bean-Mayberry, B., Yano, E. M., Washington, D. L., Goldzweig, C., Batuman, F., Huang, C., Miake-Lye, I. & Shekelle, P. G. (2011). Systematic review of women veterans' health: update on successes and gaps. *Womens Health Issues*, 21(4 Suppl), S84–97.
- Brancu, M., Straits-Troster, K. & Kudler, H. (2011). Behavioral health conditions among military personnel and veterans: prevalence and best practices for treatment. *North Carolina Medical Journal*, 72(1), 54–60.
- Brugha, T., Bebbington, P., Tennant, C. & Hurry, J. (1985). The List of Threatening Experiences: a subset of 12 life event categories with considerable long-term contextual threat. *Psychological Medicine*, 15(1), 189–194.
- Buckman, J. E. J., Sundin, J., Greene, T., Fear, N. T., Dandeker, C., Greenberg, N. & Wessely, S. (2011). The impact of deployment length on the health and well-being of military personnel: A systematic review of the literature. *Occupational and Environmental Medicine*, 68(1), 69–76.
- Burney, P., Luczynska, C., Chinn, S. & Jarvis, D. (1994). The European Community Respiratory Health Survey. *European Respiratory Journal*, 7, 954–960.
- Burns, J. M., Davenport, T. A., Christensen, H., Luscombe, G. M., Mendoza, J. A., Bresnan, A., Blanchard, M. E. & Hickie, I. B. (2013). *Game On: Exploring the impact of technologies on young men's mental health and wellbeing. Findings from the first Young and Well National Survey*, Melbourne: Young and Well Cooperative Research Centre.
- Cancer Council Australia. (2017). *Smoking and tobacco* [Online]. Available: <https://www.cancer.org.au/preventing-cancer/smoking-and-tobacco/> [Accessed February 2018].
- Chapman, S. L. & Wu, L. T. (2015). Associations between cigarette smoking and pain among veterans. *Epidemiologic Reviews*, 37, 86–102.
- Choi, B. C. (1992). Definition, sources, magnitude, effect modifiers, and strategies of reduction of the healthy worker effect. *Journal of Occupational Medicine*, 34(10), 979–988.

- Chwastiak, L. A., Rosenheck, R. A. & Kazis, L. E. (2011). Association of psychiatric illness and obesity, physical inactivity, and smoking among a national sample of veterans. *Psychosomatics*, 52(3), 230–236.
- Corrigan, J. D. & Bogner, J. A. (2007). Initial reliability and validity of the OSU TBI identification method. *Journal of Head Trauma Rehabilitation*, 22(6), 318–329.
- Davy, C., Dobson, A. & Lawrence-Wood, E. (2012). *The Middle East Area of Operations (MEAO) Health Study: Prospective Study Report*, Adelaide, Australia: University of Adelaide, Centre for Military and Veterans Health.
- de Silva, V. A., Jayasekera, N. E. & Hanwella, R. (2013). Multiple physical symptoms in a military population: a cross-sectional study. *Annals of General Psychiatry*, 12(1), 24.
- Derogatis, L. R., Lipman, R. S., Rickels, K., Uhlenhuth, E. H. & Covi, L. (1974). The Hopkins Symptom Checklist (HSL): A self-report symptom inventory. *Behavioral Science*, 19, 1–15.
- Department of Defence. (2016). *Defence Annual Report 2015–2016*, Canberra: Department of Defence.
- Department of Health. (2017). *About Overweight and Obesity*. [Online]. Canberra: The Department of Health. Available: <http://www.health.gov.au/internet/main/publishing.nsf/content/health-pubhlth-strateg-hlthwt-obesity.htm> [Accessed October 2017].
- Department of Veterans' Affairs & Australian Institute of Health and Welfare. (2006). *Australian Vietnam Veterans Mortality and Cancer Incidence Studies – overarching executive summary* [Online]. Available: [https://www.dva.gov.au/sites/default/files/files/consultation%20and%20grants/healthstudies/mortcanvietvet/vietnam\\_health\\_%20study\\_exec\\_sum.pdf](https://www.dva.gov.au/sites/default/files/files/consultation%20and%20grants/healthstudies/mortcanvietvet/vietnam_health_%20study_exec_sum.pdf) [Accessed November 2017].
- Dobson, A., Treloar, S., Zheng, W., Anderson, R., Bredhauer, K., Kanesarajah, J., Loos, C., Passmore, K. & Waller, M. (2012). *The Middle East Area of Operations (MEAO) Health Study: Census Study Report*, Brisbane, Australia: The University of Queensland, Centre for Military and Veterans Health.
- Eisen, S. V., Schultz, M. R., Vogt, D., Glickman, M. E., Elwy, A. R., Drainoni, M.-L., Osei-Bonsu, P. E. & Martin, J. (2012). Mental and physical health status and alcohol and drug use following return from deployment to Iraq or Afghanistan. *American Journal of Public Health*, 102(S1), S66-S73.
- Faestel, P. M., Littell, C. T., Vitiello, M. V., Forsberg, C. W. & Littman, A. J. (2013). Perceived insufficient rest or sleep among veterans: behavioral risk factor surveillance system 2009. *Journal of Clinical Sleep Medicine*, 9(6), 577–584.

- Falvo, M. J., Osinubi, O. Y., Sotolongo, A. M. & Helmer, D. A. (2015). Airborne hazards exposure and respiratory health of Iraq and Afghanistan veterans. *Epidemiologic Reviews*, 37, 116–130.
- Fear, N. T., Jones, M., Murphy, D., Hull, L., Iversen, A. C., Coker, B., Machell, L., Sundin, J., Woodhead, C., Jones, N., Greenberg, N., Landau, S., Dandeker, C., Rona, R. J., Hotopf, M. & Wessely, S. (2010). What are the consequences of deployment to Iraq and Afghanistan on the mental health of the UK armed forces? *Lancet*, 375, 1783–1797.
- Ferris, B. G. (1978). Epidemiology standardization project. *American Review of Respiratory Disease*, 118(6), Part 2, 1–120.
- Fikretoglu, D., Blais, A.-R. & Lam, Q. (2014). Development and validation of a new Theory of Planned Behavior Questionnaire for mental health service use. Manuscript under revision.
- Filip, I., Tidman, M., Saheba, N., Bennett, H., Wick, B., Rouse, N., Patriche, D. & Radfar, A. (2017). Public health burden of sleep disorders: underreported problem. *Journal of Public Health*, 25(3), 243–248.
- Forbes, D., Hawthorne, G., Elliott, P., McHugh, T., Biddle, D., Creamer, M. & Novaco, R. W. (2004). A concise measure of anger in combat-related posttraumatic stress disorder. *Journal of Traumatic Stress*, 17(3), 249–256.
- Forces in Mind Trust (2013). *The transition mapping study: understanding the transition process for service personnel returning to civilian life*, London: Forces in Mind Trust.
- Ford, D. E. & Kamerow, D. B. (1989). Epidemiologic study of sleep disturbances and psychiatric disorders. An opportunity for prevention? *JAMA*, 262(11), 1479–1484.
- Forrest, W., Edwards, B. & Daraganova, G. (2014). *Vietnam Veterans Health Study: a study of health and social issues in Vietnam Veteran sons and daughters*, Volume 2. Melbourne: Australian Institute of Family Studies.
- Gouvier, W. D., Cubic, B., Jones, G., Brantley, P. & Cutlip, Q. (1992). Postconcussion symptoms and daily stress in normal and head injured college populations. *Archives of Clinical Neuropsychology*, 7, 193–211.
- Gray, M., & Sanson, A. (2005). Growing up in Australia: The Longitudinal Study of Australian Children. *Family Matters*, 72, 4–9.
- Gwini, S. M., Forbes, A. B., Kelsall, H. L., Ikin, J. F. & Sim, M. R. (2015). Increased symptom reporting persists in 1991 Gulf War veterans 20 years post deployment. *American Journal of Industrial Medicine*, 58, 1246–1254.

- Gwini, S. M., Kelsall, H. L., Ikin, J. F., Sim, M. R., McFarlane, A. C. & Forbes, A. B. (2016a). New onset of chronic diseases and changes in lifestyle risk factors among Gulf War veterans: a longitudinal comparison of high and low symptom reporters *Journal of Occupational and Environmental Medicine*, 58(8), 770–777.
- Gwini, S. M., Kelsall, H. L., Sim, M. R., Ikin, J. F., McFarlane, A. C. & Forbes, A. B. (2016b). Stability of symptom patterns in Australian Gulf War veterans: 10-year longitudinal study. *Occupational and Environmental Medicine*, 73, 195–198.
- Haro, J. M., Arbabzadeh-Bouchez, S., Brugha, T. S., De Girolamo, G., Guyer, M. E., Jin, R., Lepine, J. P., Mazzi, F., Reneses, B., Vilagut, G., Sampson, N. A. & Kessler, R. C. (2006). Concordance of the Composite International Diagnostic Interview Version 3.0 (CIDI 3.0) with standardized clinical assessments in the WHO World Mental Health Surveys. *International Journal of Methods in Psychiatric Research*, 15(4), 167–180.
- Hatch, S. L., Harvey, S. B., Dandeker, C., Burdett, H., Greenberg, N., Fear, N. T. & Wessely, S. (2013). Life in and after the Armed Forces: social networks and mental health in the UK military. *Sociology of Health and Illness*, 35(7), 1045–1064.
- Hennekens, C. H. & Buring, J. E. (1987). *Epidemiology in Medicine*, 1st Edition. Boston/Toronto: Little, Brown and Company.
- Hoencamp, R., Idenburg, F. J., van Dongen, T. T., de Kruijff, L. G., Huizinga, E. P., Plat, M. C., Hoencamp, E., Leenen, L. P., Hamming, J. F. & Vermetten, E. (2015). Long-term impact of battle injuries; five-year follow-up of injured Dutch servicemen in Afghanistan 2006–2010. *PLoS One*, 10(2), e0115119.
- Hoerster, K. D., Lehavot, K., Simpson, T., McFall, M., Reiber, G. & Nelson, K. M. (2012). Health and health behavior differences: U.S. military, veteran, and civilian men. *American Journal of Preventive Medicine*, 43(5), 483–489.
- Hoge, C. W., Castro, C., Messer, S. C., McGurk, D., Cotting, D. I. & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems and barriers to care. *New England Journal of Medicine*, 351(1), 13–22.
- Horesh, D., Solomon, Z., Zerach, G. & Ein-Dor, T. (2011). Delayed-onset PTSD among war veterans: the role of life events throughout the life cycle. *Social Psychiatry and Psychiatric Epidemiology*, 46(9), 863–870.
- Ikin, J. F., Kelsall, H. L., McKenzie, D. P., Gwini, S. M., Forbes, A. B., Glass, D. C., McFarlane, A. C., Clarke, D., Wright, B., Del Monaco, A. & Sim, M. R. (2017). Cohort Profile: The Australian Gulf War Veterans' Health Study cohort. *International Journal of Epidemiology*, 46(1), 31–31h.

- Ikin, J. F., McKenzie, D. P., Gwini, S. M., Kelsall, H. L., Creamer, M., McFarlane, A. C., Forbes, A. B., Glass, D. C., Clarke, D. M., Wright, B. & Sim, M. R. (2016). Major depression and depressive symptoms in Australian Gulf War veterans 20 years after the Gulf War. *Journal of Affective Disorders*, 189, 77–84.
- Ikin, J. F., Sim, M. R., Creamer, M. C., Forbes, A. B., McKenzie, D. P., Kelsall, H. L., Glass, D. C., McFarlane, A. C., Abramson, M. J., Ittak, P., Dwyer, T., Blizzard, L., Delaney, K. R., Horsley, K. W. A., Harrex, W. K. & Schwarz, H. (2004). War-related psychological stressors and risk of psychological disorders in Australian veterans of the 1991 Gulf War. *British Journal of Psychiatry*, 185(2), 116–126.
- Ikin, J. F., Sim, M. R., McKenzie, D. P., Horsley, K. W., Wilson, E. J., Harrex, W. K., Moore, M. R., Jelfs, P. L. & Henderson, S. (2009). Life satisfaction and quality in Korean War veterans five decades after the war. *Journal of Epidemiology and Community Health*, 63(5), 359–365.
- Ikin, J. F., Sim, M. R., McKenzie, D. P., Horsley, K. W., Wilson, E. J., Moore, M. R., Jelfs, P., Harrex, W. K. & Henderson, S. (2007). Anxiety, post-traumatic stress disorder and depression in Korean War veterans 50 years after the war. *British Journal of Psychiatry*, 190, 475–483.
- IPAQ. (2002). *The International Physical Activity Questionnaire* [Online]. Available: <http://www.ipaq.ki.se> [Accessed November 2016].
- Iversen, A. C., van Staden, L., Hughes, J. H., Browne, T., Greenberg, N., Hotopf, M., Rona, R. J., Wessely, S., Thornicroft, G. & Fear, N. T. (2010). Help-seeking and receipt of treatment among UK service personnel. *British Journal of Psychiatry*, 197(2), 149–155.
- Kang, H. K., Li, B., Mahan, C. M., Eisen, S. A. & Engel, C. C. (2009). Health of US veterans of 1991 Gulf War: a follow-up survey in 10 years. *Journal of Occupational and Environmental Medicine*, 51(4), 401–410.
- Kang, H. K., Mahan, C. M., Lee, K. Y., Magee, C. A. & Murphy, F. M. (2000). Illnesses Among United States veterans of the Gulf War: a population-based survey of 30,000 Veterans. *Journal of Occupational and Environmental Medicine*, 42(5), 491–501.
- Karlinsky, J. B., Blanchard, M., Alpern, R., Eisen, S. A., Kang, H., Murphy, F. M. & Reda, D. J. (2004). Late prevalence of respiratory symptoms and pulmonary function abnormalities in Gulf War I Veterans. *Archives of International Medicine*, 164(22), 2488–2491.
- KCMHR (King's Centre for Military Health Research) (2014). *The Mental Health of the UK Armed Forces (Summary)*, London: Academic Department of Military Mental Health: Kings College London.

- Kelsall, H. L., McKenzie, D. P., Forbes, A. B., Roberts, M. H., Urquhart, D. M. & Sim, M. R. (2014). Pain-related musculoskeletal disorders, psychological comorbidity, and the relationship with physical and mental well-being in Gulf War veterans. *Pain*, 155(4), 685–692.
- Kelsall, H. L., McKenzie, D. P., Sim, M. R., Leder, K., Forbes, A. B. & Dwyer, T. (2009). Physical, psychological, and functional comorbidities of multisymptom illness in Australian male veterans of the 1991 Gulf War. *American Journal of Epidemiology*, 170(8), 1048–1056.
- Kelsall, H. L., Sim, M. R., Forbes, A. B., Glass, D. C., McKenzie, D. P., Ikin, J. F., Abramson, M. J., Blizzard, L. & Ittak, P. (2004a). Symptoms and medical conditions in Australian veterans of the 1991 Gulf War: relation to immunisations and other Gulf War exposures. *Occupational and Environmental Medicine*, 61(12), 1006–1013.
- Kelsall, H. L., Sim, M. R., Forbes, A. B., McKenzie, D. P., Glass, D. C., Ikin, J. F., Ittak, P. & Abramson, M. J. (2004b). Respiratory health status of Australian veterans of the 1991 Gulf War and the effects of exposure to oil fire smoke and dust storms. *Thorax*, 59(10), 897–903.
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L. T., Walters, E. E. & Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, 32(6), 959–976.
- Kessler, R. C. & Ustun, T. B. (2004). The World Mental Health (WMH) survey initiative version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). *International Journal of Methods in Psychiatric Research*, 13(2), 93–117.
- Kibler, J. L., Tursich, M., Ma, M., Malcolm, L. & Greenberg, R. (2014). Metabolic, autonomic and immune markers for cardiovascular disease in posttraumatic stress disorder. *World Journal of Cardiology*, 6(6), 455–461.
- Kim, P. Y., Thomas, J. L., Wilk, J. E., Castro, C. A. & Hoge, C. W. (2010). Stigma, barriers to care, and use of mental health services among active duty and National Guard soldiers after combat. *Psychiatric Services*, 61(6), 582–588.
- King, M. S., Eisenberg, R., Newman, J. H., Tolle, J. J., Harrell, F. E., Nian, H., Ninan, M., Lambright, E. S., Sheller, J. R., Johnson, J. E. & Miller, R. F. (2011). Constrictive bronchiolitis in soldiers returning from Iraq and Afghanistan. *New England Journal of Medicine*, 365(3), 222–230.
- Kirby, S. N. & Naftel, S. (1998). *The Effect of Mobilization on Retention of Enlisted Reservists After Operation Desert Shield/Storm*, Santa Monica, California: RAND Corporation.

- Korzeniewski, K., Nitsch-Osuch, A., Konior, M. & Lass, A. (2015). Respiratory tract infections in the military environment. *Respiratory Physiology & Neurobiology*, 209, 76–80.
- Kroenke, K., Spitzer, R. L. & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine*, 16(9), 606–613.
- Krysinska, K. & Lester, D. (2010). Post-traumatic stress disorder and suicide risk: a systematic review. *Archives of Suicide Research*, 14(1), 1–23.
- Kubzansky, L. D., Bordelois, P., Jun, H., Roberts, A. L., Cerda, M., Bluestone, N. & Koenen, K. C. (2014). The weight of traumatic stress: a prospective study of posttraumatic stress disorder symptoms and weight status in women. *JAMA Psychiatry*, 71(1), 44–51.
- Kucharczyk, E. R., Morgan, K. & Hall, A. P. (2012). The occupational impact of sleep quality and insomnia symptoms. *Sleep Medicine Reviews*, 16(6), 547–559.
- Kukla, M., Rattray, N. A. & Salyers, M. P. (2015). Mixed methods study examining work reintegration experiences from perspectives of veterans with mental health disorders. *Journal of Rehabilitation, Research & Development*, 52(4), 477–490.
- Lee, K. A., Vaillant, G. E., Torrey, W. C. & Elder Jr, G. H. (1996). *A 50-Year Prospective Study of the Psychological Sequelae of World War II Combat*, North Carolina University at Chapel Hill: US Army Research Institute for the Behavioural and Social Sciences.
- Lehavot, K., Hoerster, K. D., Nelson, K. M., Jakupcak, M. & Simpson, T. L. (2012). Health indicators for military, veteran, and civilian women. *American Journal of Preventive Medicine*, 42(5), 473–480.
- Lewis, V., Borland, R., Alkemade, N., Lau, W., Terhaag, S., Crane, M., Phelps, A., Dell, L., O'Donnell, M. & Forbes, D. (2015). *The Longitudinal Australian Defence Force (ADF) Study Evaluating Resilience – Detailed Report 2: Alcohol and Tobacco Use, Coping, and Mental Health*, Report prepared for the Australian Government Department of Defence. Melbourne: Phoenix Australia.
- Littman, A. J., Jacobson, I. G., Boyko, E. J. & Smith, T. C. (2015). Changes in meeting physical activity guidelines after discharge from the military. *Journal of Physical Activity & Health*, 12(5), 666–674.
- Marmar, C. R., Schlenger, W., Henn-Haase, Meng Qian, C., Purchia, E., Li, M., Corry, N., Williams, C. S., Ho, C., Horesh, D., Karstoft, K., Shalev, A. & Kulka, R. A. (2015). Course of posttraumatic stress disorder 40 years after the Vietnam War: findings from the National Vietnam Veterans Longitudinal Study. *JAMA Psychiatry*, 72(9), 875–881.

- Martins, L. C. & Lopes, C. S. (2013). Rank, job stress, psychological distress and physical activity among military personnel. *BMC Public Health*, 13, 716.
- McFarlane, A. C., Ellis, N., Barton, C., Browne, D. & Van Hooff, M. (2008). The conundrum of medically unexplained symptoms: questions to consider. *Psychosomatics*, 49(5), 369–377.
- McFarlane, A. C., Hodson, S., Van Hooff, M., Verhagen, A. & Davies, C. (2011). *Mental health in the Australian Defence Force: 2010 ADF Mental Health Prevalence and Wellbeing Study: Full Report*, Canberra: Department of Defence.
- McGuire, A., Runge, C., Cosgrove, L., Bredhauer, K., Anderson, R., Waller, M., Kanesarajah, J., Dobson, A. & Nasveld, P. (2012). *Timor-Leste Family Study 2012: Technical Report* [Online]. Brisbane, Australia: University of Queensland, Centre for Military and Veterans' Health. Available: [https://www.dva.gov.au/sites/default/files/files/consultation%20and%20grants/healthstudies/timor\\_lestetlfs-technical.pdf](https://www.dva.gov.au/sites/default/files/files/consultation%20and%20grants/healthstudies/timor_lestetlfs-technical.pdf) [Accessed October 2017].
- McKenzie, D. P., Ikin, J. F., McFarlane, A. C., Creamer, M., Forbes, A. B., Kelsall, H. L., Glass, D. C., Ittak, P. & Sim, M. R. (2004). Psychological health of Australian veterans of the 1991 Gulf War: an assessment using the SF-12, GHQ-12 and PCL-S. *Psychological Medicine*, 34(8), 1419–1430.
- McKenzie, D. P., Kelsall, H. L., Ikin, J. F., Forbes, A. B., Sim, M. R., Creamer, M. & McFarlane, A. C. (2006). *Temporal Relationships Between War Deployment and Subsequent Psychological Disorders*, Melbourne: Monash University.
- McLaughlin, R., Nielsen, L. & Waller, M. (2008). An evaluation of the effect of military service on mortality: quantifying the healthy soldier effect. *Annals of Epidemiology*, 18(12), 928–936.
- McLeay, S. C., Harvey, W. M., Romaniuk, M. N., Crawford, D. H., Colquhoun, D. M., Young, R. M., Dwyer, M., Gibson, J. M., O'Sullivan, R. A. & Cooksley, G. (2017). Physical comorbidities of post-traumatic stress disorder in Australian Vietnam War veterans. *The Medical Journal of Australia*, 206(6), 251–257.
- Moeller-Bertram, T., Strigo, I. A., Simmons, A. N., Schilling, J. M., Patel, P. & Baker, D. G. (2014). Evidence for acute central sensitization to prolonged experimental pain in posttraumatic stress disorder. *Pain Medicine*, 15(5), 762–771.
- Monsoon, R. (1990). *Occupational Epidemiology*. Second edition, Boca Raton: CRC Press.
- Morin, C. M., Belleville, G., Belanger, L. & Ivers, H. (2011). The Insomnia Severity Index: psychometric indicators to detect insomnia cases and evaluate treatment response. *Sleep*, 34(5), 601–608.

- Morris, M. J., Zacher, L. L. & Jackson, D. A. (2011). Investigating the respiratory health of deployed military personnel. *Military Medicine*, 176(10), 1157–1161.
- Nuttall, F. Q. (2015). Body Mass Index: Obesity, BMI, and health: a critical review. *Nutrition Today*, 50(3), 117–128.
- O'Toole, B. I., Catts, S. V., Outram, S., Pierse, K. R. & Cockburn, J. (2009). The physical and mental health of Australian Vietnam Veterans 3 decades after the war and it's relation to military service, combat, and post-traumatic stress disorder. *American Journal of Epidemiology*, 170(3), 318–330.
- Ohayon, M. M. & Roth, T. (2003). Place of chronic insomnia in the course of depressive and anxiety disorders. *Journal of Psychiatric Research*, 37(1), 9–15.
- Pagoto, S. L., Schneider, K. L., Bodenlos, J. S., Appelhans, B. M., Whited, M. C., Ma, Y. & Lemon, S. C. (2012). Association of post-traumatic stress disorder and obesity in a nationally representative sample. *Obesity*, 20(1), 200–205.
- Paterson, G. & Sanson, A. (1999). The association of behavioural adjustment to temperament, parenting and family characteristics among 5-Year-old children. *Social Development*, 8(3), 293–309.
- Pearce, N., Checkoway, H. & Kriebel, D. (2007). Bias in occupational epidemiology studies. *Occupational & Environmental Medicine*, 64(8), 562–568.
- Pease, J. L., Billera, M. & Gerard, G. (2016). Military culture and the transition to civilian life: suicide risk and other considerations. *Social Work*, 61(1), 83–86.
- Pedlar, D. & Thompson, J. M. (2016). *Toward a Military-Civilian Transition Theory and Conceptual Framework: Report of the International Summit held at the University of Southern California in March 2016*, Los Angeles, CA.: University of Southern California.
- Pekkanen, J. & Pearce, N. (1999). Defining asthma in epidemiological studies. *European Respiratory Journal*, 14(4), 951–957.
- Quit Victoria. (2018). *Quit* [Online]. Available: <https://www.quit.org.au/> [Accessed February 2018].
- Ray, S. L. & Heaslip, K. (2011). Canadian military transitioning to civilian life: a discussion paper. *Journal of Psychiatric & Mental Health Nursing*, 18(3), 198–204.
- Richardson, L. K., Frueh, B. C. & Acierno, R. (2010). Prevalence estimates of combat-related post-traumatic stress disorder: critical review. *Australian and New Zealand Journal of Psychiatry*, 44(1), 4–19.

- Riviere, L. A., Kendall-Robbins, A., McGurk, D., Castro, C. A., Hoge, C. W. (2011). Coming home may hurt: risk factors for mental ill health in US reservists after deployment in Iraq. *The British Journal of Psychiatry*, 198, 136–142.
- Rosenbaum, S., Stubbs, B., Ward, P. B., Steel, Z., Lederman, O. & Vancampfort, D. (2015). The prevalence and risk of metabolic syndrome and its components among people with posttraumatic stress disorder: a systematic review and meta-analysis. *Metabolism*, 64(8), 926–933.
- Salim, A. & Welsh, A. H. (2009). Designing 2-phase prevalence studies in the absence of a ‘gold standard’ test. *American Journal of Epidemiology*, 170(3), 369–378.
- Sareen, J., Cox, B. J., Stein, M. B., Afifi, T. O., Fleet, C. & Asmundson, G. J. G. (2007). Physical and mental comorbidity, disability, and suicidal behavior associated with posttraumatic stress disorder in a large community sample. *Psychosomatic Medicine*, 69(3), 242–248.
- Saunders, J. B., Aasland, O. G., Babor, T. F., de la Fuente, J. R. & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption--II. *Addiction*, 88(6), 791–804.
- Sayer, N. A., Noorbaloochi, S., Frazier, P., Carlson, K., Gravely, A. & Murdoch, M. (2010). Reintegration problems and treatment interests among Iraq and Afghanistan combat veterans receiving VA medical care. *Psychiatric Services*, 61(6), 589–597.
- Schuster, T. L., Kessler, R. C. & Aseltine, R. H., Jr. (1990). Supportive interactions, negative interactions, and depressed mood. *American Journal of Community Psychology*, 18(3), 423–438.
- Scott, K. M., Koenen, K. C., Aguilar-Gaxiola, S., Alonso, J., Angermeyer, M. C., Benjet, C., Bruffaerts, R., Caldas-de-Almeida, J. M., de Girolamo, G., Florescu, S., Iwata, N., Levinson, D., Lim, C. C., Murphy, S., Ormel, J., Posada-Villa, J. & Kessler, R. C. (2013). Associations between lifetime traumatic events and subsequent chronic physical conditions: a cross-national, cross-sectional study. *PLoS One*, 8(11), e80573.
- Seal, K. H., Cohen, G., Waldrop, A., Cohen, B. E., Maguen, S. & Ren, L. (2011). Substance use disorders in Iraq and Afghanistan veterans in VA health care, 2001–2010: Implications for screening, diagnosis and treatment. *Drug and Alcohol Dependence*, 116(1–3), 93–101.
- Sheehan, D. V. (1983). *The Anxiety Disease*, New York: Charles Scribner and Sons.

- Sheilds, D. M., Kuhl, D., Lutz, K., Freder, J., Baumann, N. & Lopresti, P. (2016). *Mental Health and Well-Being of Military Veterans During Military to Civilian Transition: Review and Analysis of the Recent Literature*, Canada: Canadian Institute for Military and Veteran Health Research & Scientific Authority, Veterans Affairs Canada.
- Shen, Y. C., Arkes, J. & Williams, T. V. (2012). Effects of Iraq/Afghanistan deployments on major depression and substance use disorder: analysis of active duty personnel in the US military. *American Journal of Public Health*, 102(Supplement 1), S80-S87.
- Shiner, B. (2011). Health services use in the department of Veterans Affairs among returning Iraq war and Afghan war veterans with PTSD. *PTSD Research Quarterly*, 22(2), 1–3.
- Shirt, L. (2012). *2011 Australian Defence Force Exit Survey Preliminary Report*, Canberra: Commonwealth of Australia, Directorate of Strategic Personnel Policy Research.
- Sim, M. R., Clarke, D., Forbes, A. B., Glass, D., Gwini, S., Ikin, J. F., Kelsall, H. L., McKenzie, D. P. & Wright, B. (2015). *Australian Gulf War Follow up Health Study: Technical Report* [Online]. Melbourne: Monash University. Available: [https://www.dva.gov.au/sites/default/files/files/consultation%20and%20grants/healthstudies/gulfwar/follow\\_up2015/aus\\_gulf\\_war\\_follow\\_up\\_tech\\_report2015.pdf](https://www.dva.gov.au/sites/default/files/files/consultation%20and%20grants/healthstudies/gulfwar/follow_up2015/aus_gulf_war_follow_up_tech_report2015.pdf) [Accessed October 2017].
- Slade, T., Johnston, A., Oakley Browne, M. A., Andrews, G. & Whiteford, H. (2009). 2007 National Survey of Mental Health and Wellbeing: methods and key findings. *Australian & New Zealand Journal of Psychiatry*, 43(7), 594–605.
- Smart, D., Vassallo, S., Sanson, A., Cockfield, S., Harris, A., Harrison, W. & McIntyre, A. (2005). *In the driver's seat: Understanding young adults' driving behaviour. Research report No. 12*, Melbourne, Victoria: Australian Institute of Family Studies.
- Smith, B., Wong, C. A., Boyko, E. J., Phillips, C. J., Gackstetter, G. D., Ryan, M. A. & Smith, T. C. (2012). The effects of exposure to documented open-air burn pits on respiratory health among deployers of the Millennium Cohort Study. *Journal of Occupational and Environmental Medicine*, 54(6), 708–716.
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P. & Bernard, J. (2008). The brief resilience scale: assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15(3), 194–200.

- Smith, T. C., Powell, T. M., Jacobson, I. G., Smith, B., Hooper, T. I., Boyko, E. J. & Gackstetter, G. D. (2014). Chronic multisymptom illness: a comparison of Iraq and Afghanistan deployers with veterans of the 1991 Gulf War. *American Journal of Epidemiology*, 180(12), 1176–1187.
- Spitzer, C., Barnow, S., Völzke, H., Wallaschofski, H., John, U., Freyberger, H. J., Löwe, B. & Grabe, H. J. (2010). Association of posttraumatic stress disorder with low-grade elevation of C-reactive protein: evidence from the general population. *Journal of Psychiatric Research*, 44(1), 15–21.
- Spitzer, R. L., Kroenke, K., Williams, J. B. & Lowe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of Internal Medicine*, 166(10), 1092–1097.
- Statistics Canada (2003). *National Longitudinal Survey of Children and Youth Cycle 4 Survey Instruments 2000–2001, Book 1 - Parent, Child & Youth*, Catalogue no. 89FOO77XPE, no. 4a. Canada: Statistics Canada.
- Steele, N. M. & Fogarty, G. J. (2017). Screening for Anger and Sleep Difficulties. *Military Medicine*, 182(3), e1628-e1633.
- Stevellink, S. A. M., Malcolm, E. M., Mason, C., Jenkins, S., Sundin, J. & Fear, N. T. (2015). The prevalence of mental health disorders in (ex-)military personnel with a physical impairment: a systematic review. *Occupational and Environmental Medicine*, 72(4), 243–251.
- Stinchfield, R., Govoni, R., & Frisch, G. R. (2007). A review of screening and assessment instruments for problem and pathological gambling. *Research and Measurement Issues in Gambling Studies*, 1, 179–213.
- Sumner, J. A., Kubzansky, L. D., Roberts, A. L., Gilsanz, P., Chen, Q., Winning, A., Forman, J. P., Rimm, E. B. & Koenen, K. C. (2016). Post-traumatic stress disorder symptoms and risk of hypertension over 22 years in a large cohort of younger and middle-aged women. *Psychological Medicine*, 46(15), 3105–3116.
- Tak, L. M., Bakker, S. J. L., Slaets, J. P. J. & Rosmalen, J. G. M. (2009). Is high-sensitive C-reactive protein a biomarker for functional somatic symptoms? A population-based study. *Brain, Behavior, and Immunity*, 23(7), 1014–1019.
- Talcott, G. W., Cigrang, J., Sherrill-Mittleman, D., Snyder, D. K., Baker, M., Tatum, J., Cassidy, D., Sonnek, S., Balderrama-Durbin, C., Klesges, R. C., Ebbert, J. O., Slep, A. M. & Heyman, R. E. (2013). Tobacco use during military deployment. *Nicotine & Tobacco Research*, 15(8), 1348–1354.
- Tanielian, T. & Jaycox, L. H. (2008). *Invisible Wounds of War: Psychological and Cognitive Injuries, their Consequences, and Services to Assist Recovery*, Santa Monica, CA: RAND Corporation.

- Teachman, J. (2010). Are veterans healthier? Military service and health at age 40 in the all-volunteer era. *Social Science Research*, 40, 326–335.
- Thomas, J. T., Wilk, J. E., Riviere, L. A., McGurk, D., Castro, C. A., Hoge, C. W. (2010). The prevalence and functional impact of mental health problems among Active Component and National Guard soldiers 3 and 12 months following combat in Iraq. *Archives of General Psychiatry*, 67, 614–623.
- Thompson, J., MacLean, M. B., Van Til, L., Sudom, K., Sweet, J., Poirier, A., Adams, J., Horton, V., Campbell, C. & Pedlar, D. (2011). *Survey on Transition to Civilian Life: Report on Regular Force Veterans*, Research Directorate, Veterans Affairs Canada, Charlottetown: Director General Military Personnel Research and Analysis, Department of National Defence, Ottawa. January 4, 2011.
- Thompson, J., Van Til, L., Sweet, J., Poirier, A., McKinnon, K., Dursun, S., Sudom, K., Zamorski, M., Sareen, J., Ross, D., Hoskins, C. & Pedlar, D. (2015). *Canadian Armed Forces Veterans: Mental Health Findings from the 2013 Life After Service Survey*, Charlottetown PE Research Directorate: Veterans Affairs Canada. Research Directorate Technical Report. 19 March 2015.
- Toblin, R. L., Riviere, L. A., Thomas, J. L., Adler, A. B., Kok, B. C. & Hoge, C. W. (2012). Grief and physical health outcomes in U.S. soldiers returning from combat. *Journal of Affective Disorders*, 136, 469–475.
- Ulmer, C. S., Bosworth, H. B., Germain, A., Lindquist, J., Olsen, M., Brancu, M. & Beckham, J. C. (2015). Associations between sleep difficulties and risk factors for cardiovascular disease in veterans and active duty military personnel of the Iraq and Afghanistan conflicts. *Journal of Behavioral Medicine*, 38(3), 544–555.
- Unwin, C., Blatchley, N., Coker, W., Ferry, S., Hotopf, M., Hull, L., Ismail, K., Palmer, I., David, A. & Wessely, S. (1999). Health of UK servicemen who served in Persian Gulf War. *Lancet*, 353(9148), 169–178.
- Van Til, L., Sweet, J., Poirier, A., McKinnon, K., Sudom, K., Dursun, S. & Pedlar, D. (2017). *Well-Being of Canadian Regular Force Veterans: Findings from the LASS 2016 Survey*, Charlottetown PE: Veterans Affairs Canada. Research Directorate Technical Report. 23 June 2017.
- VanDenKerkhof, E. G., Van Til, L., Thompson, J. M., Sweet, J., Hopman, W. M., Carley, M. E. & Sudom, K. (2015). Pain in Canadian veterans: analysis of data from the Survey on Transition to Civilian Life. *Pain Research & Management*, 20(2), 89–95.
- Villagran, M., Ledford, C. J. & Canzona, M. R. (2015). Women's health identities in the transition from military member to service veteran. *Journal of Health Communication*, 20(10), 1125–1132.

- Von Korff, M., Ormel, J., Keefe, F. J. & Dworkin, S. F. (1992). Grading the severity of chronic pain. *Pain*, 50(2), 133–149.
- Ware, J. E., Kosinski, M. & Keller, S. D. (1996). A 12-item short-form health survey. Construction of scales and preliminary tests of reliability and validity. *Medical Care*, 34(3), 220–233.
- Ware, J. E. & Sherbourne, C. D. (1992). The MOS 36-item short-form health survey (SF-36) conceptual framework and item selection. *Medical Care*, 30(6), 473–483.
- Watson, N. & Wooden, M. (2002). *The Household, Income and Labour Dynamics in Australia (HILDA) Survey: Wave 1 Survey Methodology* [Online]. HILDA Technical Paper Series Vol no 1/02: Melbourne Institute. Available: <http://melbourneinstitute.unimelb.edu.au/hilda>
- Weathers, F. W., Litz, B. T., Herman, D. S., Huska, J. A. & Keane, T. M. (1993). *The PTSD Checklist (PCL): Reliability, Validity, and Diagnostic Utility.*, Paper presented at the 9th Annual Conference of the ISTSS: San Antonio, TX.
- Williams, A. C. d. C. & Baird, E. (2016). Special considerations for the treatment of pain from torture and war. *Current Anesthesiology Reports*, 6(4), 319–326.
- Woodruff, S. I., Galarneau, M. R., Luu, B. N., Sack, D. & Han, P. (2014). A study protocol for tracking quality of life among U.S. service members wounded in Iraq and Afghanistan: the Wounded Warrior Recovery Project. *Military Medicine*, 179(3), 265–272.
- World Health Organization (1994). *ICD-10 International Statistical Classification of Diseases and Related Health Problems*, Geneva: World Health Organization.
- World Health Organization (1996). *WHOQOL-BREF Introduction, administration, scoring and generic version of the assessment*, Geneva: World Health Organization.
- Young and Well Cooperative Research Centre (2013). *Young and Well CRC Standard Measures*, Melbourne: Young and Well Cooperative Research Centre.
- Zheng, W. Y., Kanesarajah, J., Waller, M., McGuire, A. C., Treloar, S. A. & Dobson, A. J. (2016). Childhood adversity and traumatic exposures during deployment as predictors of mental health in Australian military veterans. *Australian & New Zealand Journal of Public Health*, 40(1), 10–15.