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A profile of Australia's veterans

2018

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ISBN 978-1-76054-444-7 (PDF)
ISBN 978-1-76054-445-4 (Print)
DOI 10.25816/5ebcc431fa7e7

Suggested citation

Australian Institute of Health and Welfare 2018. A profile of Australia's veterans 2018. Cat. no. PHE 235. Canberra: AIHW.

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Published by the Australian Institute of Health and Welfare.

Please note that there is the potential for minor revisions of data in this report.

Please check the online version at <www.aihw.gov.au> for any amendment.

Contents

Acknowledgments

This report was authored by Ms Melissa Wilson, Ms Stephanie Fletcher, Mr Nick Grange, Ms Rin Rin Ly and Mr Adrian Knight from the Australian Institute of Health and Welfare (AIHW), with assistance from Ms Melinda Petrie, Ms Karen Hobson, Ms Rebecca Hurley, Mr Nick Mann and Ms Kate Riley Sandler. Contributions from Dr Lynelle Moon, Mr George Bodilsen, Mr Mark Cooper-Stanbury, Mr Michael Frost, Mr Gary Hanson, Mr Peter Marlton, Mr Geoff Neideck, Ms Claire Sparke and Mr David Whitelaw (also from the AIHW) are gratefully acknowledged. The authors would like to thank Ms Larissa Fischer (Australian Bureau of Statistics), Professor Malcolm Sim (Monash University) and staff from the Department of Veterans' Affairs (DVA) and the Department of Defence for their valuable review comments.

DVA and the AIHW have established a 4-year strategic partnership from 2017–2021 to build a comprehensive profile of the health and welfare of Australia's veteran population. This program of work will take a coordinated, whole-of-population approach to monitoring and reporting on the current status and future needs of veterans and their families, in support of the DVA's strategic, research and data needs, including informing reporting to government on Veteran Centric Reform initiatives.

If you need help or support, please contact:

Open Arms—Veterans and Families Counselling **1800 011 046**, or <www.openarms.gov.au>

Australian Defence Force All-hours Support Line **1800 628 036**

Defence Family Helpline **1800 624 608**

Operation Life Online <http://at-ease.dva.gov.au/suicideprevention>

Lifeline **13 11 14**, or <www.lifeline.org.au>

Suicide Call Back Service **1300 659 467**, or <https://www.suicidecallbackservice.org.au>

Beyondblue Support Service **1300 22 4636**, or <www.beyondblue.org.au>.

For information on support provided by DVA see:

<https://www.dva.gov.au/health-and-wellbeing/mental-health>

<https://www.dva.gov.au/factsheet-hsv99-mental-health-support>.

Abbreviations

ABS	Australian Bureau of Statistics
ACAT	Aged Care Assessment Team
ADF	Australian Defence Force
AIHW	Australian Institute of Health and Welfare
DSRS	deseal/reseal
DVA	Department of Veterans' Affairs
GP	general practitioner
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian modification
MEAO	Middle East Area of Operations
NAPEDC	Non-Admitted Patient Emergency Department Care
NMD	National Mortality Database
NDI	National Death Index
NCSCH	National Cancer Statistics Clearing House
NBEDS	National Best Endeavours Data Set
NMDS	National Minimum Data Set
NNAPEDCD	National Non-Admitted Patient Emergency Department Care Database
PBS	Pharmaceutical Benefits Scheme
PMKeyS	Personnel Management Key Solution
PTSD	post-traumatic stress disorder
RAAF	Royal Australian Air Force
RAN	Royal Australian Navy
RPBS	Repatriation Pharmaceutical Benefits Scheme
SRCA	*Safety Rehabilitation and Compensation (Defence-related) Claims Act 1988*
WHO	World Health Organization

Symbols

*	a statistically significant difference between the veteran population and the Australian population
<	less than
≥	greater than or equal to
%	per cent

Summary

Veterans of the Australian Defence Force (ADF) are an important group of people for health and welfare monitoring, as the nature of military service means their needs and outcomes can differ from those of the general population. While people who are recruited to the ADF are required to be in good health, the unique experience of ADF service means many veterans experience health and welfare challenges above those of the Australian population.

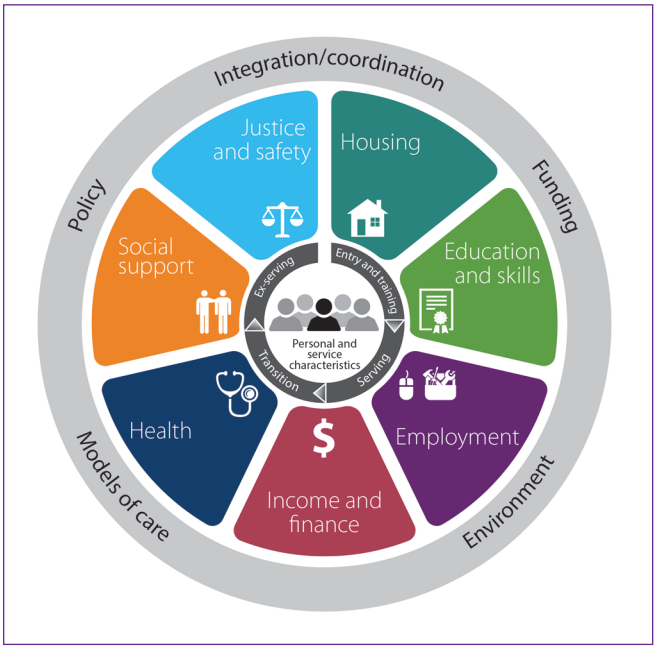
This report outlines what is known about veterans' health and welfare, highlights information and data gaps, and opportunities to fill them. It is a baseline for reporting to drive data improvement, inform policy development, ensure interventions and services are well targeted and, ultimately, to improve the health and welfare of Australia's veterans.

A whole-of-population approach to veteran research

The term 'veteran' often has a special meaning for people who have served in the ADF, their families and friends, and the wider community. This report uses 'veteran' to cover all current, reserve and former serving ADF personnel, whether they have been deployed to active conflict or peacekeeping operations, or have served without being deployed. It presents information on dependants—partners, children and war widow(er)s—where they are included in the data. Past research in Australia has largely focused on certain groups of veterans, based on the conflict in which they were involved (such as the Vietnam War) or the services they receive (such as Department of Veterans' Affairs, or DVA clients). This report compiles information to build a profile of the whole veteran population.

Understanding veterans' health and welfare

A person's health and welfare result from a complex interplay between biological, lifestyle, socioeconomic, societal and environmental factors, many of which can be modified to some extent by health care, welfare support and other interventions. This report uses the 'veteran-centred model'—comprising seven domains—to understand the factors that influence veterans' health and welfare. Where available, information is included for each domain on veterans' status, predictors of health and welfare, and service use.



What do we know about veterans' health?

The overall picture of veterans' health is complicated, due to the interaction of several factors and changes that occur across the military life course from enlistment to retirement. Serving military personnel are generally much healthier than the general population, largely due to the screening processes in enlistment, and ongoing health and fitness requirements. Various groups of veterans have been found to have a lower all-cause mortality rate than the general population for many years after discharge (Waller et al. 2013; Wilson et al. 2005a, 2005b).

Although most people (78%) who report they have served in the ADF rate their health as 'excellent', 'very good' or 'good' (ABS 2016), some ADF personnel are at a higher risk of developing affective or anxiety disorders, post-traumatic stress disorder (PTSD), and some cancers than the Australian population (AIHW 2003; McFarlane et al. 2011; McGuire et al. 2015; Wilson et al. 2005c). While the age-adjusted suicide rate for serving and reserve men was lower than the rate for all Australian men, the rate for ex-serving men with ADF service since 2001 was higher than that for all Australian men (AIHW 2018h).

In 2010, nearly 1 in 5 (18%) serving ADF personnel were estimated to have sought help for stress-related, emotional, mental health or family problems in the last 12 months (McFarlane et al. 2011). According to the National Hospital Morbidity Database, anxiety disorders were the most common reason for both Department of Defence-funded hospitalisations for men aged 18–54 (22% of hospitalisations) and for DVA-funded hospitalisations for men aged 55 and over (9%) in 2015–16.

What do we know about veterans' housing?

Poor quality housing can influence physical and mental health and may also affect employment, education and social relationships. Homelessness, in particular, can profoundly affect a person's health, their education and employment opportunities and their ability to participate fully in social and community life.

In 2015, nearly all (94%) ADF personnel who discharged between 2010 and 2014 were in stable housing (Van Hooff et al. 2018). However, little is known about the housing situation or concerns of these personnel, or of other veterans. As such, housing remains an important focus area for understanding the welfare of veterans.

What do we know about veterans' social support?

Certain aspects of military service can make it challenging to maintain relationships and social support outside the military (Senate Foreign Affairs Defence and Trade References Committee 2016). In 2009–2010, 24% of former ADF peacekeepers reported being very socially isolated while deployed, compared with 2% of the Australian population (Hawthorne et al. 2014). The impact of military service on family life was one of the most common reasons for leaving the military in 2015, cited by 1 in 10 (10%) recently transitioned ADF personnel (Van Hooff et al. 2018).

Beyond their immediate friends and family, veterans may seek assistance from government and non-government programs or receive support from ex-service organisations. More than one-quarter (28%) of ADF personnel who recently left the ADF have joined one or more ex-service organisations (Van Hooff et al. 2018) and 2 in 3 (66%) DVA card holders belong to similar organisations (DVA 2008).

What do we know about veterans' education and skills?

ADF personnel undertake a range of training during their service and may choose to pursue formal qualifications. The transition to civilian life also provides an opportunity for veterans to develop new skills, through tertiary or vocational education. Higher levels of education are associated with better outcomes across the life course, including good health—a study of former ADF peacekeepers found those with higher educational attainment had better health and quality of life (Hawthorne et al. 2014).

Educational attainment is only known for some groups of the veteran population. In 2014, 1 in 10 (10%) DVA payment recipients (veterans and dependants) aged 55 and over had a Bachelor Degree or higher qualification (ABS 2017d). In 2015, 2 in 10 (20%) ADF personnel who had recently left the ADF had a university degree (Van Hooff et al. 2018).

What do we know about veterans' employment?

Secure employment is associated with positive health outcomes and a better quality of life. Among ADF members who had recently left, 84% were employed or engaged in purposeful activity in 2015 (Van Hooff et al. 2018). The Australian Bureau of Statistics (ABS) 2014–15 National Health Survey found that men who have served in the ADF had employment rates similar to those of Australian men for all age groups, except for men aged 55–64 (ABS 2016). Just under half (46%) of this group were employed, compared with 72% of men of the same age who had not served. This reflects the fact that many ADF personnel are eligible to retire before the general population pension ages of 65–67. Only 3% of men aged 18–64 who have ever served in the ADF were unemployed (ABS 2016).

What do we know about veterans' income and finance?

Financial wellbeing is connected to wellbeing across a number of areas of a person's life, such as employment, education and health. However, very little is known about the income and financial characteristics of veterans. In 2015, 64% of recently transitioned ADF personnel reported a wage, a salary or their own business or partnership as their main source of income (Van Hooff et al. 2018). A further 19% reported pensions, compensation, benefits or other allowances as their main source of income. Among DVA payment recipients (veterans and dependants) aged 55 and over, 73% reported government pensions or allowances (including from DVA, Centrelink and/or the Family Assistance Office) as their main source of income (ABS 2017d). DVA provides a range of income support pensions and payments to assist veterans with everyday living or in specific circumstances. In 2016–17, 176,000 eligible veterans and dependants received a payment from DVA (DVA 2017a).

What do we know about veterans' justice and safety?

Being a victim of a crime or fearing for one's personal safety can strongly affect a person's health and welfare (ABS 2001). Conversely, people who engage in criminal activity may also experience family, economic or health problems, which may be complicated by interactions with the justice system (ABS 2015b).

In 2015, 3% of recently transitioned ADF members were estimated to have been arrested since leaving the ADF (Van Hooff et al. 2018). Results from the ABS 2014 General Social Survey estimate that fewer than 1 in 10 (7%) DVA payment recipients (veterans and dependants) aged 55 and over were the victim of crime in the last 12 months (ABS 2017d).

What are the gaps?

This report highlights a number of data gaps. More information is needed to understand key elements of the seven health and welfare domains, particularly housing, income and finance, and justice and safety.

More broadly, there is a lack of information and/or data on:

- the health and welfare of the whole veteran population, beyond current serving ADF personnel and DVA clients
- differences between veterans with varying personal and service characteristics
- the medium- and long-term physical, mental and social impacts of military service
- how veterans compare with the wider Australian population
- the interactions that veterans have with Department of Defence, DVA and mainstream service providers
- the pathways veterans take to access services across different providers
- the factors and types of services that lead to improved health and welfare outcomes
- the groups of veterans who have the best, and poorest, health and welfare outcomes and the critical points for intervention
- the changes in needs and outcomes over time
- factors influencing the changes, highlighting interactions between the domains.

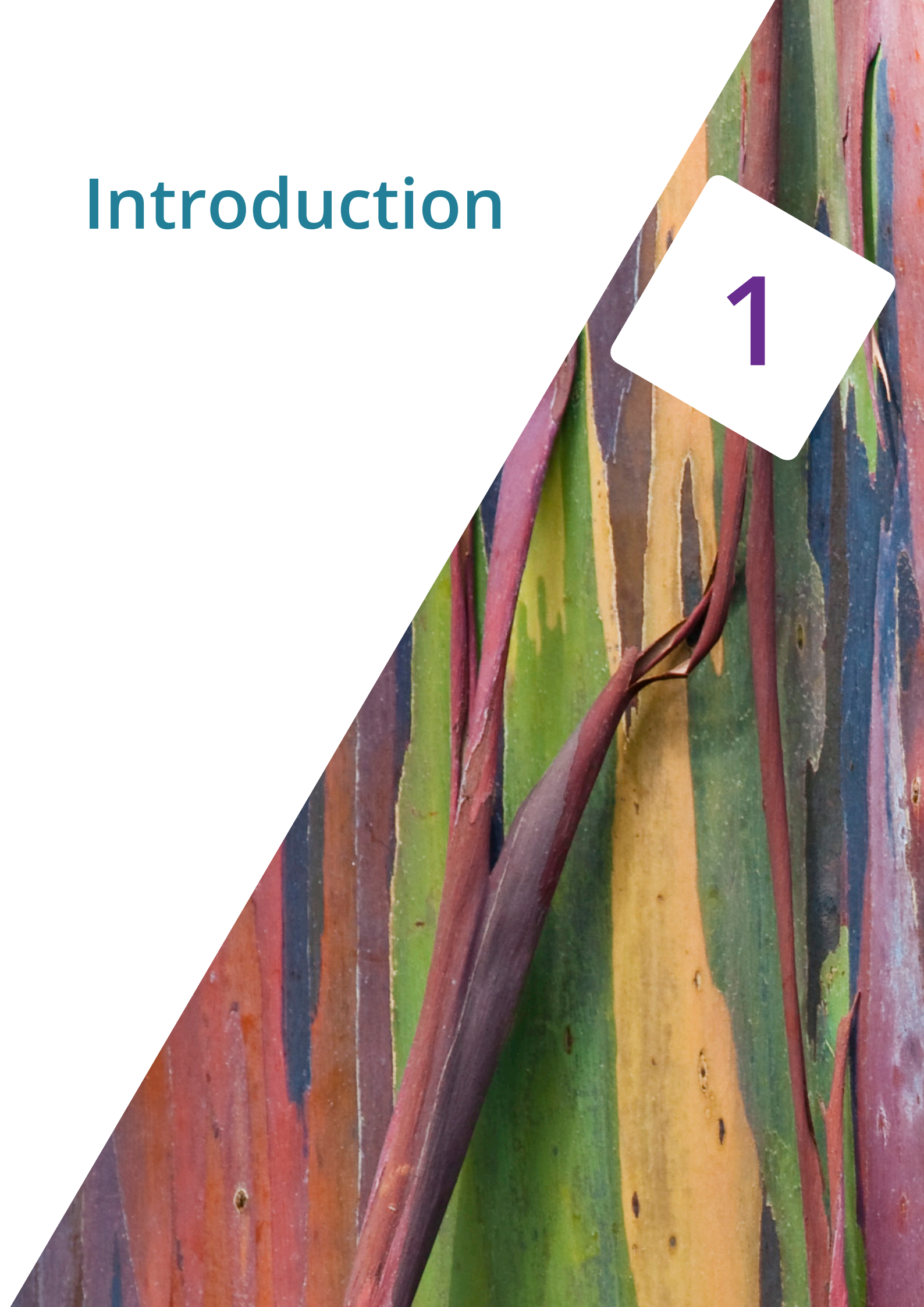
What can be done to fill the gaps?

The following three approaches could help to fill key data or information gaps and build the evidence base on veterans' health and welfare:

- veteran identifiers—add questions or variables to identify veterans in existing health and welfare population data sets, allowing veterans to be distinguished from the general population
- data linkage—match existing veterans' data with existing health and welfare population data sets to tell a more powerful story with the data
- veteran-specific analysis and research—this covers in-depth analysis of existing data, and specific studies of the veteran population to fill gaps in knowledge of health and welfare.

Introduction

1



Australian Defence Force (ADF) veterans and their families are an important population group for health and welfare monitoring. The unique nature of ADF service promotes protective factors—such as stable employment, the need to maintain physical fitness, and access to health and welfare services—that can lead to improved health and welfare outcomes. However, ADF service also exposes members to risk factors that may be detrimental to their lives, both during and after their military service (particularly if they have served on overseas deployments), such as experiences of trauma or changes to support networks.

For many veterans, their unique service experience means that they may have health and welfare needs that are different from those of people in the broader community. Families of veterans can also be affected by military service, either directly through events such as frequent relocation or isolation, or indirectly as they support ex-serving personnel transitioning from the military to civilian life. Ongoing research into veterans' health and welfare is critical to monitoring and improving outcomes, directing services, and informing and evaluating policies and programs to improve the health and welfare of Australia's veterans.

Who is a veteran?

Traditionally, the term 'veteran' has been used to describe former ADF members who were deployed to serve in war or a war-like conflict environment. Definitions have also been informed by the legislation that enables former personnel to receive entitlements and support from DVA following their service: the *Veterans' Entitlements Act 1986*; the *Safety, Rehabilitation and Compensation (Defence-related Claims) Act 1988*; and the *Military Rehabilitation and Compensation Act 2004*. Each piece of legislation details specific eligibility criteria for accessing treatment, but also covers other groups, such as cadets and Australian Federal Police members, who have not served in the ADF.

However, as the environment around the ADF changes, so, too, does the composition of veterans. While the size of the ADF has remained similar in recent decades, an increase in the tempo of military operations, and changes to the nature of warfare and deployments (both peacetime and active conflict), have resulted in a new cohort of contemporary veterans (DVA 2013). Compared with their predecessors, this cohort share some aspects of the military experience but also have different needs for their physical, mental and social health (DVA 2015). The sex profile of the ADF is also changing, with an increasing number of women joining the ADF in recent years (Department of Defence 2017b).

In light of these changes, the definition of a veteran has evolved to take a broader view. In 2017, a Roundtable of Australian Veterans' Ministers agreed that a veteran would be defined as 'a person who is serving or has served in the ADF', and should not be restricted by the definitions outlined in legislation (Tehan 2017).

How many veterans are there in Australia?

Currently, the exact number of Australian veterans is unknown. Data are available for current serving ADF personnel and DVA clients, and estimates are available for the whole veteran population.

Just over 58,200 serving ADF personnel

As at 30 June 2017, there were about 58,200 current serving ADF members and 21,700 reserve personnel (Department of Defence 2017b). More than 4 in 5 personnel were men (48,500 permanent; 18,000 reserve); however, the proportion of women among both permanent current serving and reserve personnel has increased in recent years. In 2016–17, about 5,500 people enlisted in the permanent ADF and 5,300 left—a net increase of 200 members.

Around 165,000 veterans are DVA clients

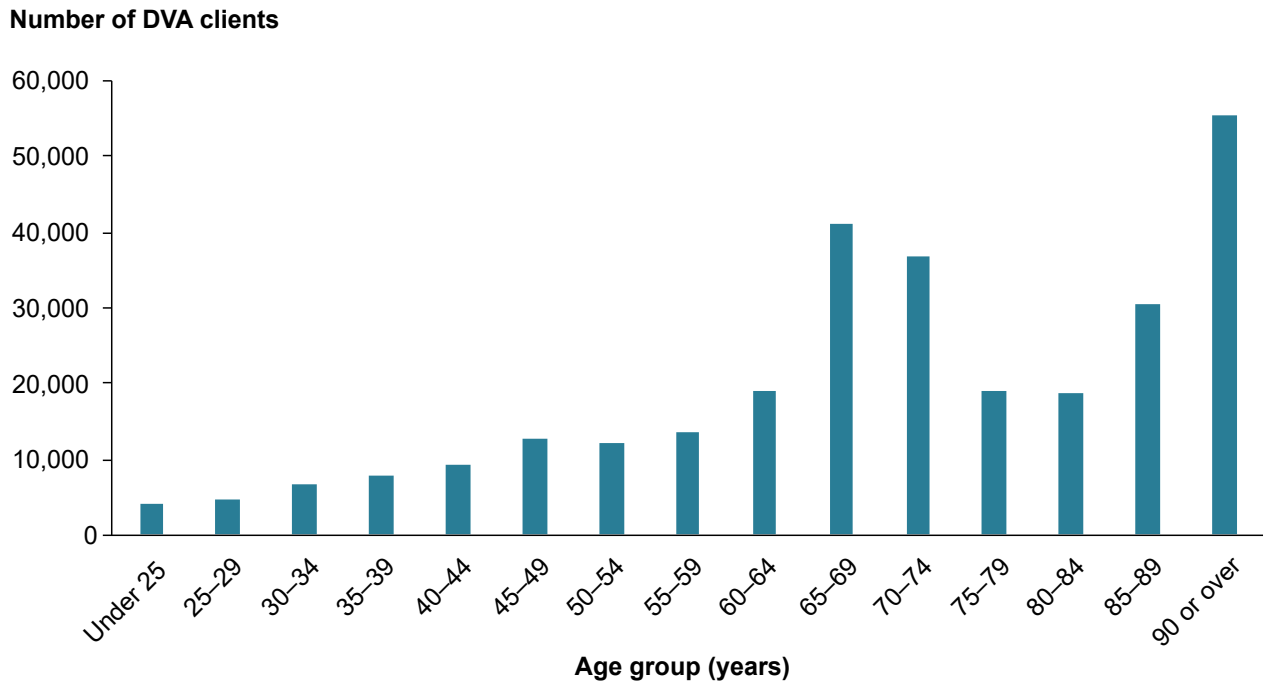
As at 30 June 2017, there were just over 165,000 veterans who received a pension or allowance from DVA, or who were eligible for treatment or pharmaceuticals paid for by DVA (DVA 2017a). A further 127,000 partners, widow(er)s or children of veterans (known as dependants) were also eligible to receive support from DVA. Together, the group of veterans and dependents receiving support from DVA are termed 'DVA clients'. Just over two-thirds (67%) of DVA clients held a DVA Gold or White Card, which provides access to selected health and other care services funded by DVA (see Box 2.1 in Chapter 2 for information on DVA treatment cards).

The total number of DVA clients has almost halved in the past 2 decades. In 2000, there were about 540,000 DVA clients, consisting of 270,000 veterans and 269,000 dependants (DVA 2018e).

As at 30 June 2017, 55% of all DVA clients were aged 70 and over. The largest age group of DVA clients were aged 90 and over, representing 19% of all DVA clients (Figure 1.1). Just under half of DVA clients (48%) were women; however, in light of the small number of female ADF personnel historically, this group is likely to be mostly war widows and dependants.

However, not all veterans are DVA clients. In 2017, an estimated 1 in 3 veterans who have served since the Vietnam War, and 1 in 5 who have served since 1999, were DVA clients (DVA 2017f).

Figure 1.1: Number of DVA clients, by age group, as at 30 June 2017



Note: Excludes clients for whom age is unknown.

Source: DVA 2017a.

Just over 641,000 Australians are veterans

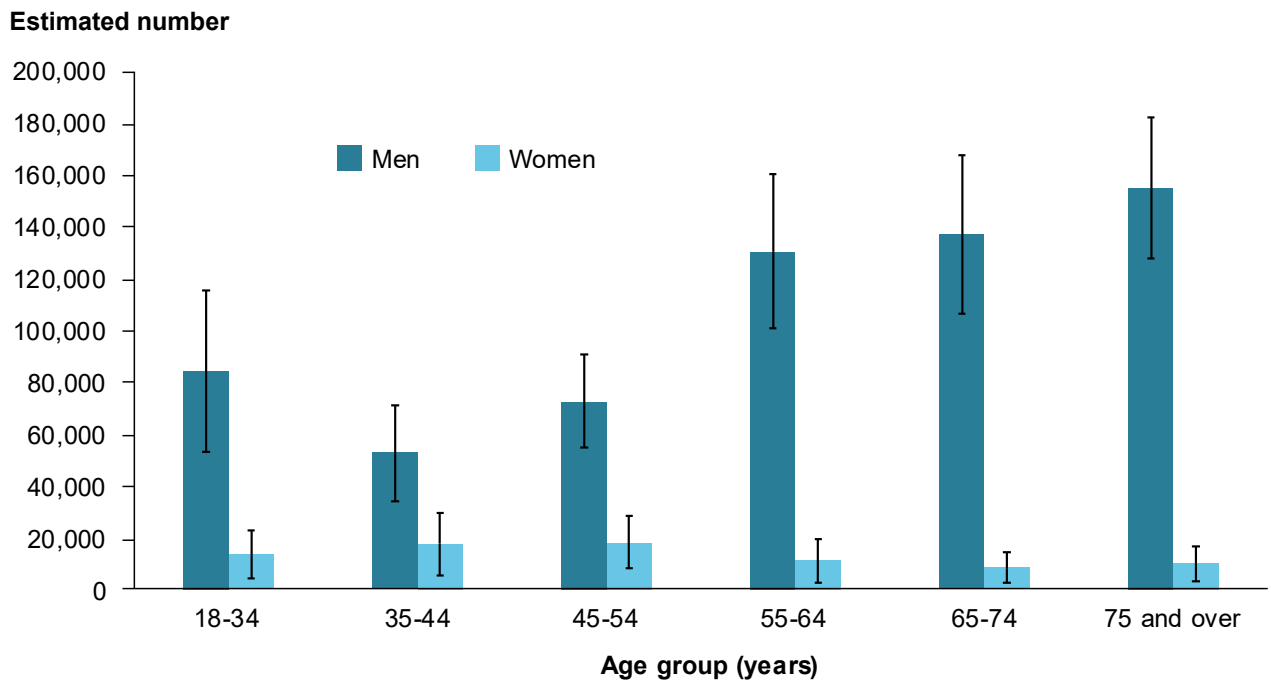
As at 30 June 2018, DVA estimated that there were around 641,000 living Australian veterans who have ever served in the ADF, either full time or in the reserves (DVA 2018a). This estimate was derived using ADF enlistment information and assumptions about mortality based on Australian population mortality data; it covers veterans who have served from World War II onwards.

The ABS National Health Survey provides national estimates of the health status and health risk factors of the Australian population (ABS 2015c). The survey also collects self-reported demographic and socioeconomic characteristics, including whether the respondent has 'ever served in the ADF', which can include current serving members. The results of the survey are weighted to the Australian population to provide national estimates.

Weighted National Health Survey estimates suggest that 708,000 Australians aged 18 and over had ever served in the ADF in 2014–15 (ABS 2016). As the survey is based on a sample of the Australian population, this estimate is subject to a degree of uncertainty that can be described using confidence intervals. Calculation of the 95% confidence intervals suggests that the number of people who have ever served in the ADF lies between 635,000 and 781,000 people. This estimate excludes people living in non-private dwellings at the time of the survey—such as hospitals, nursing homes (residential aged care facilities) and single quarters of military establishments—and therefore does not capture segments of the current serving and older veteran population. As they are self-reported data, it is not possible to know how participants interpreted what constitutes ADF service, such as whether it is limited to overseas deployments or excludes reserve service. It is also not possible to distinguish between current serving and ex-serving personnel.

According to this estimate, about 1 in 9 people who served were women (11%) (ABS 2016; Figure 1.2). The age profile was different for men and women, with a greater proportion of men in the older age groups, and a greater proportion of women in the younger age groups. Almost half (47%) of men and one-quarter (23%) of women who served were aged 65 or over, which reflects the historically small number of women in the ADF.

Figure 1.2: Estimate of people who have ever served in the ADF, by age and sex, 18 years and over, 2014–15



Notes

1. The thin vertical lines superimposed over the top end of each bar are 95% confidence intervals.
2. Estimates for women have a relative standard error of 25% to 50% and should be interpreted with caution.
3. The greater number of men aged 18–34 can be attributed to the wider age group (spanning 17 years).

Source: ABS 2016.

What health and welfare support is available to veterans?

Health care for members currently serving in the ADF is provided by the Department of Defence; it covers primary health care, dental care, mental health services, hospital care, ancillary health care, rehabilitation and specialist services (Department of Defence 2016). Once an ADF member transitions to civilian life, health care services are available under the same conditions that apply to other Australians, including Medicare, state and territory government health arrangements, and private sector services. Veterans may also be entitled to support administered or funded by DVA. This support consists of a range of pensions, compensation and income support payments, as well as health and welfare services (including medical, dental, allied health, specialist services, hospitals, pharmaceuticals, rehabilitation, counselling, transport and home care; DVA 2017a). Dependants, such as partners, widow(er)s or children of veterans, may also be entitled to certain DVA payments and benefits, depending on their circumstances.

DVA and the Department of Defence jointly support ADF personnel transitioning from the military to civilian life (JSCFADT 2015). Support available to transitioning personnel and their families includes tailored career coaching, financial information and counselling, medical services (including assistance with registering for Medicare, sourcing private health insurance and finding a general practitioner), employment and interview skills, training and education, housing and relocation, and rehabilitation and compensation as needed (Department of Defence 2017c).

DVA and the Department of Defence have implemented several policies to support the health and welfare of veterans throughout their military and post-military lives (see Box 1.1).

Box 1.1: Key policies for veterans

Defence Mental Health and Wellbeing Strategy 2018–2023

This strategy sets out six objectives to meet the mental health and wellbeing needs of the ADF and the Department of Defence Australian Public Service workforce: leadership and shared responsibility, a thriving culture and healthy workplace, responding to the risks of military service, person-driven care and recovery, building the evidence, and continually improving (Department of Defence 2017d).

Social Health Strategy 2015–2023

This strategy sets out objectives to support the health and wellbeing of the veteran and ex-service community through all life stages, and to encourage greater personal investment in their own health and wellbeing. It includes the core principles of 'prevent, connect and enhance' (DVA 2015).

Veteran Mental Health Strategy 2013–2023

This strategy sets out a 10-year framework and objectives to support the mental health and wellbeing of the veteran and ex-service community. It includes the core principles of 'prevent, recover and optimise', and takes a person-centred approach to mental health and wellbeing (DVA 2013).

Veteran Centric Reform

DVA's Veteran Centric Reform program aims to improve the standard of service for the veteran community by reforming business processes, IT systems, organisational culture and service options (DVA 2017d). In particular, Veteran Centric Reform aims to provide DVA clients with simpler interactions, early intervention and preventative health care, and an improved service delivery platform.

Several recent government reviews and inquiries have highlighted the need to improve the integration of service responses to veterans and to invest in prevention and early intervention to improve health and wellbeing (National Mental Health Commission 2017; Senate Foreign Affairs Defence and Trade References Committee 2016, 2017). The Australian Government has committed to four key action areas:

- improve suicide prevention and mental health support services
- improve the transition process from military to civilian life, including for families
- improve family support
- transform DVA systems, processes and organisational culture to better respond to the needs of veterans and their families (Department of Defence et al. 2017).

Purpose of this report

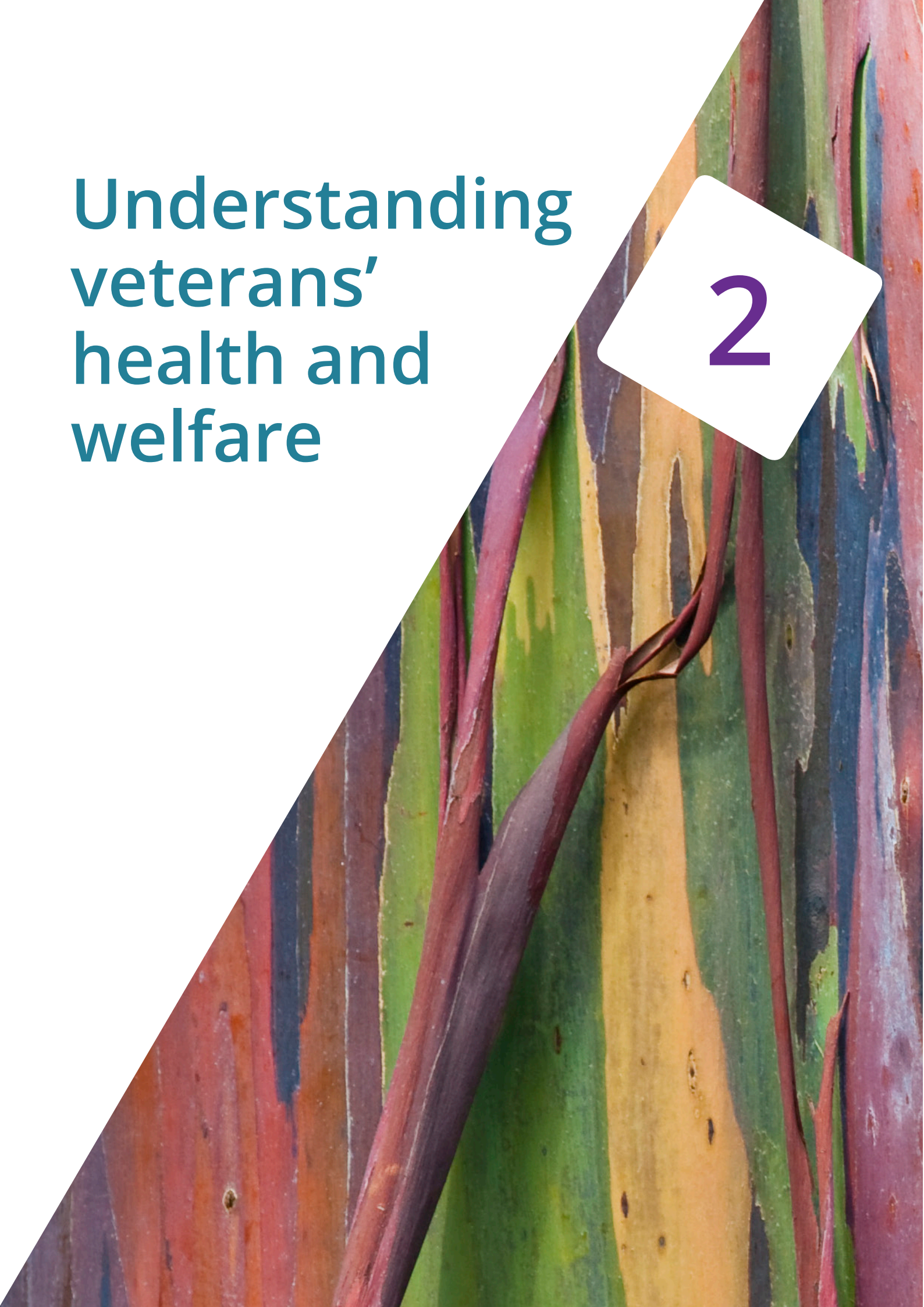
This report forms a baseline for the AIHW's future reporting on veterans, and is the first step in building a profile of the health and welfare of Australia's veteran population. It:

- presents the veteran-centred model, which provides a framework for analysis and reporting based on seven domains of health and welfare (Chapter 2)
- outlines what is known about Australian veterans from available data, including how their health and welfare compares with that of the rest of the population (Chapters 3–6)
- identifies both the key data gaps that limit our understanding of veterans' health and welfare, and the opportunities to improve the evidence base to reduce health and welfare impacts and improve services (Chapter 7).

The aim of this report is to compile key findings from a range of available sources (including some new analysis) to build a profile of Australia's veterans. While not exhaustive, sources were selected to present a summary of the veterans' health and welfare data landscape, while acknowledging the limitations of available information. Only by presenting these data can the most important gaps be identified, the first step in the process to strengthen the evidence base for veterans' policy.

Understanding veterans' health and welfare

2



A person's health and welfare result from a complex interplay between biological, lifestyle, socioeconomic, societal and environmental factors, many of which can be modified to some extent by health care, welfare support and other interventions. The AIHW, in consultation with DVA, developed a veteran-centred model to guide analysis and research into veterans' health and welfare.

The veteran-centred model (Figure 2.1) is based on the AIHW's person-centred model, which provides a method for understanding these factors and their interactions, grouped into seven domains: health, housing, social support, education and skills, employment, income and finance, and justice and safety.

At the centre of the model is the veteran, who has certain personal and service characteristics, which may influence their health and welfare. Personal characteristics are common to both veterans and the general population (for example, age, sex, Indigenous status, place of residence). Service characteristics are specific to the Australian veteran population (for example, type of service, conflict/trauma experience, rank, reason for discharge, transition experience). These service characteristics may present both protective factors and risk factors to a veteran's health and wellbeing.

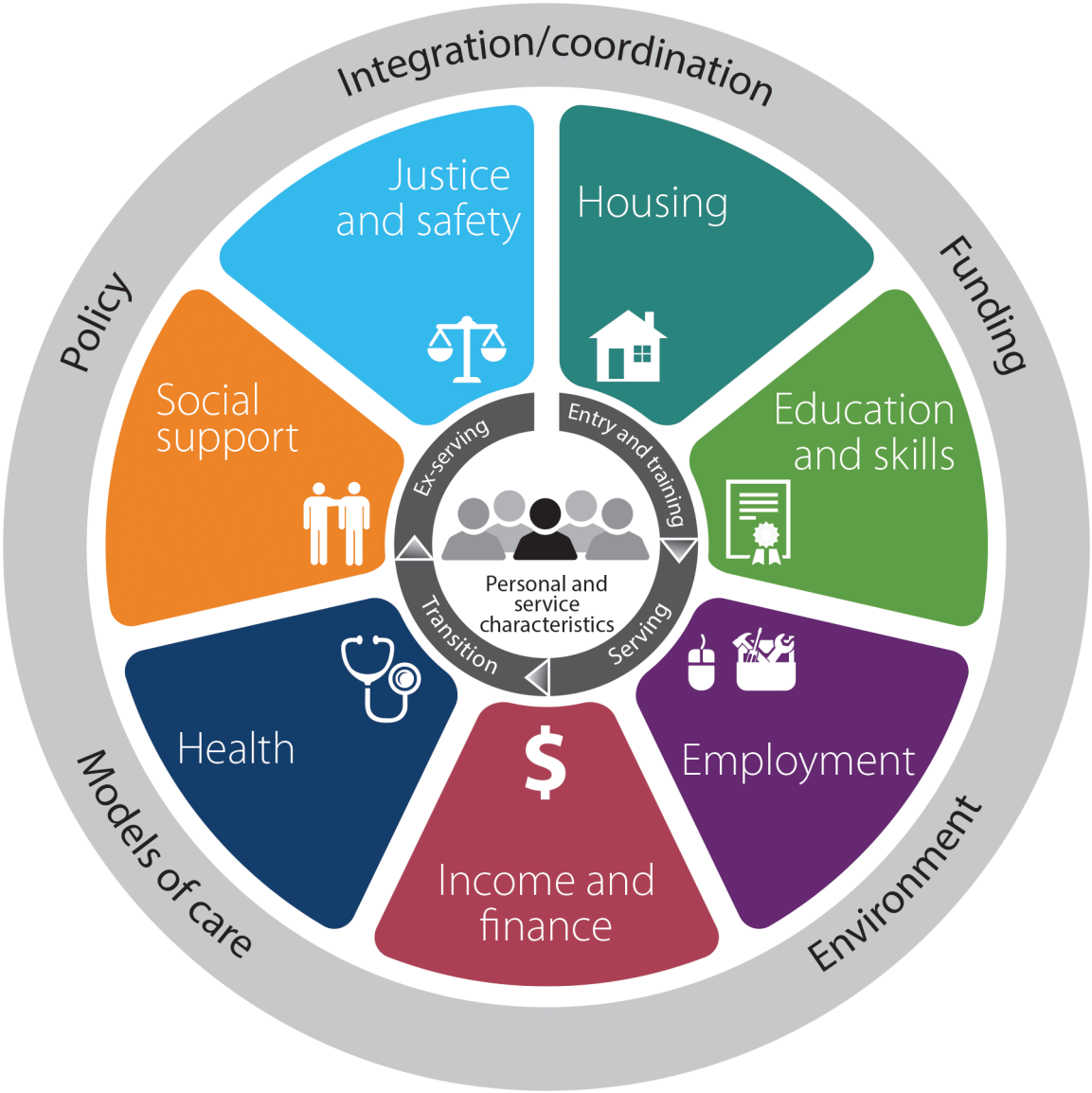
The model also illustrates four broad stages of the veteran pathway (inner grey ring in Figure 2.1), from entry and training, through service life, to transition, and then to ex-serving or civilian life. The duration of each of these stages will vary between veterans and, within these stages, veterans may have differing experiences.

As the veteran progresses through each of these stages, their needs will differ, and the relative importance of each of the domains (coloured segments in Figure 2.1) will change. In this report, information is presented according to each of the domains, as far as possible.

External factors, which may affect the veterans' health and welfare, are depicted in the figure's outer grey ring. These factors include:

- physical, sociocultural and socioeconomic environment (for example, infrastructure, social inequality, cultural practices, economic conditions)
- funding of programs and services available to veterans (provided by government and non-government organisations)
- models of care available to veterans through the Department of Defence, DVA and mainstream services (that is, those available to the general population). This factor covers the operation and delivery of health and welfare services
- government policies and legislation that affect veterans, as well as the general population
- integration and coordination of government policy, services and programs, and how they affect the delivery of support to veterans.

Figure 2.1: Veteran-centred model



Applying the veteran-centred model

There are a range of elements that can be explored to build an understanding of each domain. These elements can be categorised as:

- **current status:** how are veterans currently faring relative to this domain? How can their experience or situation be described?
- **determinants:** what factors related to this domain may positively or negatively affect veterans' health and welfare? How many veterans are exposed to such factors, and how can they be described?
- **services:** what services related to this domain are available to veterans and how are they being used? What are the outcomes of these services, and what additional services are needed?

Table 2.1 presents an example of the elements within each category and for each domain that can be used to build a profile of veterans. The domains of the model provide a structure for organising the elements of veterans' health and welfare to enable systematic analysis. It is expected that the elements will change over time, as analysis progresses and the evidence base grows. The working paper 'Development of a veteran-centred model' contains more information on the development process and identification of elements, and is available on the AIHW website (AIHW 2018c). The model also allows for exploration of not only the interactions between domains, but also the influence of individual and societal factors, and certain population groups in greater need of health and welfare services.

The person-centred approach focuses on the experiences of, and outcomes for, the individual, rather than on specific services used or the broader health and welfare system.

Table 2.1: Veteran-centred model of health and welfare: domains and elements

Domain	Status	Determinants	Services (use, needs, outcomes)
Health	Mortality Physical and mental health conditions Disability	Smoking Alcohol consumption Illicit drug use Nutrition Physical activity Genetic factors	Primary care Hospital care Mental health services Alcohol & other drug treatment services
Housing	Living conditions Homelessness	Homelessness Housing stability	Housing assistance Homelessness services
Social support	Family relationships and friendships Household composition Social networks	Social participation Social connectedness	Social support programs Aged care Disability support
Education and skills	Educational attainment Vocational education	Educational attainment	Education support services
Employment	Labour force status Occupation quality	Employment, unemployment or underemployment Employment stability Job satisfaction Occupational quality and standards	Employment services
Income and finance	Income	Financial comfort/stress Disposable income	Income support payments Compensation
Justice and safety	Crime Feelings of safety Family, domestic & sexual violence	Interactions with the justice system Experience of safe environments	Correctional rehabilitation services Family, domestic & sexual violence support services

Health domain

Health is a term related to whether a person is in a well or ill state. With good health, the state of the body and mind are such that a person feels and functions well, and can continue to do so for as long as possible (AIHW 2016a). A person's health is influenced by both societal characteristics and individual factors (such as health behaviours or genetic make up). Health can also be substantially affected by the quality and timeliness of health care and by access to preventive health care, such as screening and immunisation.

Housing domain

In simple terms, a dwelling can be defined as a structure or a discrete space intended for people to live in, or where a group of people live (AIHW 2017b). A household can consist of a single person living in a dwelling, or a group of people (related or unrelated) who make provisions for their own food and other essentials for living.

Safe, secure and affordable housing is fundamental to the wellbeing of all individuals, as it provides opportunities for other aspects of life, such as employment and social engagement. Substandard housing can be associated with chronic illness and mental health conditions, and people who are homeless tend to have limited access to, and engagement with, primary and/or preventive care (Gabrielian et al. 2014; Krieger & Higgins 2002). Communities and neighbourhoods that are more socially cohesive, that promote physical and psychological wellbeing, and that protect the natural environment are considered beneficial to an individual's health and welfare (Commission on Social Determinants of Health 2008).

Individuals who are not able to access affordable housing with their own economic and social resources may require housing assistance (AIHW 2018e). Housing assistance aims to support individuals in maintaining housing and in avoiding homelessness. It can include home purchase assistance, rent assistance, the provision of social housing, and services that support people in maintaining their tenancies.

Social support domain

Social support can be broadly defined as 'support accessible to an individual through social ties to other individuals, groups, and the larger community' (Lin et al. 1979). It comprises structural measures, such as social network size and involvement in group activities, as well as functional measures, covering the type and content of social interactions (Reblin & Uchino 2008; Stringhini et al. 2012).

A distinction can also be made between formal and informal social support. Formal support refers to services and programs provided by government and non-government organisations, designed to enhance wellbeing. Informal social support often comes from family, friends and community—people close to the individual. The level of informal support available to an individual often mediates their need for formal support services (AIHW 2017b).

Education and skills domain

Formal education is compulsory in Australia until the completion of Year 10, after which the individual must either participate in full-time education, employment or training (or a combination of these) until the age of 17 (AIHW 2017b). However, education can also be a lifelong pursuit, equipping a person with core skills and creating pathways to employment. The completion of schooling and higher levels of educational attainment (particularly tertiary level qualifications) are associated with better health and welfare outcomes.

Employment domain

Employment can be defined as a situation where people of working age are engaged in any activity to produce goods or provide services for pay or profit, during a specified reference period (International Labour Organisation 2017). Employment may be full time, part time or casual and can include working as an employee or working for oneself. Employment allows people to achieve financial security and is associated with lower rates of mortality, better general and physical health, and lower rates of medical consultation and hospital admission than for people who are without a job (DSS 2015). Good employment and working conditions can also contribute to better health and welfare through social status, self-esteem, social interactions and personal development (Marmot & Wilkinson, cited in Commission on Social Determinants of Health 2008:72).

Income and finance domain

Income is defined as an amount an individual can earn, derive or receive for their own use or benefit; profits; or regular payments as an allowance (DHS 2017a). Health outcomes are often affected by income levels, as those with lower incomes are likely to experience poorer health (Gunasekara et al. 2013). Throughout Australia, there are large disparities in health outcomes in different populations as disadvantaged Australians tend to have higher levels of disease risk factors and lower use of preventive health services (AIHW 2018a).

Justice and safety domain

Justice and safety are broad but interrelated concepts covering crime, violence, personal and community safety, the law, and the justice system and processes. The relationship between crime, safety and wellbeing is complex—experiences of crime and feelings of safety can both influence and be indicators or outcomes of social wellbeing (ABS 2015b). A person's wellbeing can be strongly affected by the fear of crime, or the direct experience of it (ABS 2001). Conversely, people who engage in criminal activity may be experiencing low levels of wellbeing in other areas of life—such as family, economic or health problems—which may be complicated by interactions with the justice system. Australian prisoners have higher levels of mental health problems, chronic conditions, communicable diseases and illicit drug use than the general population (AIHW 2018a).

What data are available?

Studies and data collections on Australian veterans have generally focused on a subset of the veteran population, an event or a particular exposure. Currently, there is no single data source that provides a comprehensive picture of veterans' health and welfare in Australia. As well, Australian research has focused on the health of veterans, with limited evidence on welfare issues such as homelessness, employment, education, income and crime.

For this report, a broad range of data sources were identified that, together, provide a picture of the health and welfare of Australian veterans. These sources include veteran-specific sources and those covering the general population where veterans can be identified.

Sources include survey data, administrative data, and data from published reports. Table 2.2 lists the data sources used in this report and indicates which domain/s of the veteran-centred model they relate to. Further details of the scope and quality of each source are available in Appendix A.

After defining the scope, data sources were included if the source:

- could identify a veteran population
- could identify information of interest, relevant to the person-centred approach (for example, excludes data on establishments or service providers)
- had national or whole-of-population data (administrative), or was representative of the Australian or veteran population (survey)
- had sound collection methodologies (met AIHW standards; was peer reviewed)
- was reliable, from respected statistical and research organisations
- offered reliable and accurate data
- covered a relevant time period.

Where Australian data are limited, findings from international military populations are presented to suggest possible outcomes and considerations; however, differences from the Australian military environment and health and welfare system mean that results may not be relevant to the Australian context. Data sets held by other organisations or requiring data linkage to identify veterans are not included.

Table 2.2: Summary of data sources, by veteran-centred model domain

Data source (year/s of data collection)	Veteran characteristics	Health	Housing	Social support	Education and skills	Employment	Income and finance	Justice and safety
ABS General Social Survey (2014)		✓	✓	✓	✓		✓	✓
ABS National Health Survey (2014–15)	✓	✓		✓		✓		
ABS Survey of Disability Ageing and Carers (2015)		✓		✓				
ABS Survey of Mental Health and Wellbeing (2007)		✓						
ADF Mental Health Prevalence and Wellbeing Study (2010)		✓						
Australian Gulf War Veterans' Health Study (2000–2002)		✓						
Australian Gulf War Veterans' Follow Up Health Study (2011–2013)		✓						
Australian National Service Vietnam Veterans Mortality and Cancer Incidence Study (1966–2001)		✓						
Australian Vietnam Veterans Mortality Study (2005)		✓						
Cancer incidence study 2003: Australian veterans of the Korean War (1982–1999)		✓						
Causes of death among serving and ex-serving ADF personnel (2002–2015)		✓						
Centre for Military and Veterans' Health Deployment Health Surveillance Program (2007–2008)		✓		✓				
Department of Defence annual report (2016–17)	✓							
DVA annual reports (2016–017)	✓	✓					✓	
DVA client data (2016–17)		✓		✓				
Fourth study of mortality and cancer incidence in aircraft maintenance personnel: a continuing study of F-111 Deseal/Reseal personnel 2016 (1999–2012)		✓						
Health Study 2005: Australian veterans of the Korean War (2004)		✓						
Middle East Area of Operations (MEAO) Census Study (2011)		✓						

(continued)

Table 2.2 (continued): Summary of data sources, by veteran-centred model domain

Data source (year/s of data collection)	Veteran characteristics	Health	Housing	Social support	Education and skills	Employment	Income and finance	Justice and safety
MEAO Mortality and Cancer Incidence Study (2000–2011)								
Morbidity of Vietnam veterans: A study of the health of Australia's Vietnam veteran community (1972–1997)		✓						
Mortality study 2003: Australian veterans of the Korean War (1950–2000)		✓						
National Aged Care Data Clearinghouse (2014–15, 2016–17)			✓					
National Hospital Morbidity Database (2015–16)		✓						
National Non-admitted Patient Emergency Department Care Database (2016–17)		✓						
National suicide monitoring of serving and ex-serving ADF personnel: 2018 update (2002–2016)		✓						
Peacekeepers' health study (2009–2010)		✓		✓	✓	✓	✓	
Pharmaceutical Benefits Scheme group reports (2016–17)		✓						
Report on Government Services (2016–17)			✓					
Survey of Veterans, War Widows and their Carers (2006)		✓	✓	✓				✓
Transition and Wellbeing Research Programme: Mental Health and Wellbeing Transition Study (2015) • Mental Health Prevalence report • Pathways to Care report		✓	✓	✓	✓	✓	✓	✓

Notes

1. The year/s in which data were collected is indicated after the data source name; for example (2015). In some cases, this differs from the year data were published, which may be included in the source name. For studies involving data from different time periods, the period is listed as the earliest year of data to the latest.
2. The following sources were identified as being relevant to veterans' health and welfare reporting but were not available for inclusion in this report: Medicare Benefits Schedule, Pharmaceutical Benefits Scheme, Australian Cancer Database, Public Housing collections, Special Homelessness Services Collection.

Data definitions of veterans

Despite the broad definition of veterans covering all who have served in the ADF, identifying veterans in health and welfare research is usually limited by the available data—including administrative and self-reported survey data (as outlined in Table 2.2).

In many cases, veterans are identified through their status as a DVA client, which may include families and dependants of veterans who receive support from DVA.

Self-reported data rely on veterans to identify themselves as such. For various reasons, some veterans may not self-identify, resulting in an underestimate. Other data sources record whether a person has served in the ADF, which may or may not include those whose service is ongoing.

To avoid confusion, the most commonly used terms in this report are detailed in Box 2.1, based on the data set from which they are drawn. All the people described may be considered 'veterans' in the broadest sense.

Box 2.1: Common terms used in this report

Several different terms are used in this report to describe different groups of the veteran population.

ADF personnel

ADF personnel are people who are currently serving or have previously served at least 1 day in a regular capacity or as a member of the active or inactive reserves. ADF personnel may be differentiated by their service status (serving, reserve or ex-serving) or their ADF service branch—namely, Royal Australian Navy (RAN, hereafter referred to as Navy), Australian Army (hereafter Army) or Royal Australian Air Force (RAAF, hereafter Air Force). Once an ADF member has discharged from the ADF, they are considered ex-serving. ADF personnel exclude civilian personnel employed by the Department of Defence.

Recently transitioned ADF personnel

In findings from the Transition and Wellbeing Research Programme, recently transitioned ADF personnel refers to people who left full-time ADF service between 2010 and 2014. This group comprises both people who transitioned into the reserves and those who discharged from the ADF completely.

People who have served in the ADF

People aged 18 and over who answered 'yes' to the question 'Have you ever served in the ADF?' in selected ABS surveys. This population is self-identified by survey respondents and may include serving, reserve and/or ex-serving personnel; the exact composition is unknown.

Veterans of a specific conflict or deployment

Several veteran cohorts can be defined based on ADF personnel who participated in a particular conflict or deployment. The report presents information on the following veteran cohorts: World War II, Vietnam War, Korean War, Gulf War, Bougainville, Solomon Islands, East Timor and Middle East Area of Operations (MEAO). In some cases, veterans of a particular deployment include personnel who were currently serving in the ADF at the time of the study.

(continued)

Box 2.1 (continued): Common terms used in this report

DVA clients

DVA clients are people who receive support from DVA, and may be serving or ex-serving members of the ADF, or the family, partner or dependant of a serving or ex-serving ADF member. DVA clients may be identified in survey data through a question asking whether they are a card holder or payment recipient, or in administrative data where a service was funded by DVA. In some cases, DVA clients are separated into DVA benefit recipients and DVA card holders (noting it is possible for a person to be both a benefit recipient and card holder).

DVA benefit/payment recipients

Current or ex-serving ADF personnel and their families may be eligible for a range of benefits, including ongoing or one-time payments, to support them in certain situations. Examples include injury, disease or death, permanent impairment, incapacity for service or work, needing treatment, ongoing household or attendant care, or loss of or damage to medical aids (DVA 2017b).

DVA card holders

DVA card holders are eligible veterans, their widow(er)s and/or dependants who have been issued with a Gold or White health card (DVA 2018c).

- Gold Cards provide access to DVA-funded treatment and services for all health conditions, whether service-related or not, for veterans who meet selected criteria related to their service. War widow(er)s and dependants who meet certain conditions are also eligible to receive a Gold Card.
- White Cards provide veterans with access to DVA-funded treatment and services for specific conditions or disabilities. From mid-2018 onwards, White Cards have been automatically issued to all eligible transitioning ADF members with at least 1 day of continuous full-time service (DVA 2018g).

Eligible Commonwealth and Allied veterans may be issued with an Orange Card, enabling them to access subsidised pharmaceuticals under the Repatriation Pharmaceutical Benefits Scheme (RPBS) for all health conditions. Orange cardholders are not generally not considered to be Australian veterans as they did not serve in the ADF. However, data on DVA card holders may include Orange Card holders, depending on how the scope has been defined. Such cases are noted throughout the report.

Factors to consider when reading this report

This report brings together a wide range of data sources, with advantages and limitations when exploring the health and welfare of veterans. Accordingly, there are some important factors to consider when reading this report and interpreting the results.

Veterans and the general population have different age and sex profiles

The differences highlighted in this report, including comparisons with the general population, are due to all causes. This may include demographic and socioeconomic factors, as well as the effect of ADF service.

For the veteran populations used in this report, age and sex are two factors that are recognised to differ from those for the general population. Depending on how veterans are defined within a data collection, the cohort may be older or younger than the general population, with a different proportion of men and women. This age difference can distort comparisons between the veteran and general population, as many health and welfare needs increase with age. There is also variation between the sexes—men and women have different rates of injury, illness and mortality, attitudes towards health and risks and use of health services (AIHW 2018f).

In comparing veterans with the general population in this report, rates disaggregated by age and sex have been provided (age-specific rates), together with additional contextual information where possible. The reported differences in age-specific rates are indicative of the impact of the ADF experience. However, there may be factors not related to the ADF experience that contribute to results that are not accounted for.

In many cases, it is possible to present data only for men due to the small numbers of women who have served in the ADF. As the number of women in the ADF increases, data for women are expected to improve and will be included in future reporting.

ABS survey data is self-reported by respondents and weighted to the Australian population

This report includes data from several ABS surveys, including the 2015 Survey of Disability, Ageing and Carers; the 2014–15 National Health Survey; the 2014 General Social Survey; and the 2007 Survey of Mental Health and Wellbeing (see Appendix A for more information on each survey). Depending on the aims of the survey in question, a sample is selected to be representative of either the Australian population or certain populations of interest (for example, people with disability and older Australians in the Survey of Disability, Ageing and Carers). Some groups of people, such as those living in very remote locations, may be excluded from the sample. The responses of survey participants are then weighted to the Australian population to provide estimates. The sample selection, together with its weighting, is not intended to represent the veteran population, and therefore may over- or under-represent certain types of veterans. As well, survey data rely on respondents to identify themselves as veterans, through questions that ask whether they have ever served in the ADF, or whether they receive payments or benefits from DVA. It is not possible to know how survey respondents interpreted these questions, and whether there are people who could be considered veterans who have not been identified in the data.

Data may be collected for a different purpose

Most of the data presented were not collected to report on veterans' health and welfare. Some data, such as ABS surveys, are collected for health and welfare monitoring, but do not target the veteran population; hence, the data collected may not be representative of all veterans and may not consider veteran-specific issues. Other data, such as administrative data sources, are not collected for health and welfare monitoring; they are a by-product of planning or delivering services, and should be interpreted in the context of how they were collected.

Data from different sources may not be directly comparable

When comparing statistics derived from different data sources, the data sources, collection methods and particular quality issues should be factored into the comparison (see Appendix A for detailed information on each data source). In some cases, doing so leads to the conclusion that the statistics are not comparable. Also, in most cases, results from a specific cohort of the veteran population, such as Vietnam War veterans, cannot be generalised to the broader veteran population.

Veterans may be a small population with increased data variability

In many data sources, results for veterans account for a small proportion of the data. This means results may be sensitive to small changes, and may vary over time. Many of the data sources are also cross-sectional, meaning they show results for a single point in time, and cannot indicate either trends or whether a result is an anomaly. Ongoing reporting will allow more robust insights, and will show whether results are changing over time.

Survey data are subject to sampling errors, and differences may not be statistically significant

Data based on a sample rather than the whole population are subject to a degree of error, termed sampling error. This error describes the difference between the result obtained from the sample and the 'true' result for the whole population. The level of uncertainty associated with sampling error can be represented using confidence intervals. In this report, confidence intervals display the range in which there is a 95% chance the true value lies. In relevant bar graphs, the vertical lines at the top of each bar represent the confidence intervals (see Figure 2.2). Narrow confidence intervals indicate high precision in results, and wide confidence intervals indicate lower precision. Sample-based results from a small population group, such as veterans, are more likely to have wide confidence intervals.

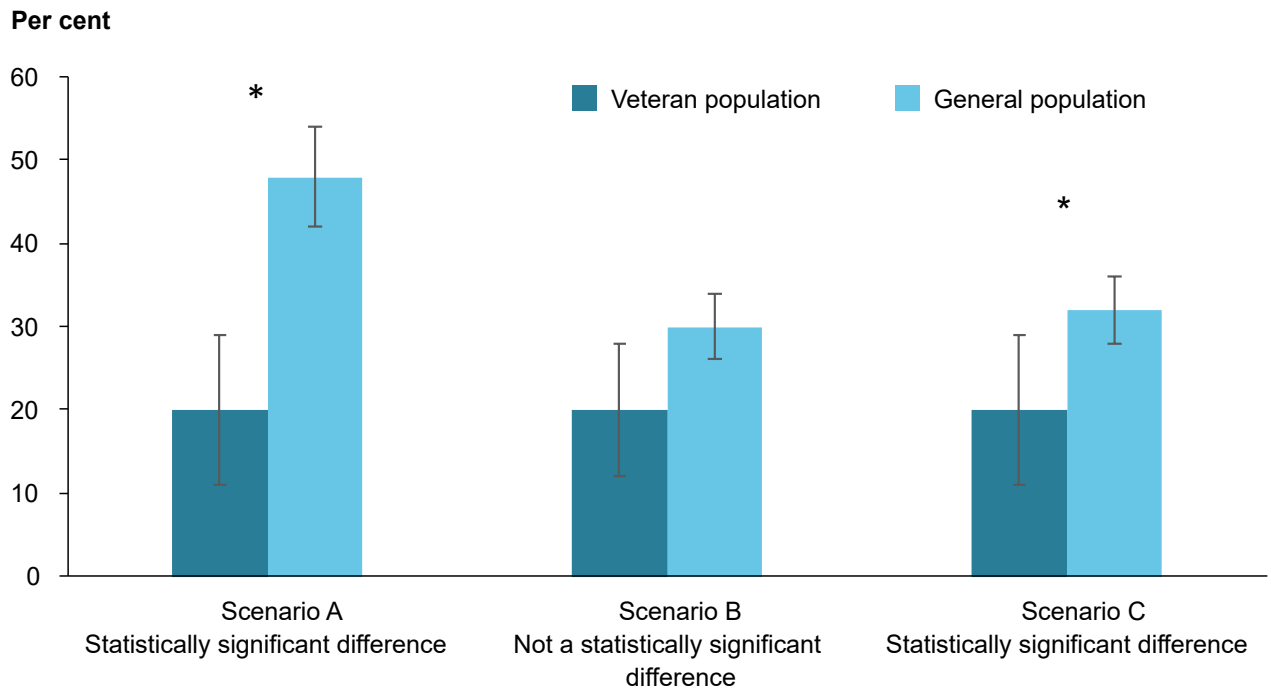
As a result of sampling error, it is possible that a difference between two sample-based results is due to chance rather than being a true difference. The ABS survey data presented in this report have been tested for significance at the 5% level using confidence intervals:

- If the confidence intervals for two results do not overlap, the difference is **statistically significant** (Figure 2.2: scenario A).
- If the confidence intervals for two results do overlap, it is likely but not certain that the difference is **not statistically significant** (scenario B). In this case, a confidence interval for the difference is calculated. If the confidence interval for the difference does not include zero (0), the difference is **statistically significant** (scenario C).

A significant result means it would occur by chance fewer than 1 in 20 times. Where comparisons are found to be not statistically significant, there may still be a real difference that the statistical test did not detect, but the difference may be of practical importance. In relevant bar graphs, statistically significant differences are represented by an asterisk (*) above the bars.

There are a number of methods to test statistical significance, each with varying levels of precision. This method has been used where data were sourced directly from the ABS. The significance of results from other studies or reports has been presented as published by the original authors, though the method used may differ from the method presented here.

Figure 2.2: Presentation of statistically significant results using 95% confidence intervals



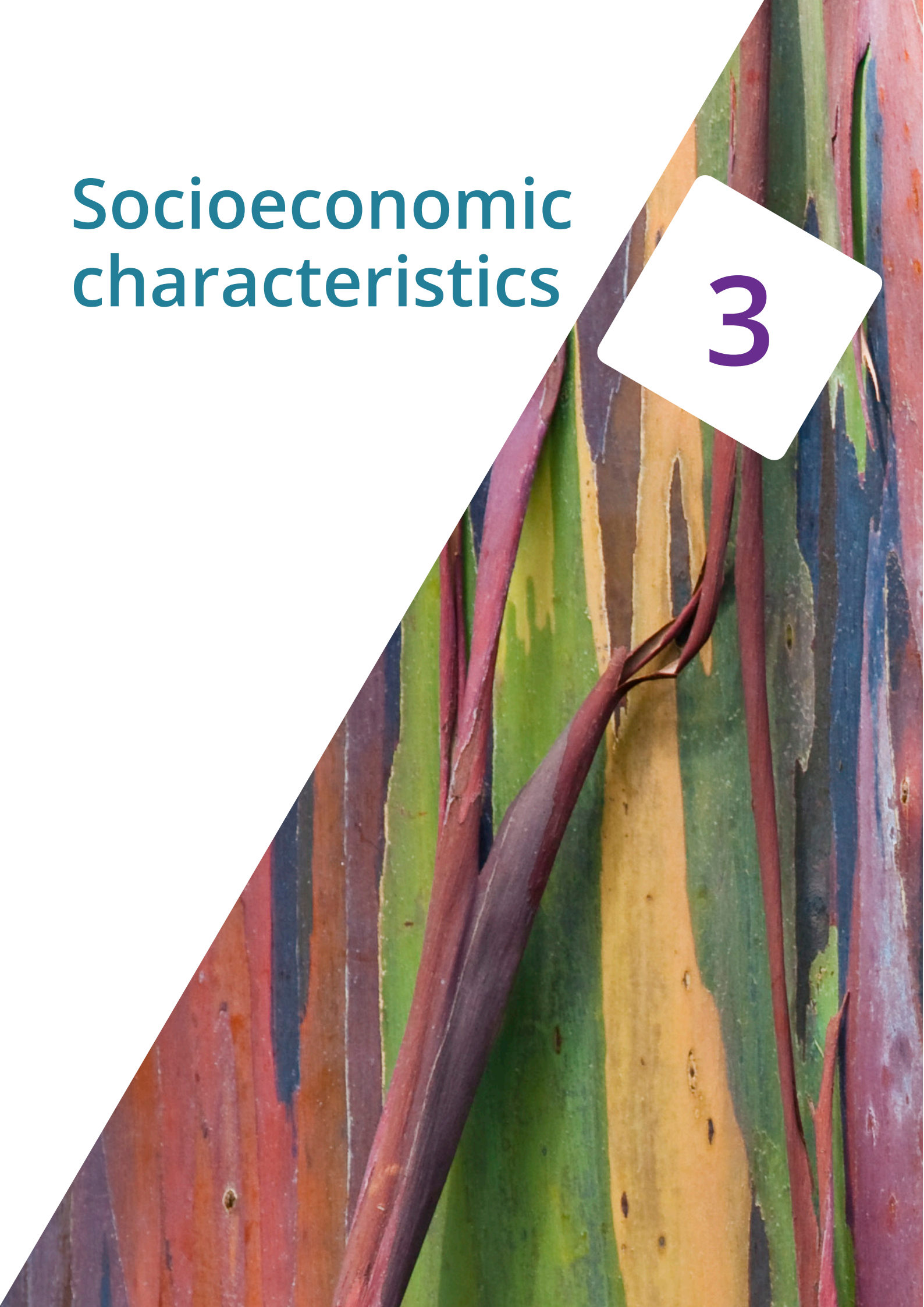
Data may include information on dependants of veterans

In some data sources, it is not possible to distinguish veterans from their family members, particularly where data are based on DVA clients, or DVA-funded services, as partners and dependants of veterans may also receive support. These instances are noted throughout and should be considered when interpreting results. Comparisons between these groups and the general population are limited due to the reduced utility of results.

Women in these cohorts are more likely to be partners or widows of veterans.

Socioeconomic characteristics

3



Socioeconomic characteristics include a person's living conditions, education, income, employment status and social capital, and contribute to how well a person is faring. Many of these characteristics are interrelated, and also influence a person's health. Generally, the higher a person's income, education or occupation level, the better their health.

The socioeconomic status of veterans may be influenced by factors relating to their ADF service, which can differ from the experiences of the general population. Socioeconomic characteristics appear in the housing, social support, education and skills, employment, income and finance, and justice and safety domains of the veteran-centred model, referenced throughout this chapter.

Data used in this chapter

Data source	Veteran population
ABS General Social Survey (2014)	People who receive a DVA payment or benefit
ABS National Health Survey (2014–15)	People who have ever served in the ADF
ABS Survey of Disability, Ageing and Carers (2015)	People who receive a DVA payment or benefit
DVA annual reports (2016–17)	DVA clients
Middle East Area of Operations (MEAO) Census Study (2011)	ADF members deployed to the MEAO between 2001 and 2009
Peacekeepers' health study (2009–2010)	Former ADF peacekeepers
Survey of Veterans, War Widows and their Carers (2006)	DVA clients, *Safety, Rehabilitation and Compensation (Defence-related Claims) Act 1988* (SRCA) clients
Transition and Wellbeing Research Programme: Mental Health and Wellbeing Transition Study (2015) • Mental Health Prevalence report • Pathways to Care report	ADF members who transitioned out of full-time regular service between 2010 and 2014

Note: Year of data collection for each source is indicated after the name; for example (2015). In some cases, this differs from the year data were published, which is included in the source name.

Factors to consider when reading this chapter

- Data may be collected for a different purpose, not specifically for veterans or health and welfare research.
- In many sources, veterans are a small population—meaning there may be increased variability in the results over time.
- Data on DVA card holders and payment recipients cover both eligible veterans and dependants.
- Where comparisons are made, differences between veterans and the general population may not be statistically significant—the difference may be due to chance.
- Data from ABS surveys are based on self-reported veteran status, and all numbers are estimates that have been weighted to the Australian population.

A note on comparisons

Comparisons between veterans and the general population are made using both crude and age-specific rates, where suitable data were available. When comparing crude rates, any observed differences are due to all factors, including differences in the age and sex profile of each population. Age-specific rates reduce the effect of age by comparing rates of people of the same age in each group. In many cases, comparisons could not be made for women due to small numbers.

Housing

Secure housing is associated with improved health, and often facilitates other opportunities, such as stable employment, education, connection to the community, and positive outcomes for social and familial relationships (AIHW 2017b; Mallett et al. 2011). Access to affordable, secure and appropriate housing can help to reduce the likelihood that a person will experience social exclusion, overcrowding, homelessness, and poor physical and mental health (AIHW 2017b). As such, housing is a key element in understanding the welfare of veterans.

Serving ADF personnel and their families have access to housing and rental assistance through Defence Housing Australia. However, once personnel discharge from the ADF they are no longer able to access housing support from Defence Housing Australia (Department of Defence 2017a).

Two-thirds of older DVA payment recipients own their home without a mortgage

According to estimates from the ABS 2014 General Social Survey, 68% of DVA payment recipients (aged 55 and over) were an owner of a house without a mortgage, 12% were an owner of a household with a mortgage, and 19% were 'other' ('other' includes tenures such as renting, government- or employer-provided accommodation) (ABS 2017d).

The 2006 Survey of Veterans, War Widows and their Carers showed that 3 in 4 (74%) DVA White and Gold Card holders lived in a separate house, semi-detached house or terrace (DVA 2008).

Most current serving and recently transitioned ADF personnel are in stable housing

According to self-reported data collected by the Mental Health and Wellbeing Transition Study in 2015, 94% of ADF personnel who discharged between 2010 and 2014 were in stable housing in the 2 months before the study (Van Hooff et al. 2018). This result was similar to that for a comparison group of full-time serving ADF personnel (93%).

Housing: what is missing?

Very limited information is available on housing for Australian veterans. Of the available data, most are related to the DVA client population, which includes both veterans and dependants, making it difficult to identify issues relating specifically to veterans. These data also exclude veterans who are not DVA clients. As well, this information is captured at a high level, meaning it is not possible to gain an in-depth understanding of how veterans are faring with housing.
Key gaps in the housing domain include:

- the housing status of veterans, how this differs between the various subgroups (such as recently transitioned veterans or older veterans), and how housing status changes over time
- the pathways of veterans through housing across their life course, and the transition points where additional support is needed
- the number and characteristics of veterans who are experiencing housing challenges, such as homelessness, rental or mortgage stress, overcrowded accommodation, or the need to frequently relocate
- the number and characteristics of veterans who are accessing mainstream housing assistance, such as homelessness services or public housing.

Social support

Maintaining ongoing social supports while undertaking military service is complex. While ADF personnel often build strong relationships within the military, they may be required to spend long periods of time away from their home, family and friends, limiting their access to social and family supports (Senate Foreign Affairs Defence and Trade References Committee 2016). The transition from military to civilian life can also present challenges, such as a loss of identity, purpose and belonging (National Mental Health Commission 2017). Social connections with family and friends are a protective factor for a person's wellbeing, and social isolation has been identified as an issue of particular concern to the veteran community (DVA 2015). Research has found that the partners of serving and recently transitioned ADF members were most likely to suggest they seek assistance for mental health concerns (Forbes et al. 2018). As such, social networks and access to support programs are important elements of veterans' health and welfare.

One in 4 former ADF peacekeepers are very socially isolated

In a study of former ADF peacekeepers, 24% reported that they were very socially isolated compared with 2% of the Australian population (Hawthorne et al. 2014). Conversely, 25% of former peacekeepers reported that they were very socially connected, compared with 59% of the Australian sample. The study also found that peacekeepers who met diagnostic criteria for a mental health condition were more likely to experience social isolation than those without a condition.

Separation from family and friends a major stressor during deployment

Research into ADF groups deployed to the Solomon Islands, Bougainville and East Timor has highlighted that separation from family and friends was a major stressor for those ADF members during deployment, as reported by 62–70% of participants across several studies (McGuire et al. 2008, 2009a, 2009b). Family may also play a role in an ADF member's decision to leave the ADF, with results from the Mental Health and Wellbeing Transition Study finding that, in 2015, the most common reason for transitioning from the ADF was 'impact of service life on family', reported by 10% of transitioned ADF personnel (Van Hooff et al. 2018).

High levels of support from family during MEAO deployment

A study examining outcomes for ADF members deployed to the MEAO found that the majority of participants (91%) reported receiving enough support from their family during deployment (Dobson et al. 2012). Those who did not report having support were between 1.6 and 3.6 times more likely to report mental and general health problems after deployment. The study also found that 89% of participants reported moderate or high levels of cohesion within their military unit while deployed, and that 81% felt that the Australian community was supportive of the mission to the MEAO. However, those who reported low levels of unit cohesion during deployment, and those who perceived low levels of community support during and after deployment were more likely to report poorer mental and general health.

Over half of older DVA payment recipients are in contact with family or friends weekly

Based on data from the ABS 2014 General Social Survey, over half (57%) of DVA payment recipients (veterans and dependants) aged 55 and over are in contact with family or friends weekly, and 35% are in contact every day (ABS 2017d). Almost 9 in 10 (87%) DVA payment recipients had family or friends to confide in who lived outside their household.

The 2006 Survey of Veterans, War Widows and their Carers found that the majority of DVA White and Gold Card holders (veterans and dependants) participated in social activities, such as phoning family or friends (89%), spending time with family with whom they do not live (78%), and spending time with friends (78%) (DVA 2008). Despite this, around one-quarter (24%) of DVA card holders felt that they did not engage in enough social activity.

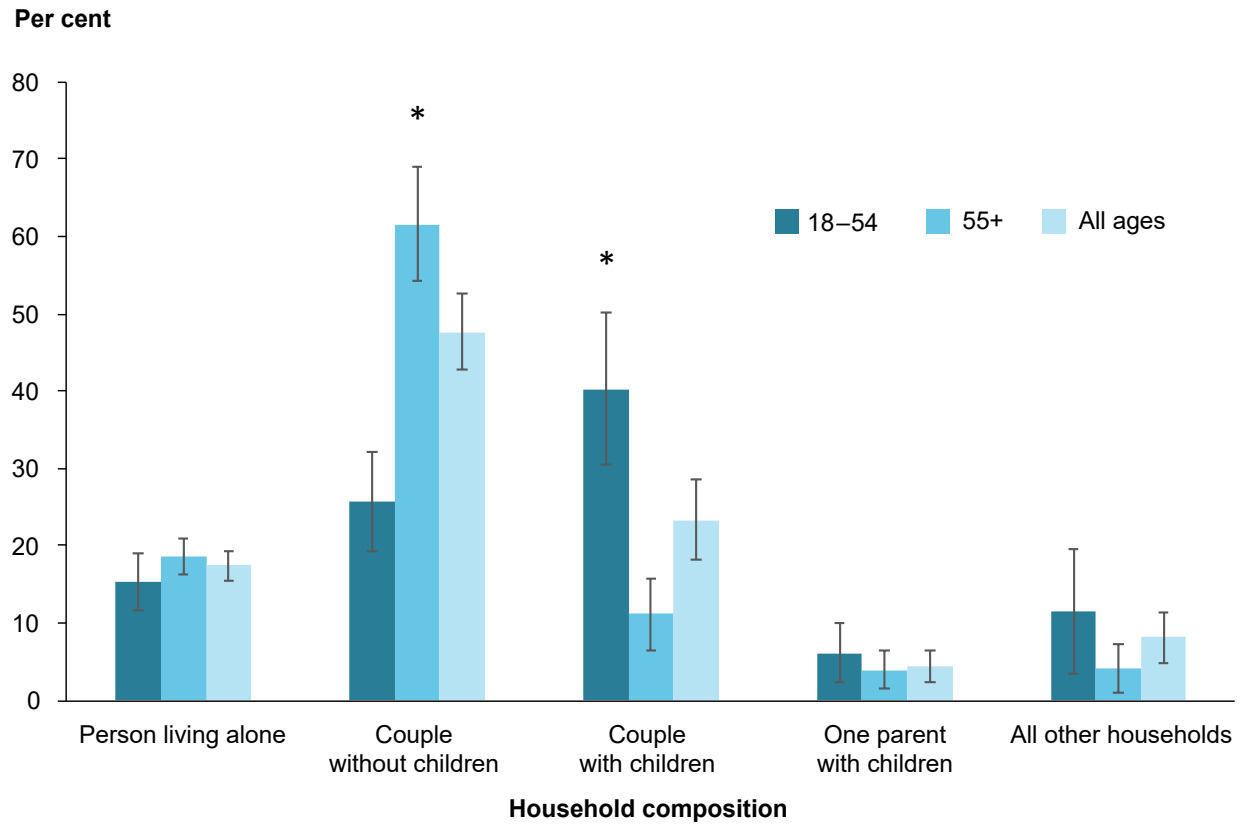
More DVA card holders involved in ex-service and social organisations

The Mental Health and Wellbeing Transition Study estimated that around 28% of recently transitioned ADF members reported joining one or more ex-service organisations, and 31% were members of one or more other types of voluntary groups (Van Hooff et al. 2018). In comparison, a survey of DVA White and Gold Card holders (DVA 2008) identified that 2 in 3 (66%) belonged to a service or ex-service organisation, and 59% were members of a social, recreational or sports club.

Around 7 in 10 people who have served in the ADF were a part of couple families

Results from the ABS 2014–15 National Health Survey show that the households of around 7 in 10 (71%) people who have served in the ADF comprised couples (ABS 2017e). Those aged 18–54 were more likely to be in a couple with children, while those aged 55 and over were more likely to live as a couple without children (Figure 3.1). This is consistent with children leaving the household as they grow up.

Figure 3.1: Household composition of people who have served in the ADF, 2014–15



* A statistically significant difference between people aged 18–54 and 55 and over, calculated using the confidence interval of the difference between the two proportions.

Notes

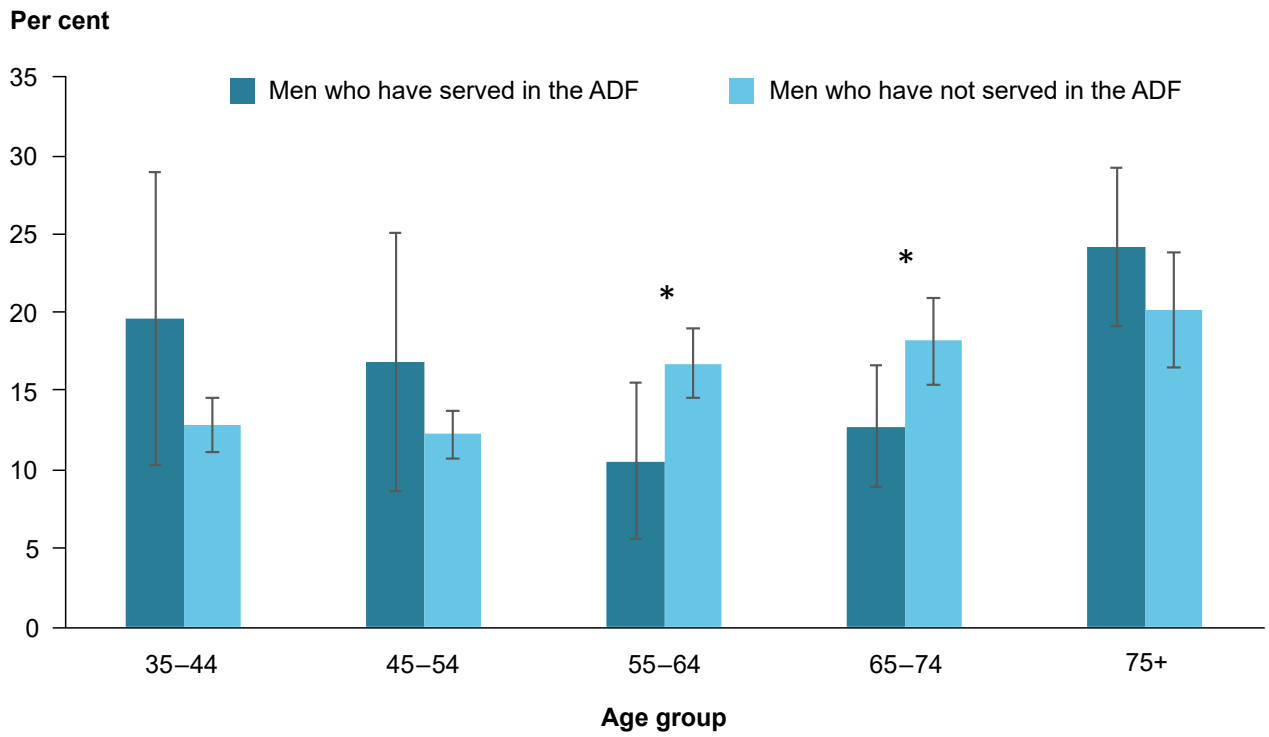
1. The thin vertical lines superimposed over the top end of each bar are 95% confidence intervals.
2. The estimated proportions of people aged 18–54 and 55 and over with a household composition of 'one parent with children' and 'all other households' have a relative standard error between 25% and 50% and should be treated with caution.

Source: ABS 2016.

Around 1 in 6 men who have served in the ADF live alone

About 1 in 6 (17%) men who have served in the ADF lived alone in 2014–15, according to the ABS 2014–15 National Health Survey (ABS 2017e), and men aged 55–64 and 65–74 who served were statistically significantly less likely to live alone than those who had not served (Figure 3.2). For other age groups, the proportion of men who lived alone was similar between the two groups.

Figure 3.2: Proportion of men who live alone, by ADF service status and age group, 2014–15



* A statistically significant difference between men who have served in the ADF and men who have not served in the ADF, calculated using the confidence interval of the difference between the two proportions.

Note: The thin vertical lines superimposed over the top end of each bar are 95% confidence intervals.

Source: ABS 2016.

One in 6 DVA payment recipients aged 55 and over are carers

Informal carers provide care outside the formal care sector to people who need help or support due to disability, health conditions or ageing (AIHW 2017b). Data from the ABS 2015 Survey of Disability, Ageing and Carers estimate that 17% of DVA payment recipients aged 55 and over are informal carers (ABS 2017c). This proportion is similar to the proportion of informal carers among people who do not receive payments from DVA (19%).

In the 2006 Survey of Veterans, War Widows and their Carers, 8% of DVA Gold and White Card holders reported that they cared for someone else at the time of the survey (DVA 2008). Of this group, 36% spent more than 4 hours providing care each day, and 27% spent over 8 hours each day.

Social support: what is missing?

Currently, the information on social support is fragmented across segments of the veteran population. Taking a whole-of-population approach to understanding social support for veterans would provide a more robust evidence base for policy and program decisions. Key gaps in the social support domain include:

- how certain aspects of ADF service (such as length of service or type of deployment) affect access to social support
- how social support needs and outcomes change across a veteran's life
- the prevalence of, and risk factors for, social isolation among veterans
- what mainstream social support services are being used by veterans and whether these services are meeting their needs.

Education and skills

ADF personnel undertake a range of training and development activities during their career to support their service, and may choose to pursue professional, trade or tertiary qualifications. The transition to civilian life also provides an opportunity for veterans to develop new skills, through tertiary or vocational education.

In the general population, completing school and higher education (particularly tertiary level qualifications) is associated with better overall health and welfare outcomes. A study of former ADF peacekeepers found that higher educational attainment was also associated with fewer reported medical conditions, better mental and physical health and better quality of life (Hawthorne et al. 2014).

One in 5 transitioned ADF members have a university degree

According to self-reported data collected by the Mental Health and Wellbeing Transition Study in 2015, 20% of ADF personnel who discharged between 2010 and 2014 had a university degree (Van Hooff et al. 2018). A further 29% reported their highest educational qualification was a certificate, and 21% a diploma. In addition, 7% of transitioned members were studying full time at the time of the survey.

According to the ABS 2014 General Social Survey, 10% of DVA payment recipients (veterans and dependants) aged 55 and over have completed a Bachelor Degree, Postgraduate Degree, Graduate Diploma or Graduate Certificate (ABS 2017d). Further, 70% did not have non-school qualifications. These results are in part explained by age, as older Australians generally have lower tertiary educational attainment (ABS 2017a).

Education and skills: what is missing?

Although education is acknowledged as an important part of life during and after ADF service, there is limited information available for reporting. In particular, the key information gaps include:

- how the skills learned in the ADF translate to the civilian workforce
- the level and type of education undertaken by veterans before, during and after their service
- the enablers of or barriers to education attainment
- what mainstream education support services veterans access and whether these services meet their needs
- the impact of education on other areas of a veteran's health and welfare.

Employment

Many personnel will aim to enter the civilian workforce after leaving the ADF (Van Hooff et al. 2018). However, for veterans managing symptoms of poor mental health, returning to work can be challenging as symptoms may affect their ability to maintain employment (Harrod et al. 2017). Military service has been found to have a negative effect on employment for Australian World War II and Vietnam War veterans (Cousley et al. 2017; Siminski 2013). As well, research into former ADF peacekeepers has found strong associations between employment status and several mental health conditions, including PTSD, generalised anxiety disorder, depression, alcohol abuse and alcohol dependency, though the authors note that employment is likely to be a result of, not caused by, a person's mental health state (Hawthorne et al. 2014).

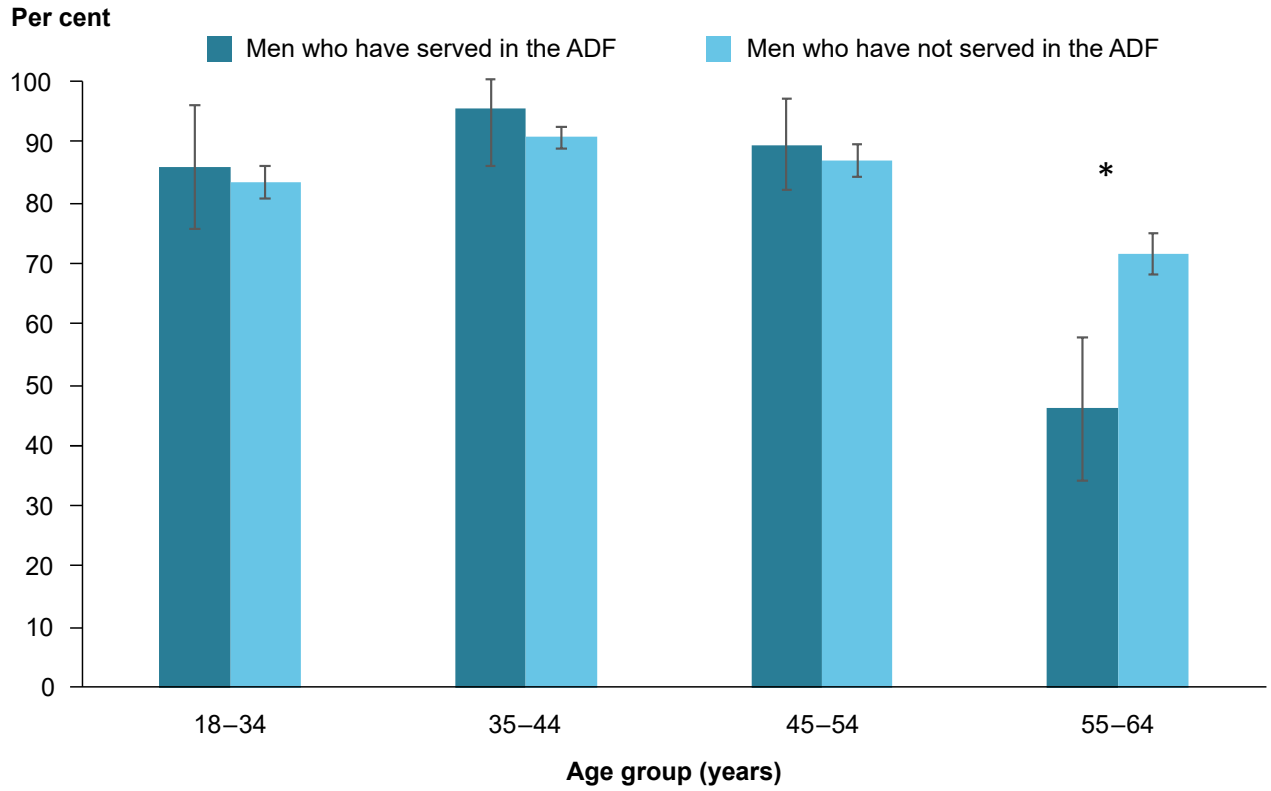
For these reasons, employment following separation from the ADF has been identified as an issue of particular importance among the veteran community (DVA 2015).

Only 3% of working-age people who have served in the ADF are unemployed

According to the ABS 2014–15 National Health Survey, nearly two-thirds (62%) of working age people (aged 18–64) who have served in the ADF were employed and working full time, with a further 13% working part time (ABS 2016). About 3% were unemployed and 21% were not in the labour force, which includes people who are retired, no longer working, do not intend to work in the future, are permanently unable to work, or have never worked and never intend to work (not applicable to ADF personnel).

Employment rates were similar between men of the same age who have and have not served, except for those aged 55–64 (Figure 3.3). In this age group, the proportion of employed men was lower for those who have served (46% compared with 72%). This difference is likely to be related to part of this age group having retired, as most ADF personnel are eligible to retire before the general population pension ages of 65–67. Among men aged 55–64, 49% of those who have served were not in the labour force, compared with 24% of those who have not served.

Figure 3.3: Proportion of men who are employed, by ADF service status and age group, 2014–15



* A statistically significant difference between men who have served in the ADF and men who have not served in the ADF, calculated using the confidence interval of the difference between the two proportions.

Notes

1. 'Employed' includes people who had a job or a business, or who undertook work without pay in a family business for a minimum of 1 hour per week, including those who were absent from a job or business.
2. The thin vertical lines superimposed over the top end of each bar are 95% confidence intervals.
3. The upper confidence interval for those aged 35-44 exceeded the range of possible values and has been truncated at 100%.

Source: ABS 2016.

About 84% of recently transitioned ADF personnel are working or engaged in a purposeful activity

The Mental Health and Wellbeing Transition Study estimated that 84% of ADF personnel who discharged between 2010 and 2014 were working or engaged in a purposeful activity in 2015 (Van Hooff et al. 2018). This comprised full- or part-time paid work (68%), unpaid work (3%), study (7%) and retirement (6%), and includes the 26% of transitioned personnel who were employed in the Active Reserves. A further 5% were unemployed and looking for work and 9% were unemployed and unable to work (receiving sickness allowance or disability support pension). However, 44% of recently transitioned personnel have experienced a period of unemployment of 3 months or more since leaving the ADF.

Employment: what is missing?

While some information is available on the employment status of veterans, more information is needed to build a robust evidence base. The key gaps in the veteran domain include:

- the level of employment, unemployment and underemployment across the veteran population
- how many veterans use targeted or mainstream employment services and the outcomes of these services
- patterns of unemployment and underemployment across the veteran population, and which veterans are most at risk
- the nature and quality of veterans' work and working conditions in civilian employment
- level of satisfaction with civilian employment
- pathways through employment following service
- the enablers of and barriers to veterans accessing or sustaining employment.

Income and finance

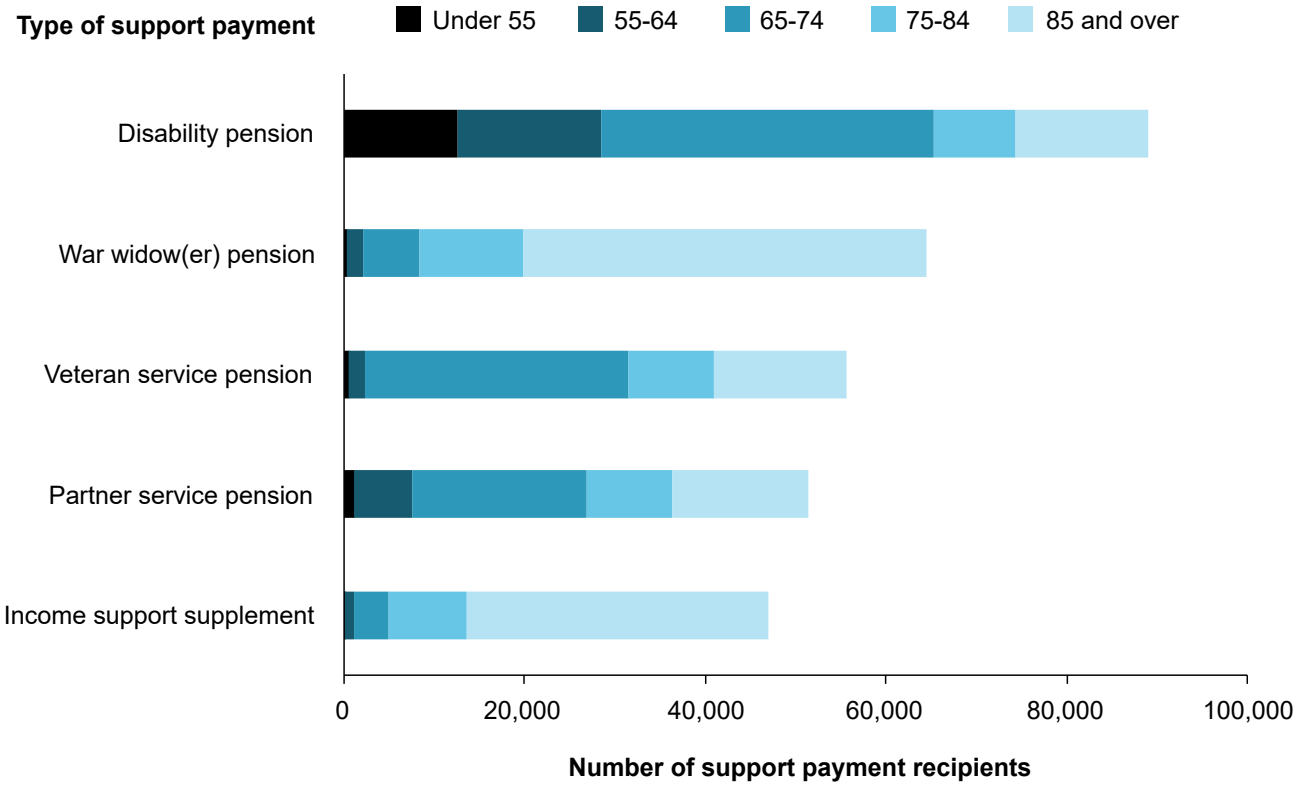
A higher income allows for greater access to goods and services that support good health and wellbeing, such as better food and housing, additional health care options, and greater choice in healthy pursuits (AIHW 2016a). Among former ADF peacekeepers, a significant relationship was found between lower income levels and diagnoses of PTSD and depression and, to a lesser extent, alcohol use disorders (Hawthorne et al. 2014). Hawthorne and others (2014) suggested that lower income was more likely to be a result of poor mental health, rather than a cause.

About 176,000 veterans and dependants receive financial support payments from DVA

DVA provides a range of pensions and allowances to ex-serving members of the ADF and their families, with varying eligibility requirements and means testing for payment types (DVA 2017b). These payments are predominately provided for wartime military service or as compensation payments for injury and disability, supporting the financial wellbeing of veterans and their families. A number of smaller allowances and one-off payments are also provided by DVA.

DVA paid $6.4 billion in compensation and income support payments to 176,000 recipients in 2016–17 (DVA 2017a). As at 30 June 2017, the most common payment was the service pension, paid to 55,600 veterans and 51,300 partners of veterans (DVA 2017e). Another common payment was the disability pension, paid to almost 89,000 veterans. The majority of those receiving service or disability pensions were aged 65–74, whereas most of those receiving the war widow(er)s pension or income support supplement (an additional payment for eligible war widow(er) pension recipients) were aged 85 and over (Figure 3.4).

Figure 3.4: DVA support payment recipients, June 2017



Note: Recipients may be eligible to receive more than one payment.

Source: DVA 2017e.

Wages or salaries are the main source of income for two-thirds of recently transitioned ADF members

According to the Mental Health and Wellbeing Transition Study, a wage, a salary, or their own business or partnership was the main source of income for 64% of recently transitioned ADF personnel in 2015 (Van Hooff et al. 2018). Pensions, compensation, benefits or other allowances were the main source for about 19% of transitioned ADF members.

Around 73% of DVA payment recipients (veterans and dependants) aged 55 and over reported government pensions or allowances (including from DVA, Centrelink and/or the Family Assistance Office) as their main source of income, according to the ABS 2014 General Social Survey (ABS 2017d). Other income sources —including dividends and interest, superannuation and annuity or allocated pensions—were the next most common sources (11%). This result may be attributed to the nature of the DVA cohort in these data, who are all receiving financial support from the DVA. The age of the DVA cohort is also a factor, as this group has surpassed the 'working age', with the majority aged over 65 and therefore likely to be eligible for the age pension and other allowances, or moving into retirement and accessing superannuation (AIHW 2017b).

Income and finance: what is missing?

Outside of veterans who receive income support payments from DVA, there is limited information on veterans' income and the impact of finances on health and welfare. Key data gaps in the income and finance domain include:

- the prevalence of, and reasons for, financial stress during and after service
- the nature and impact of changes in financial situation after discharge
- how many veterans access targeted and mainstream financial support services
- characteristics of low-income veterans, and veterans most at risk of financial stress
- the prevalence and impact of gambling among veterans
- how veterans approach superannuation and retirement.

Justice and safety

The relationship between crime, personal safety and social wellbeing is complex (ABS 2012). A person's health and wellbeing can be strongly affected by their fear of crime, or their direct experience (ABS 2001). People who engage in criminal activity may also experience negative effects on their health and welfare. Australian prisoners have been found to experience higher levels of mental health disorders, illicit drug use, chronic conditions, communicable disease, and disability than the general community (AIHW 2018a).

Small proportion of ADF personnel were arrested, convicted or imprisoned after leaving the ADF

According to self-reported data from the Transition and Wellbeing Study in 2015, 3% of recently transitioned ADF personnel had been arrested since leaving the ADF (Van Hooff et al. 2018). A further 2% had been convicted. The study captured ex-serving personnel who have left the permanent ADF between 1 and 4 years before the study.

Female DVA clients opting to not walk alone after dark

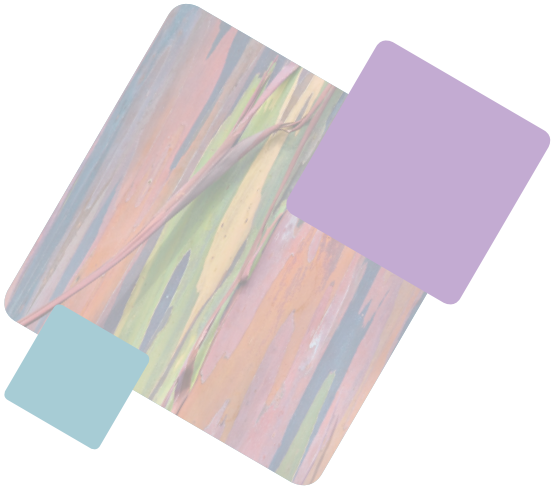
Results from the ABS 2014 General Social Survey estimate that just over three-quarters (77%) of female and one-quarter (25%) of male DVA payment recipients (veterans and dependants) aged 55 and over never walk alone after dark (ABS 2017d). In contrast, the majority (87%) of female DVA payment recipients felt safe or very safe within the home when alone after dark.

In the 12 months before the survey, around 7% of all DVA payment recipients (aged 55 and over) reported being a victim of a crime, and 9% reported experiencing discrimination or being treated unfairly (ABS 2017d).

Justice and safety: what is missing?

Little is known about how many veterans face justice- and safety-related issues, and the impact of such issues on their health and welfare. Key information gaps include:

- interactions with the criminal justice system for ex-serving personnel, including incarceration
- violence in the veteran community, and characteristics of veterans who are most at risk of becoming perpetrators or victims
- how feelings of safety, or experiences with the justice system, affect the health and welfare of veterans.



How healthy are veterans?

4

Health status is a broad concept that encompasses measures of functioning, physical illness and mental wellbeing. Understanding the health of veterans is important for identifying the needs of the population to design and direct interventions and services. Monitoring the health of veterans over time allows us to understand whether their health is getting better or worse, and helps in assessing the effectiveness of these interventions and services. It also enables emerging health concerns and risk factors to be identified. For example, the transition from military to civilian life is recognised as a time of stress, anxiety, vulnerability and uncertainty for some people, and has been raised as a risk factor for poor outcomes among ex-serving personnel (DVA 2013; Van Hooff 2018).

Two main effects have been observed in previous research comparing the health of veterans and the general population; these effects have opposing impacts on the health of veterans.

- The first is the 'healthy worker effect'—the observed phenomenon that workers are generally healthier than the general population (Sim et al. 2003). This effect is even greater in military populations, due to health screening on entry and the need to maintain fitness while serving, and is known as the 'healthy soldier effect' (see Box 4.1).
- The second is that military service presents unique occupational stressors, including increased risk of exposure to traumatic events, particularly for personnel who are deployed (Senate Foreign Affairs Defence and Trade References Committee 2016). Military service has been found to be associated with both short- and long-term physical and mental health conditions for certain cohorts (ABS 2016, Clarke et al. 2015).

So, whether veterans are healthier than the general population will depend on the interaction between these two effects, as well as on other factors that affect general health and wellbeing, such as age, sex and health behaviours.

This chapter presents several elements that measure the health status of the veteran population, covering mortality, self-assessed health status and health conditions. Information is also presented on disability, which has a complex relationship with health—long-term health conditions may cause disability, and disability may contribute to health problems.

Data used in this chapter	
Data source	**Veteran population**
ABS National Health Survey (2014–15)	People who have ever served in the ADF
ABS Survey of Disability, Ageing and Carers (2015)	People who receive a DVA payment or benefit
ABS Survey of Mental Health and Wellbeing (2007)	People who have ever served in the ADF
ADF Mental Health Prevalence and Wellbeing Study (2010)	All regular ADF personnel who were serving in 2010
Australian National Service Vietnam Veterans Mortality and Cancer Incidence Study (1966–2001)	Male army personnel who served in the Vietnam War between 1966 and July 1973, who were deceased at 31 December 2001
Cancer incidence study 2003: Australian veterans of the Korean War (1982–1999)	Australian male veterans on the Korean War Nominal Roll
Causes of death among serving and ex-serving ADF personnel (2002–2015)	ADF personnel who served from 2001–2016
Fourth study of mortality and cancer incidence in aircraft maintenance personnel: a continuing study of F-111 Deseal/Reseal (DSRS) personnel 2016 (1999–2012)	ADF personnel who were involved in the formal DSRS programs or F-111 aircraft maintenance work
Health Study 2005: Australian Veterans of the Korean War (2004)	Australian male veterans on the Korean War Nominal Roll
Middle East Area of Operations (MEAO) Mortality and Cancer Incidence Study (2000–2011)	ADF members deployed to the MEAO between 2000 and 2012
Morbidity of Vietnam veterans: A study of the health of Australia's Vietnam veteran community (1972–1997)	Sample of male veterans the Nominal Roll of Vietnam Veterans, who were alive in 1998
Mortality study 2003: Australian veterans of the Korean War (1950–2000)	Korean War veterans who were deceased at December 2000
National suicide monitoring of serving and ex-serving ADF personnel: 2018 update (2016)	ADF personnel who served from 2001–2016
Transition and Wellbeing Research Programme: Mental Health and Wellbeing Transition Study (2015) • Mental Health Prevalence report	ADF members who transitioned out of full-time regular service between 2010 and 2014

Note: Year of data collection for each source is indicated after the name; for example (2015). In some cases, this differs from the year data were published, which is included in the source name.

Factors to consider when reading this chapter

- Data may be collected for a different purpose, not specifically for veterans or health and welfare research.
- In many data sources, veterans are a small population, meaning that there may be increased variability in the results over time.
- Data on DVA card holders and payment recipients cover both eligible veterans and dependants.
- Where comparisons are made, differences between veterans and the general population may not be statistically significant, meaning that the difference may be due to chance.
- Data from ABS surveys are based on self-reported veteran status, and all numbers are estimates that have been weighted to the Australian population.

A note on comparisons

Comparisons between veterans and the general population are made using both crude and age-specific rates, where suitable data were available. When comparing crude rates, any observed differences are due to all factors, including differences in the age and sex profile of each population. Age-specific rates reduce the effect of age by comparing rates of people of the same age in each group. As health status is often influenced by age and sex, comparisons are made for men between specific age groups or where data have been adjusted for age. In many cases, comparisons were not able to be made for women due to small numbers.

Box 4.1: Healthy soldier effect

The healthy soldier effect is the observed phenomenon that military populations are healthier than the general population. This builds upon the healthy worker effect, whereby people who are currently employed are generally healthier than then general population, usually due to lower participation in employment among people with serious illness, injury or disability.

The healthy soldier effect is generally thought to be the product of several factors. The first is the selection bias for enlistment. When people apply to enlist in the military, they are subject to extensive medical and psychological screening (Wilson et al. 2005c). People with life-shortening illnesses or behavioural disorders are excluded, which raises the average health status of the military compared with that for the general population. Further, if a person develops a medical condition while serving in the military and becomes medically unfit they can be discharged involuntarily (Dunt 2009). Again, this can raise the average health of the serving military population, compared with both the general population and the ex-serving population.

Beyond this selection effect, ongoing military service itself can potentially act as a protective health factor. People serving in the military are required to maintain a high level of physical fitness and good physical and psychological health (Wilson et al. 2005b). They also have access to funded medical services for the duration of their service (Department of Defence 2018b). The selection effect and these ongoing protective factors can result in military populations having a substantially raised health status compared with that of the general population.

The presence of the healthy soldier effect over time has been found to vary substantially between different causes of death and different cohorts of the veteran population (Waller & McGuire 2011).

Mortality

Mortality data provide an important insight into population health by identifying the conditions and associated determinants that cause or contribute to death. This information can also measure the success of interventions to improve disease outcomes, signal changes in community health status and disease processes and highlight inequalities in health status between populations.

Leading causes of death by age are similar between serving, reserve and ex-serving men and Australian men

The report *Causes of death among serving and ex-serving ADF personnel: 2002–2015* (AIHW 2018b) found that the pattern of leading causes of death by age group for serving, reserve and ex-serving ADF men is similar to that found for Australian men. That is, younger men are generally more likely to die due to injury, whereas older men are more likely to die of coronary heart disease and other chronic diseases.

The study analysed 1,790 deaths that occurred between 2002 and 2015 among men and 149 deaths of women with at least 1 day of ADF service since 2001. Among men, 52% (929) were ex-serving, 26% (468) were in the reserves and 22% (393) were serving full time in the ADF at the time of their death. Overseas deaths, including deaths that occur on operational deployments, are generally outside the scope of Australian death statistics, and are therefore largely not captured in these results.

The leading causes of death for all Australian men and serving, reserve and ex-serving ADF men, by age group, were:

- 16–29 years: suicide and land transport accidents, followed by other injury-related causes, including accidental poisoning
- 30–49 years: suicide, followed by a combination of other injury-related causes and chronic diseases, including land transport accidents and coronary heart disease
- 50 and over: coronary heart disease, followed by other chronic diseases.

While the leading causes of death were similar, in 2002–2015, after adjusting for differences in age structure, the rate of death due to all causes was lower for men in the three ADF service status groups, when compared with Australian men of the same age (Table 4.1).

Lower rates of death due to coronary heart disease and lung cancer among serving, reserve and ex-serving men compared with Australian men were a key contributing factor to the lower all-cause death rate in these personnel. Rates of death due to melanoma were similar for men in the three ADF services status groups, when compared with Australian men.

In 2002–2015, after adjusting for age and compared with all Australian men, rates of death due to land transport accidents were similar for serving men, and lower for reserve and ex-serving men. Rates of death due to accidental poisoning were lower for men in the three ADF service status groups, compared with age-matched Australian men. Updated rates of suicide death in serving, reserve and ex-serving ADF personnel are reported below.

Table 4.1: Rates of death among men in the three ADF service status groups, compared with age-matched Australian men, 2002–2015

Cause of death	Serving	Reserve	Ex-serving
All causes	53% lower	67% lower	55% lower
Land transport accidents	Similar	41% lower	25% lower
Accidental poisoning	78% lower	87% lower	31% lower
Coronary heart disease	60% lower	75% lower	67% lower
Lung cancer	80% lower	80% lower	66% lower
Melanoma	Similar	Similar	Similar

Note: Differences are statistically significant.

Source: AIHW 2018b.

Ex-serving men have higher suicide rates than the Australian population

Between 2001 and 2016, there were 373 suicide deaths among people with at least 1 day of ADF service since 2001, according to the report *National suicide monitoring of serving and ex-serving ADF personnel: 2018 update* (AIHW 2018h). Of these, 53% (198) were ex-serving at the time of their death, and 47% (175) were serving full time or in the reserves. Compared with Australian men of the same age, the age-adjusted rate of suicide for the 2002–2016 period was 51% lower for serving men and 47% lower for men in the reserves. The report found suicide rates for men serving full time and in the reserves were consistently lower than those for men in the Australian population, after adjusting for age, from 2007–2009 to 2014–2016.

For ex-serving personnel, the age-adjusted rate of suicide was 18% higher than that for men in the Australian population over the 2002–2016 study period, and was consistently higher than that for men in the Australian population from 2007–2009 to 2014–2016. Ex-serving men under 30 were at particular risk of suicide. In 2014–2016, ex-serving men aged under 30 had a suicide rate that was 2.2 times as high as that for Australian men of the same age.

More than 1 in 5 recently transitioned ADF members report suicidal ideation, plans or attempts

In the 2015 Mental Health and Wellbeing Transition Study, more than 1 in 5 (22%) recently transitioned ADF members are estimated to have experienced some form of suicidal ideation, plans or attempts in the last 12 months (Van Hooff et al. 2014). More than one-quarter (29%) felt that their life was not worth living and 1 in 5 (21%) felt so low that they had thought about death by suicide. A small proportion (8%) had made a suicide plan and 2% had attempted suicide.

Veterans generally have lower all-cause mortality than the Australian population

A commonly used metric in examining the overall health of a population is the all-cause mortality rate, which can be used to understand whether the population of interest has a higher or lower risk of death from any cause during a specified period than the Australian population. Many studies have found that Australian veterans have a reduced all-cause mortality rate than that for the general Australian population, suggesting the presence of the healthy soldier effect (Table 4.2). However, a study of Korean War veterans found the mortality rate of this group was 21% higher than that for the Australian population (Harrex et al. 2003). The characteristics of the cohort, their service experience, and their exposure to risk factors all contribute to the all-cause mortality rate, and may explain the differences between veteran cohorts. For the Korean War veterans, researchers suggested that the higher mortality rate may have been related to increased exposures among this cohort, such as environmental exposures and tobacco and alcohol consumption (Harrex et al. 2003).

Measuring mortality at different points in time will result in different mortality rates for a population. For example, a study of Vietnam War Army veterans found that all-cause mortality was lower than that for the Australian population in the 20 years after the end of the war, but then increased after this point to a similar or higher rate (Wilson et al. 2005b). This highlights the difficulty in comparing studies with different follow-up periods.

Within a cohort, mortality also varies substantially by cause of death. This is supported by evidence from international military populations, including a study of United States Army World War II veterans (Seltzer & Jablon 1974). This study suggested that certain causes of death may be easier to screen out through enlistment processes than others, and so this selection process will affect the mortality rate of some causes of death more than others.

Table 4.2: Mortality of selected veteran cohorts

Study name	Cohort characteristics	Follow-up period	All-cause mortality rate compared with Australian population	Elevated causes of death (compared with Australian population)	Reduced causes of death (compared with Australian population)
Mortality study 2003: Australian veterans of the Korean War	Male Korean war veterans (ex-serving), aged 68–83	44-50 years after the end of the Korean War	21% higher mortality rate than that for the Australian population	13% higher mortality rate for diseases of the circulatory system (17% higher for strokes specifically), 31% higher rate for cancer, 35% higher rate for all digestive diseases, 32% higher for respiratory diseases, 37% higher for external causes (31% higher for suicides)	74% lower mortality for diseases of the skin, 64% lower mortality for congenital malformations
Australian Vietnam Veterans Mortality Study	Male ADF personnel who served in Vietnam between 23 May 1962 and 1 July 1973	Up to 35 years after the end of their Vietnam War service	6% lower mortality rate than that for the Australian population in the 20 years after war (after this time, the rate was similar to that of the Australian population)	Cancer, including lung cancer and cancers of the head and neck region Diseases of the liver, including alcoholic liver disease	Circulatory diseases Respiratory diseases (for first 20 years after war only) Infectious diseases
Australian National Service Vietnam Veterans Mortality and Cancer Incidence Study	Male Vietnam War veterans (ex-serving) National Servicemen posted to Vietnam, aged 51–56	Up to 35 years after the end of their Vietnam War service	19% lower mortality than that for the Australian population	No statistically significant differences	Diseases of the endocrine, nervous, circulatory and respiratory systems and selected external causes
Middle East Area of Operations (MEAO) Mortality and Cancer Incidence Study	Male ADF personnel deployed to the MEAO between 20 February 2000 and 25 January 2012, aged 17 and over (mean age 30.9 at start of follow-up)	4–5 years following end of MEAO service	48% lower mortality rate than that for the Australian population	No statistically significant differences	57% lower mortality rate for cancer overall, 66% lower mortality rate for diseases of the circulatory system, 46% lower for external causes (60% lower for suicide, 19% lower for transport accidents)

Note: Comparisons with the Australian population have been adjusted for age.

Sources: Harrex et al. 2003; Waller et al. 2013; Wilson et al. 2005a, 2005b.

Many studies have tried to control for the healthy soldier effect by comparing ADF personnel deployed to a particular conflict or region with other non-deployed personnel. Both groups are subject to the same enlistment screening processes and fitness requirements, meaning that any differences are more likely to be attributable to differences in their service experience. For example, National Servicemen recruited during the Vietnam War but not deployed to Vietnam were found to have lower overall mortality than those who were deployed (Wilson et al. 2005a).

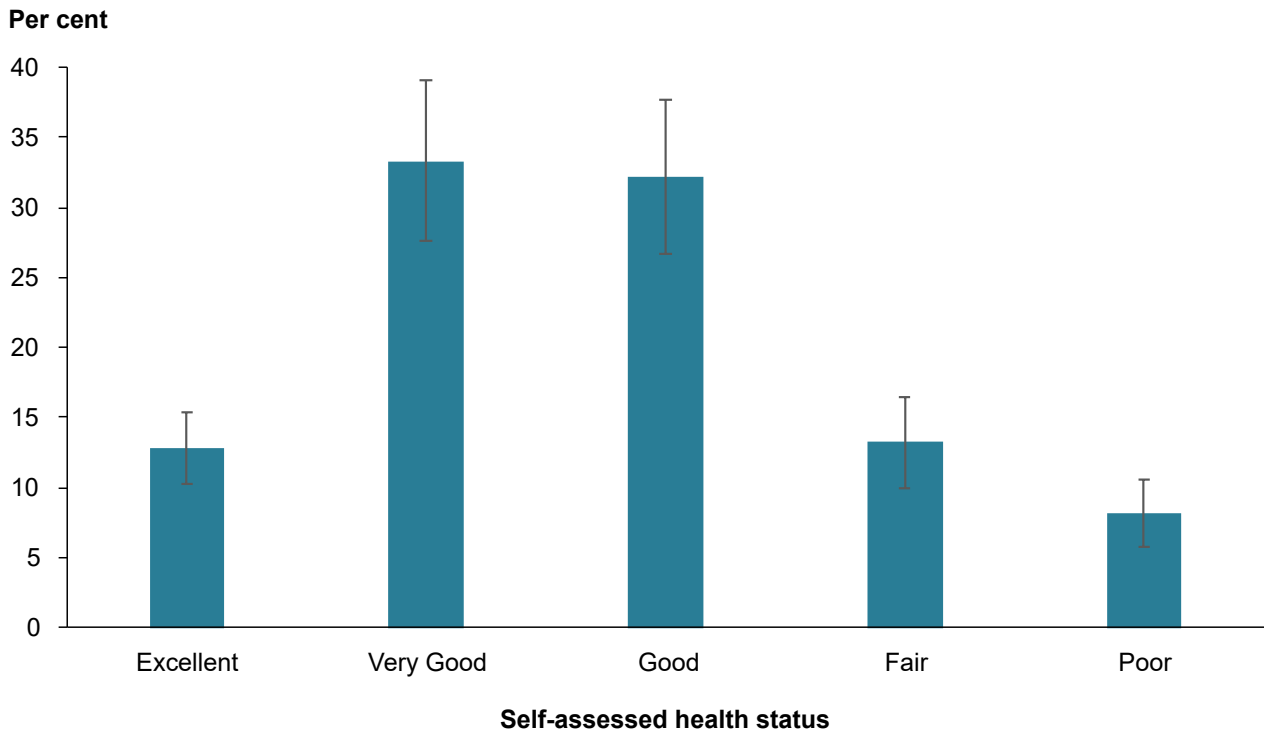
Self-assessed health status

Self-assessed health status is an effective way to measure a person's perception of his or her own health at a given point in time (ABS 2013b). As a self-reported measure, it captures the combined effects of physical, social, emotional and mental health and wellbeing.

Majority of people who have served in the ADF rate their health as good or better

According to the ABS 2014–15 National Health Survey, around 1 in 3 (33%) people who have served in the ADF considered their health as 'very good', around 13% as 'excellent', and 8% perceived their health as 'poor' (Figure 4.1). The perception of excellent health decreased with age, with 16% of those aged 18–34 rating their health as 'excellent' compared with 8% of those aged 75 and over (ABS 2016).

Figure 4.1: Self-assessed health status of people who have served in the ADF, 2014–15



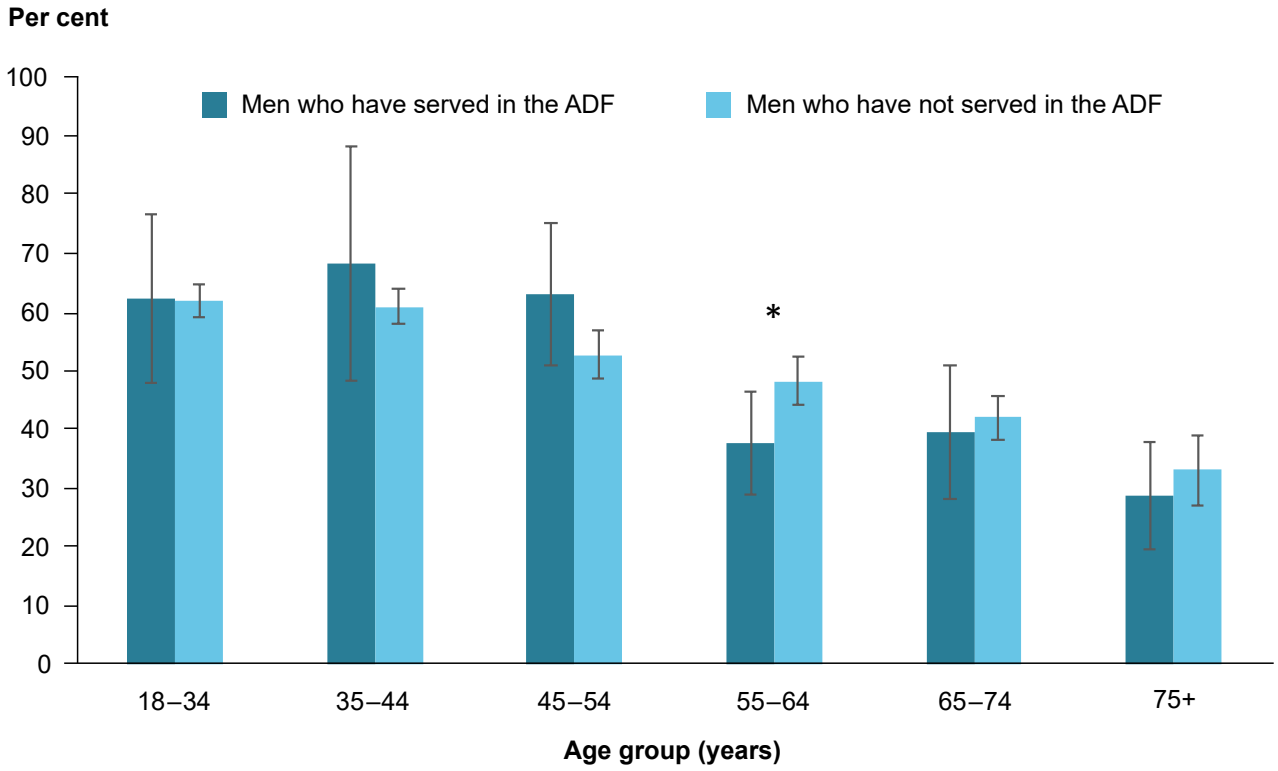
Note: The thin vertical lines superimposed over the top end of each bar are 95% confidence intervals.

Source: ABS 2016.

The proportion of men with 'excellent' or 'very good' self-assessed health status was greatest among the younger age groups for both those who have, and have not, served in the ADF (Figure 4.2). Men aged 55–64 who have served were statistically significantly less likely than men of the same age who have not served to assess their health as 'excellent' or 'very good'. Rates for the other age groups were generally similar between men who have and have not served.

Positive self-assessed health status was also found to decrease with age for former ADF peacekeepers (Hawthorne et al. 2014). Former peacekeepers aged 20–39 were more likely to rate their health as 'excellent', while those aged 50–59 were more likely than the other age groups to perceive that their health was 'fair'.

Figure 4.2: Proportion of men with 'excellent' or 'very good' self-assessed health status, by ADF service status and age group, 2014–15



* A statistically significant difference between men who have served in the ADF and men who have not served in the ADF, calculated using the confidence interval of the difference between the two proportions.

Note: The thin vertical lines superimposed over the top end of each bar are 95% confidence intervals.

Source: ABS 2016.

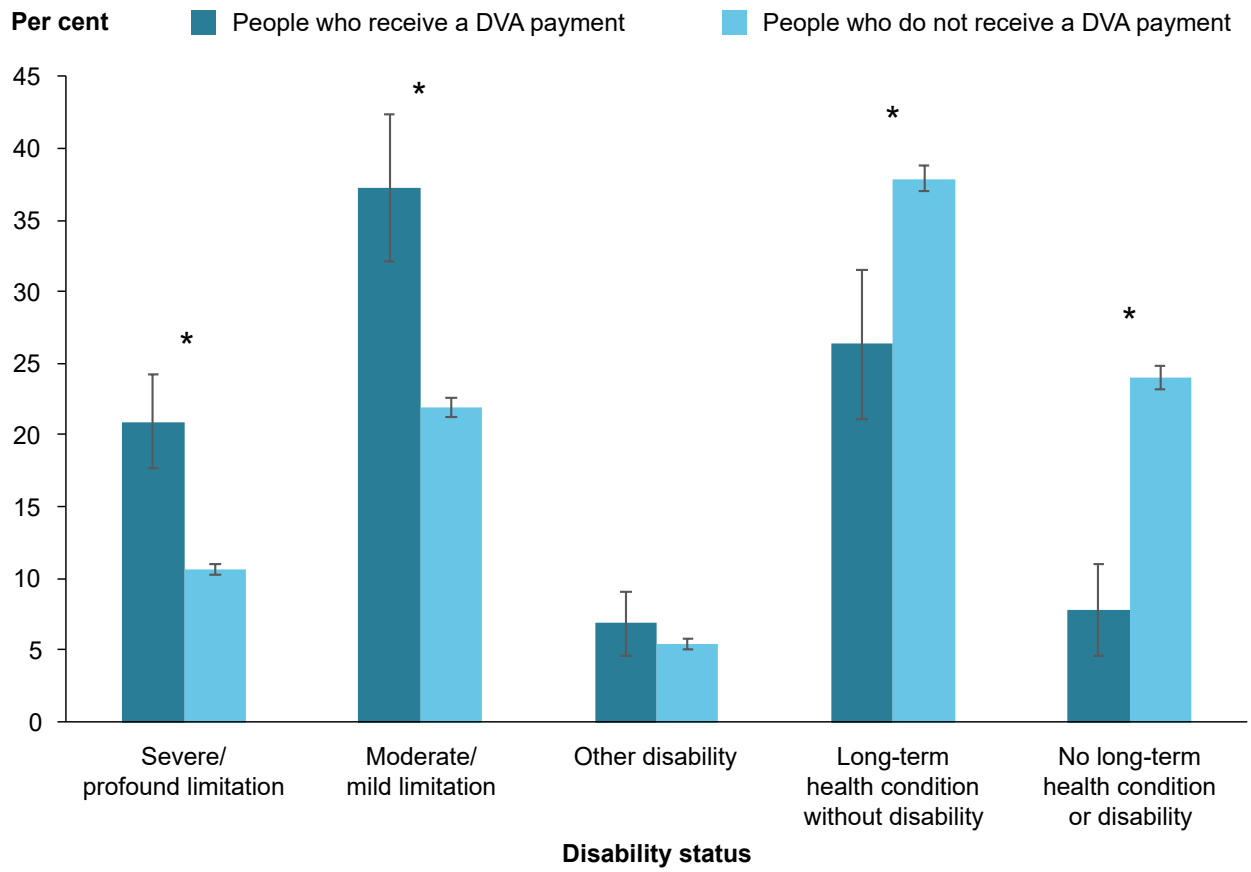
Disability

People with disability generally have lower rates of labour force participation and employment, higher rates of unemployment, lower levels of income and lower levels of educational attainment than people without disability (AIHW 2017c).

Around two-thirds of DVA payment recipients aged 55 and over have disability

According to the ABS 2015 Survey of Disability, Ageing and Carers, around two-thirds (65%) of DVA payment recipients (veterans and dependants) aged 55 and over reported living with disability (ABS 2017c). The severity of disability can be further defined by the degree of assistance or supervision required for core activities, which are self-care, mobility and communication (ABS 2015a).
DVA payment recipients were more likely to have a severe/profound or a moderate/mild core activity limitation than people who do not receive a DVA payment (Figure 4.3).

Figure 4.3: Disability status by DVA payment recipient status, people aged 55 and over, 2015



* A statistically significant difference between people who have served in the ADF and people who have not served in the ADF, calculated using the confidence interval of the difference between the two proportions.

Note: The thin vertical lines superimposed over the top end of each bar are 95% confidence intervals.

Source: ABS 2017c.

Health conditions

A wide range of conditions affect an individual's physical and/or mental health. For the Australian population, cancer, cardiovascular disease, mental health conditions and musculoskeletal conditions have the greatest impact on health (AIHW 2018a). These conditions also affect the veteran population to varying degrees. In particular, the prevalence of mental health conditions, including depression, PTSD and alcohol dependence disorder, has been identified as an issue of concern for veterans (DVA 2015).

The terms 'mental illness', 'mental disorder' and 'mental health condition' are often used interchangeably to describe a wide range of mental health and behavioural disorders, which vary in duration and/or severity (AIHW 2018a). Some of the most common mental health conditions are anxiety disorders (such as social phobias and PTSD), affective disorders (such as depression) and substance use disorders (such as alcohol dependence). Mental health conditions are presented in this report as they were described in the data source.

Men of certain ages who have served in the ADF have higher rates of arthritis and circulatory system diseases than the Australian population

According to the ABS 2014–15 National Health Survey, men who have served in the ADF generally had a similar prevalence of six selected chronic conditions—arthritis, back pain and problems, cancer, chronic obstructive pulmonary disease, diseases of the circulatory system and diabetes mellitus—to men in the same age group who have not served (ABS 2016). However, a small number of statistically significant differences were found:

- arthritis was 61% higher in men aged 55–64 who have served
- diseases of the circulatory system were 21% higher in men aged 75 and over who have served
- the prevalence of back pain and problems among men aged 35–44 who have served was half that of men who have not served—9% and 18%, respectively.

Half of people who have served in the ADF have experienced a mental disorder in their lifetime

The ABS 2007 National Survey of Mental Health and Wellbeing (NSMHWB) is the most current source of national prevalence estimates for anxiety disorders, affective disorders and substance use disorders. Prevalence was estimated using the World Health Organization's (WHO's) Composite International Diagnostic Interview, a widely used diagnostic tool in psychiatric epidemiology (ABS 2008; McFarlane et al. 2011). The survey estimated that 51% of people aged 18 and over who have served in the ADF had experienced an anxiety disorder, affective disorder or substance use disorder in their lifetime (ABS 2017f).

Analysis by McGuire and others (2015) compared NSMHWB results for men who have, and have not, served in the ADF, adjusting for age, education, marital status, employment and self-rated physical health. Men who served in the ADF were significantly more likely (1.5 times as likely) to meet the criteria for a diagnosable lifetime mental disorder (51%) than men in the general population (45%). Compared with other men, men who served were also, in their lifetime:

- 1.8 times as likely to experience PTSD (6% compared with 4%)
- 1.7 times as likely to experience depression (15% compared with 11%)
- 1.4 times as likely experience alcohol use disorder (36% compared with 32%).

Currently serving ADF members are more likely than the Australian population to have experienced a mental disorder in their lifetime

The 2010 ADF Mental Health Prevalence and Wellbeing Study (McFarlane et al. 2011) identified the prevalence rates of the most common mental disorders experienced by the serving ADF population. ADF prevalence rates were compared with an Australian sample (obtained from the ABS 2007 National Survey of Mental Health and Wellbeing), adjusted for age, sex and employment, which allowed a direct comparison between the estimated prevalence of mental disorders in the serving ADF population and the Australian community. Prevalence rates for the ADF population were also collected using the WHO's Composite International Diagnostic Interview.

The study found that around 1 in 5 (22%) serving ADF personnel had experienced a mental disorder in the 12 months before the study (McFarlane et al. 2011). Over half of the ADF personnel (54%) had experienced an anxiety, affective or alcohol disorder at some stage in their lifetime, which was higher than the proportion among the Australian community (49%). Men in the ADF had a significantly higher prevalence of affective disorders (9%) than men who had not served (6%), but a significantly lower prevalence of alcohol disorders (6%) than men who had not served (9%).

Three in 4 recently transitioned ADF personnel have experienced a mental disorder in their lifetime

The 2015 Mental Health and Wellbeing Transition Study also measured the prevalence of mental health disorders among ADF personnel who discharged between 2010 and 2014 (Van Hooff et al. 2018). Prevalence was measured using the WHO's Composite International Diagnostic Interview, and estimated that 75% of recently transitioned personnel had experienced a mental disorder at some stage in their lifetime. The most common classes of lifetime mental disorders were alcohol disorders (48%) and anxiety disorders (46%). In the 12 months before the study, 46% of recently transitioned personnel had experienced a mental disorder. This comprised anxiety disorders (37%), affective disorders (23%) and alcohol disorders (13%).

Compared with current serving ADF members, the study also found consistently higher rates of self-reported mental health symptoms among recently transitioned personnel, including:

- high to very high levels of psychological distress (33% of recently transitioned personnel, compared with 19% of serving members)
- high to very high post-traumatic stress symptoms (24% of recently transitioned personnel, compared with 9% of serving members)
- moderately severe to severe depressive symptoms (20% of recently transitioned personnel, compared with 7% of serving members)
- moderate to severe general anxiety disorder symptoms (22% of recently transitioned personnel, compared with 10% of serving members).

Some veteran cohorts have higher rates of chronic conditions than the Australian population

Several studies have found higher rates of specific chronic conditions among veterans than in the Australian population. Male Vietnam War veterans were found to have a higher incidence of selected cancers (Wilson et al. 2005c), and self-reported higher rates of multiple sclerosis, motor neurone disease, mental health conditions, skin conditions, ischaemic heart disease, high blood pressure, asthma and diabetes than the general Australian population (DVA, cited in AIHW 1999:1). Male Korean War veterans were also found to have a higher incidence of selected cancers (AIHW 2003), and a higher prevalence of mental disorders and medical conditions than the Australian population (Sim et al. 2005). These Korean War veterans were also several times more likely to be diagnosed with PTSD, anxiety or depression.

Increased risk of cancer has been of particular concern among military populations. Male Vietnam War veterans had a significantly higher prevalence of specific cancers, such as melanoma of the skin and prostate cancer, but a lower prevalence of colorectal cancer, lung cancer, soft tissue sarcoma, and testicular cancer than the Australian population (AIHW 1999). A study examining the health of male F-111 aircraft Deseal/Reseal maintenance personnel also revealed a higher incidence of all cancers combined in this cohort, as compared with personnel who were not exposed to Deseal/Reseal maintenance (AIHW 2016b). Although examined only for a short follow-up period (average 3.3 years), MEAO veterans were found to have a similar overall cancer incidence to that for the Australian population (Waller et al. 2013). However, this cohort was also found to have a higher incidence of prostate cancer than the Australian population, and twice the risk of urogenital cancers than ADF personnel who had not deployed to the region.

Male Gulf War veterans were found to be at greater risk of adverse health outcomes than a comparative group of ADF personnel (Sim et al. 2015). In particular, these veterans were more likely to experience PTSD, alcohol disorder, chronic fatigue, irritable bowel syndrome and chronic multi-symptom illness.

A study into the health of former ADF peacekeepers found that around one-third had at least one diagnosable mental health condition (Hawthorne et al. 2014). Over half (55%) reported problems with their back, and more than one-third (34–44%) reported problems with sleep, difficulties with movement, fatigue or depression.

Health status: what is missing?

Health status has been one of the main areas of focus for veterans' research, both in Australia and internationally. However, most research has focused on a cohort of the veteran population, often selected by conflict or deployment. Differences in the scope and collection of this information mean findings cannot be easily compared, making it difficult to understand the health of the whole veteran population. Key gaps that are preventing a comprehensive understanding of veterans' health status include:

- prevalence rates of health conditions for the whole veteran population
- incidence rates of selected conditions, such as cancer, for the whole population
- health status information that can be measured consistently between cohorts and over time to identify patterns and trends
- regularly updated information to identify emerging health issues.

What lifestyle factors influence the health of veterans?

5

A person's health and their capacity to remain healthy can be affected by a wide range of lifestyle factors. These factors can influence a person's health in the short- or long-term and they can be protective or detrimental. For example, regular exercise and a well-balanced diet can be protective, whereas being overweight or obese, smoking tobacco, drinking excessive alcohol and the use of illicit drugs have a detrimental effect on health and are considered risk factors or behaviours. Many risk factors are modifiable, meaning they can be changed to improve a person's health. Protective and risk factors are covered within the health domain of the veteran-centred model.

Data used in this chapter	
Data source	**Veteran population**
ABS National Health Survey (2014–15)	People who have ever served in the ADF
ABS Survey of Mental Health and Wellbeing (2007)	People who have ever served in the ADF
ADF Mental Health Prevalence and Wellbeing Study (2010)	All regular ADF personnel who were serving in 2010
Australian Gulf War Veterans' Health Study (2000–2002)	A sample of veterans listed on the Gulf War Nominal Roll
Australian Gulf War Veterans' Follow Up Health Study (2011–2013)	A sample of veterans listed on the Gulf War Nominal Roll
Australian National Service Vietnam Veterans Mortality and Cancer Incidence Study (1966–2001)	Male National Service personnel who served in the Vietnam between 1966 and July 1973, who were deceased at 31 December 2001
Centre for Military and Veterans' Health Deployment Health Surveillance Program (2007-2008)	ADF members deployed to the Solomon Islands, Bougainville or East Timor
Health Study 2005: Australian veterans of the Korean War (2004)	Australian male veterans on the Korean War Nominal Roll
Middle East Area of Operations (MEAO) Census Study (2011)	ADF members deployed to the MEAO between 2001 and 2009
Mortality study 2003: Australian veterans of the Korean War (1950–2000)	Korean War veterans who were deceased at December 2000
Peacekeepers' health study (2009–2010)	Former ADF peacekeepers
Survey of Veterans, War Widows and their Carers (2006)	DVA clients, SRCA clients
Transition and Wellbeing Research Programme: Mental Health and Wellbeing Transition Study (2015) • Mental Health Prevalence report	ADF members who transitioned out of full-time regular service between 2010 and 2014

Note: Year of data collection for each source is indicated after the name, for example: (2015). In some cases, this differs from the year data were published, which is included in the source name.

Factors to consider when reading this chapter

- Data may be collected for a different purpose, not specifically for veterans or health and welfare research.
- In many sources veterans are a small population, meaning there may be increased variability in the results over time.
- Where comparisons are made, differences between veterans and the general population may not be statistically significant, meaning the difference may be due to chance.
- Data from ABS surveys are based on self-reported veteran status, and all numbers are estimates that have been weighted to the Australian population.

A note on comparisons

Comparisons between veterans and the general population are made in this chapter where data have been sourced from the ABS National Health Survey. As many of the lifestyle factors presented here differ by age and sex, comparisons are made between men in specific age groups. In many cases, comparisons were not able to be made for women due to small numbers.

Smoking

Tobacco smoking is a leading risk factor for chronic disease and death, including many types of cancer, respiratory disease and heart disease. Historically, smoking has been found to be more prevalent among military populations, likely influenced by a pro-smoking culture and the availability of free or low cost cigarettes, particularly during the Korean War and Vietnam War (Brown 2010; Sim et al. 2005; Wilson et al. 2005c). The higher prevalence of smoking among serving personnel compared with that for the general population has been identified as a key health concern for the veteran community (DVA 2015).

Smoking prevalence differs across military populations

Korean and Vietnam War veterans have previously been found to have more current or former smokers than the Australian population (O'Toole et al. 2009; Sim et al. 2005). However, as smoking rates have declined in the general community, some researchers suggest similar changes have occurred in the military population (Barton et al. 2010). Varying smoking patterns have been found across different cohorts of veterans, such as:

- The Australian Korean War Veterans' Health Study found that 4 in 5 (79%) Korean War veterans were current or former smokers in 2004 compared with 3 in 5 (60%) people in the Australian population comparison group (Sim et al. 2005).
- A study of Vietnam veterans in 2005–2006 found 20% were current smokers and 57% were former smokers (O'Toole et al. 2009). The study found more former smokers among the veteran population compared with the age and sex-matched Australian population.

- The Australian Gulf War Veteran's Health Study found similar prevalence of smoking between the veteran and comparison groups, with 56% of veterans identifying as current or former smokers in 2000–2002 (Sim et al. 2003). A follow up study in 2011–2013 found half of current smokers had stopped smoking in this period, showing a greater decline than that found in the age-matched Australian population (Sim et al. 2015).
- In 2010–2011, the MEAO Census Study found smoking was more prevalent among the 18–24 year age group (Dobson et al. 2012). One-third (34%) of men and 29% of women in this age group who had deployed to the MEAO were current smokers, compared with 24% of men and 22% of women of their age in the Australian population.

Changes in smoking behaviour during and after deployment have been observed in some Australian and US military populations (Barton et al. 2010; Smith et al. 2008), and may have contributed to some of these patterns. For example, in the MEAO Census Study, 38% of respondents reported smoking more than usual during deployment, and 17% reporting beginning or re-starting smoking (Dobson et al. 2012).

Similar smoking rates for men who have and have not served in the ADF

The most recent estimates of smoking rates for the whole veteran population are available from the ABS 2014–15 National Health Survey. The survey estimated that 11% of people who indicated they had ever served in the ADF were current smokers, defined as a person who reported at the time of interview that they regularly smoked cigarettes, cigars or pipes (ABS 2017e). A further 46% were ex-smokers. Smoking rates were similar to people of the same age who have not served. However, when comparing results for men, those aged 18–34 who had served were statistically significantly less likely to be a current or former smoker than men of the same age who have not served (ABS 2016).

Alcohol consumption

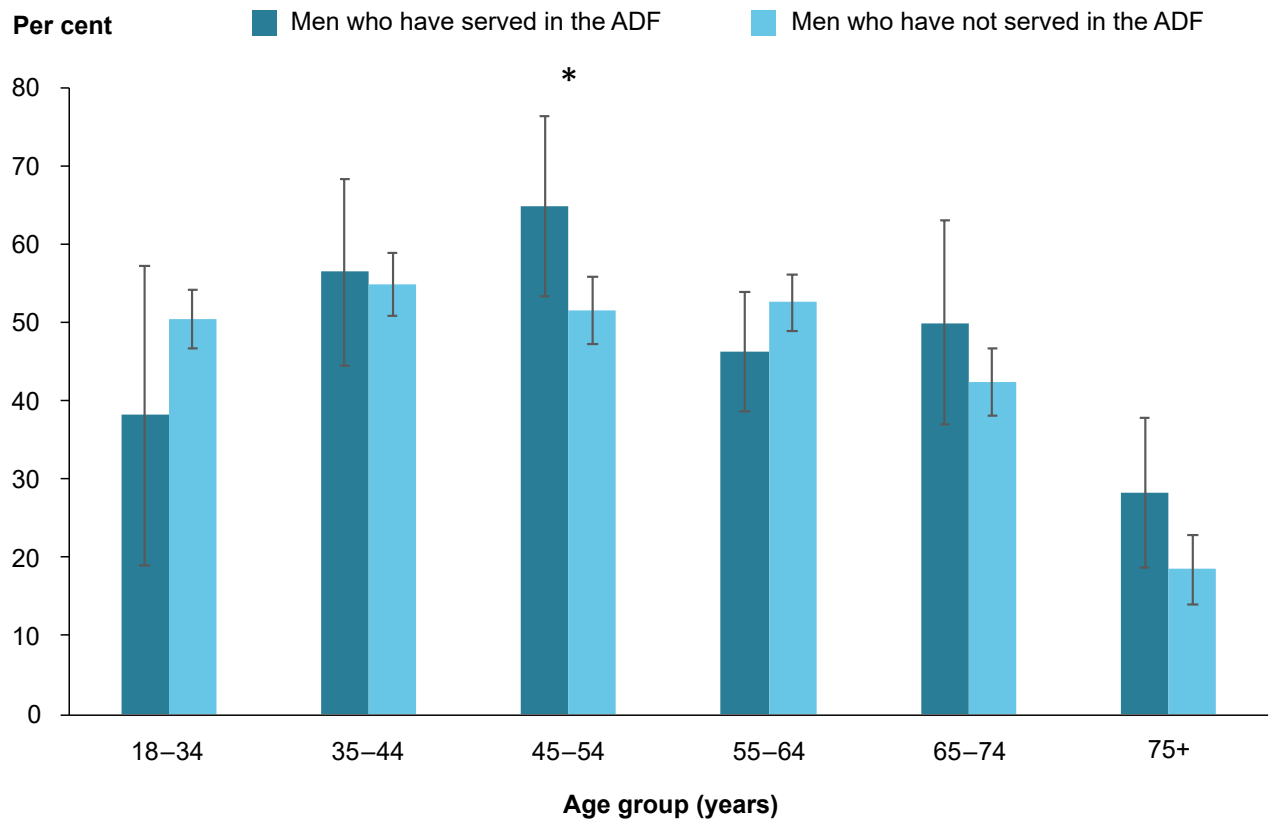
Alcohol consumption is associated with a number of health conditions, including anxiety, depression, PTSD and suicide (Boenisch et al. 2010; Debell et al. 2014; Lai et al. 2015). Given that these conditions may be more prevalent in the veteran population, alcohol consumption is an important risk factor to consider.

Risky alcohol consumption similar for men who have and have not served in the ADF

The National Health and Medical Research Council established guidelines for alcohol consumption to reduce the risks to health from drinking alcohol (NHMRC 2009). For healthy men and women, drinking no more than 2 standard drinks on any day reduces the lifetime risk of harm from alcohol related disease or injury. According to self-reported data from the ABS 2014–15 National Health Survey, about 44% of men who have served in the ADF consumed more than 2 standard drinks per day on average, exceeding the lifetime alcohol risk guidelines (ABS 2017e).

Risky alcohol consumption was generally similar between men who have and have not served. Men aged 45–54 who have served in the ADF were more likely to exceed the guidelines, with 5 in 8 (65%) putting themselves at lifetime risk (Figure 5.1).

Figure 5.1: Age-specific proportion of men who exceeded guidelines for lifetime alcohol risk, by ADF service status, 2014–15



* A statistically significant difference between men who have served in the ADF and men who have not served in the ADF, calculated using the confidence interval of the difference between the two proportions.

Notes

1. Lifetime alcohol risk is defined as drinking more than 2 standard drinks per day, measured from average daily consumption over the 3 most recent days that a person had consumed alcohol in the week before the interview.
2. The proportion for men who have served in the ADF aged 18–34 has a relative standard error between 25% and 50% and should be interpreted with caution.
3. The thin vertical lines superimposed over the top end of each bar are 95% confidence intervals.

Source: ABS 2016.

The 2010 ADF Mental Health Prevalence and Wellbeing Study examined the rate of alcohol use disorders in current serving ADF members, comparing these findings with the ABS 2007 National Survey of Mental Health and Wellbeing (McFarlane et al. 2011). Members were found to have a lower prevalence of any alcohol disorders (5%) than the Australian population (8%). This was also found when comparing harmful alcohol use by ADF members (3%) with the Australian population (5%). Findings from the Mental Health Prevalence Transition Study under the Transition and Wellbeing Research Programme have also shown that alcohol consumption among regular ADF members decreased between 2010 and 2015 (Van Hooff et al. 2018).

Alcohol use varies with service characteristics

The MEAO Census Health Study found that the prevalence of alcohol misuse was greater among Navy and Army personnel, and among lower ranked ADF members (Dobson et al. 2012). This study also found that ex-serving members were nearly 10 times more likely to report an alcohol problem than current serving members.

Alcohol use has been found to vary with the nature of an ADF member's service. Among ex-serving ADF peacekeepers, alcohol abuse and dependence levels were significantly higher when compared to a civilian sample (Hawthorne et al. 2014). Further, exposure to combat has been found to be associated with increased alcohol consumption and hazardous drinking (Davy et al. 2012; Sim et al. 2005).

Studies of Korean War veterans have shown that this group were more likely to binge drink (consuming 6 or more drinks in a single sitting; Sim et al. 2005), did so more frequently, and had a 36% greater rate of death from alcoholic liver disease than Australian men of the same age (Harrex et al. 2003).

Illicit drug use

The use of illicit drugs is a risk factor for many diseases and can lead to disability or death. Illicit drug use is generally considered to include the use of illegal drugs, misuse or non-medical use of pharmaceutical drugs and inappropriate use of other substances. Illicit drug use is strictly prohibited in the ADF (Defence Jobs 2018a).

Illicit drug misuse and drug use disorders are low in those who have served in the ADF

The ABS 2007 National Survey of Mental Health and Wellbeing estimated that about 1 in 25 (4%) of those who have ever served in the ADF had a drug use disorder (ABS 2017f). Additionally, 4% identified they had misused drugs in the past 12 months, about half of the proportion of those who have not served (9%). The prevalence of drug misuse decreased with age, with 13% of people aged 18–34 who served having misused drugs, compared with 0.2% of those aged 75–85. This pattern was also seen in the wider Australian community.

Two in 5 recently transitioned ADF members have used illicit drugs

The 2015 Mental Health and Wellbeing Transition Study estimated that 39% of recently transitioned ADF members had used illicit drugs in their lifetime, with 16% reporting illicit drug use in the last 12 months (Van Hooff et al. 2018). Prescription drug misuse (use for non-medical purposes) was less common, with 11% of recently transitioned members having misused these drugs in their lifetime, and 7% misusing in the last 12 months. The study also indicated that among transitioned ADF members, the proportion of members who use illicit drugs and prescription drugs for non-medical purposes increased gradually over the first few years after discharge, and was greatest at 3 years after transition.

Illicit drug use varies across other veteran cohorts

Varying patterns of drug use have been found across other cohorts of veterans, such as:

- Drug dependence or abuse was almost 2 times as high among Gulf War veterans as among ADF veterans who were not deployed to the Gulf (Sim et al. 2003).
- A study on the mortality of Vietnam War veterans showed that all deaths from mental disorders captured in the study were due to conditions associated with alcohol or drug misuse (Wilson et al. 2005a). The study also found that mortality from mental disorders was greater among Vietnam War veterans, when compared to National Servicemen who were not deployed to Vietnam.
- The prevalence of drug dependence among former ADF peacekeepers (3%) was found to be not significantly different from a sample of the Australian population (1%; Hawthorne et al. 2014). Among former peacekeepers, the most commonly used drug was marijuana, followed by stimulants, and opioids.

Overweight and obesity

Excess body weight is a risk factor for multiple chronic conditions, including cardiovascular disease, type 2 diabetes and some cancers. Body Mass Index (BMI) is an internationally recognised standard for classifying excess body weight, calculated by dividing the weight in kilograms by the square of the height in metres.

BMI is a useful measure at the population level, but it does not distinguish between the weight of fat or muscle in an individual (Health Direct 2016). This means that people who are relatively healthy but who have higher proportions of muscle may be incorrectly classed as overweight or obese. Enlisting in the ADF requires a level of physical fitness, including a BMI range which must be met on enlistment and maintained during service (Department of Defence 2018a). The ADF acceptable range for entry covers the normal weight, overweight, and part of the obese weight classification based on the international standard (Table 5.1). This means the higher rates of overweight/obesity in the ADF population may be in part due to different physical characteristics, and may not indicate the increased health risk generally associated with excess body weight.

Table 5.1: Comparison of BMI standard classifications and ADF eligibility

BMI	Standard classification	ADF eligibility
<18.5	Underweight	May be deemed temporarily unfit for entry
≥18.5 and <25	Normal weight range	Acceptable range for entry
≥25 and <30	Overweight	
≥30 and <33	Obese	
≥33		Unfit for entry

Source: Department of Defence 2018a; WHO 2000.

Despite this, the risk of weight gain after leaving the ADF has been identified as an issue of particular concern for the health of the veteran community (DVA 2015). Studies from the United States have identified an increased rate of weight gain during the transition from military to civilian life (Koepsell et al. 2011; Littman et al. 2013). BMI-measured obesity has been associated with a number of adverse physical, mental and functional health outcomes in US veterans, demonstrating the value of the measure despite its limitations (Rush et al. 2016). Further analysis is required to determine whether BMI-measured overweight and obesity is associated with ill health among Australian veterans.

Men aged 45–64 who have served in the ADF are more likely to be overweight or obese

According to the ABS 2014–15 National Health Survey, just over three-quarters (78%) of people who have served in the ADF were overweight or obese, according to the standard BMI classification (ABS 2016). For men, the highest rates of overweight and obesity were found in men aged 45–54 and 55–64 who have served in the ADF (90% for both groups). Men in these age groups were also statistically significantly more likely to be overweight or obese than those who have not served. For men of other ages, the proportion was similar between those who have and have not served.

About 3 in 4 men who served in the ADF have an increased risk of metabolic complications

Waist circumference is another measure of overweight and obesity. The risk of metabolic complications is increased for men with a waist circumference between 94cm and 102cm, and substantially increased for a circumference above 102cm (WHO 2011). According to measured data from the ABS 2014–15 National Health Survey (ABS 2016), among men who have ever served in the ADF:

- 26% had a waist circumference that indicated an increased risk of metabolic complications.
- 48% had a waist circumference that indicated a substantially increased risk of metabolic complications.

More than 4 in 5 male Gulf War veterans are overweight or obese

Based on measured BMI, the Australian Gulf War Veterans' Health Study found that 52% of male veterans were overweight and 27% were obese about a decade after their involvement in the conflict (Sim et al. 2003). A follow up study undertaken 10 years later using self-reported BMI found the proportion of overweight male veterans was similar (51%), but there was a higher proportion of obese veterans (36%; Sim et al. 2015). Several studies have shown no difference in overweight or obesity between deployed and non-deployed personnel (McGuire et al. 2008, 2009a, 2009b).

Other lifestyle factors

There are a range of other risk factors and health behaviours that can affect an individual's health.

Men who served in the ADF have a similar fruit and/or vegetable intake to those who did not serve

According to the ABS 2014–15 National Health Survey, most (96%) people who have served in the ADF did not meet the Australian Dietary Guidelines for the minimum daily serves of fruit and/or vegetables to ensure good nutrition and health (ABS 2017e). The guidelines recommend that that adults eat 2 serves of fruit and 5–6 serves of vegetables per day to achieve adequate fruit and vegetable intake (NHMRC 2013). Proportions were similar between men who have and have not served across all age groups (91–98%), and the highest rates of inadequate consumption were found in men aged 35–54 (98%; ABS 2017e).

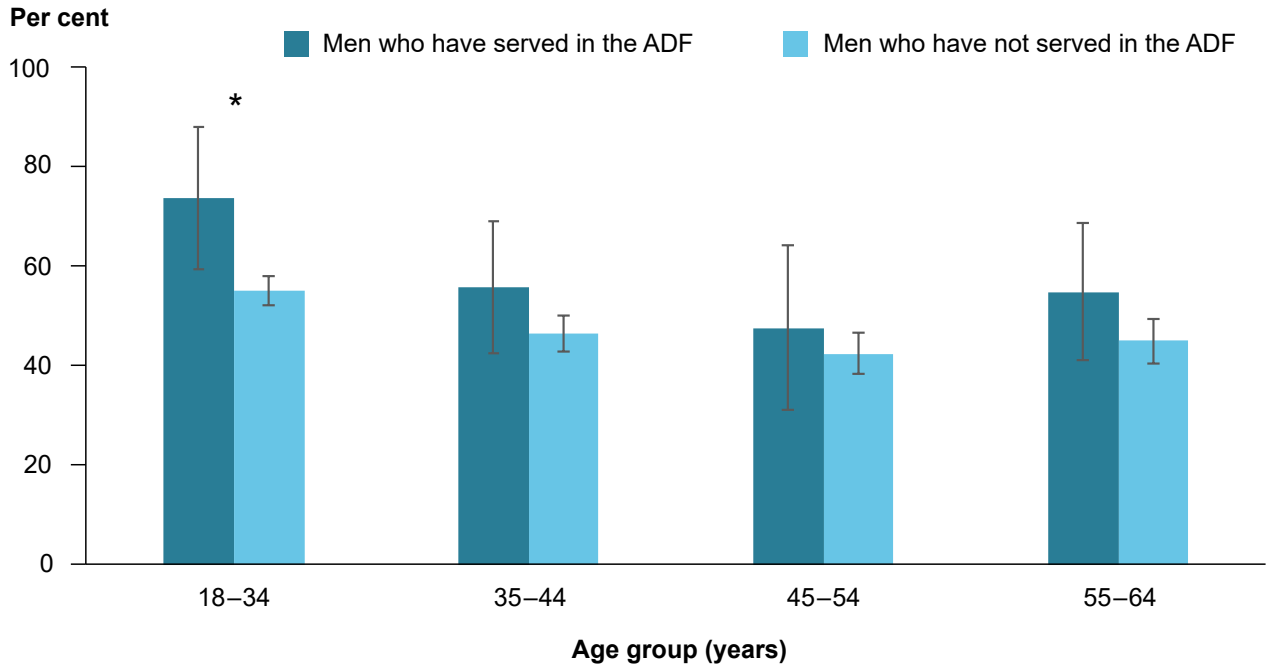
Men aged 18–34 who have served in the ADF are more likely to meet physical activity guidelines

The role of physical activity in the ADF is well established, and seen as a significant component of military readiness. The ADF requires personnel to pass a fitness assessment upon entry, and maintain a reasonable level of fitness during service, depending on their role (Defence Jobs 2018b).

Australia's Physical Activity and Sedentary Behaviour Guidelines outline recommendations for different age groups to improve health and reduce risks associated with chronic disease and obesity (see glossary for full guidelines; Department of Health 2017b). The ABS 2014–15 National Health Survey collects data on the intensity, the duration and the number of sessions spent on physical activity during the week preceding the survey, which can be used to determine whether a person was sufficiently active based on the Australian guidelines. For adults aged 18–64, sufficient activity is defined as having completing at least 150 minutes of moderate intensity physical activity, or 75 minutes of vigorous intensity physical activity, across 5 or more sessions each week.

Estimates from the ABS 2014-15 National Health Survey suggest that 57% of men aged 18–64 who have served in the ADF met the physical activity guidelines in the week before the survey (ABS 2016). Men aged 18–34 who have served were most likely to be sufficiently active, and 1.3 times as likely than men of the same age who have not served (Figure 5.2). Men of other ages who have served had similar levels of physical activity as men who have not served.

Figure 5.2: Age-specific proportion of men with sufficient physical activity, aged 18–64, by ADF service status, 2014–15



* A statistically significant difference between men who have served in the ADF and men who have not served in the ADF, calculated using the confidence interval of the difference between the two proportions.

Notes

1. Sufficient physical activity defined as having completing at least 150 minutes of moderate intensity physical activity, or 75 minutes of vigorous intensity physical activity, across 5 or more sessions each week.
2. The thin vertical lines superimposed over the top end of each bar are 95% confidence intervals.

Source: ABS 2016.

For adults aged 65 and over, sufficient physical activity is defined as 30 minutes of moderate intensity physical activity on at least 5 days each week. Among men who have served in the ADF, 29% of those aged 65–74 and 18% of those aged 75 and over met the guidelines for sufficient physical activity (ABS 2016). For those aged 65–74, this was similar to men who have not served (27%). However, men aged 75 and over who have not served were 1.5 times as likely to be sufficiently active than men of the same age who have served (a statistically significant difference).

Lifestyle factors: what is missing?

While some information is available, lifestyle factors have not been measured consistently across veterans' health research, limiting the utility of available information. Enhancing the information available on lifestyle factors and their impact on veterans' health could help to improve veterans' health by identifying areas for behavioural change. The key gaps around lifestyle factors are:

- the prevalence of risk factors across the whole veteran population, with the ability to identify differences by service characteristics
- the proportion of veterans' ill health that can be attributed to individual risk factors (burden of disease), and the effect on health if these factors are modified
- veterans' propensity to change their lifestyle behaviours over time, and the effect on their health
- detailed information on certain behaviours, such as the type of drugs used, or the type of physical activity undertaken
- information from alternative measures of risk factors, such as other measures of obesity or nutrition, to provide a more robust evidence base
- how these risk factors are associated with ill health, and with each other, among the Australian veteran population.

What health and welfare services do veterans use?

6

Health and welfare services in Australia are provided by a range of organisations and professionals, including medical practitioners, nurses, allied and other health professionals, social workers, aged and disabled carers, early education carers, hospitals, and government and non-government agencies. The Department of Defence and DVA provide services to support veterans during and after their ADF service. Veterans may access these services, or those available to all Australians through mainstream providers. In Australia, health and welfare services are designed to promote general health and wellbeing and to provide treatment, care and support in times of illness or need. Health and welfare services are covered across all domains of the veteran-centred model.

Data used in this chapter	
Data source	**Veteran population**
ABS National Health Survey (2014–15)	People who have ever served in the ADF
ADF Mental Health Prevalence and Wellbeing Study (2010)	All regular ADF personnel who were serving in 2010
National Aged Care Data Clearinghouse (2014–15, 2016–17)	Aged care services funded by DVA, or provided to DVA card holders
National Hospital Morbidity Database (2015–16)	Hospitalisations funded by DVA or the Department of Defence
National Non-Admitted Patient Emergency Department Care Database (2016–17)	Service events funded by DVA
Pharmaceutical Benefits Scheme group reports (2016–17)	People who qualify for the RPBS
Transition and Wellbeing Research Programme: Mental Health and Wellbeing Transition Study (2015) • Pathways to Care report	ADF members who transitioned out of full-time regular service between 2010 and 2014

Note: Year of data collection for each source is indicated after the name; for example (2015). In some cases, this differs from the year data were published, which is included in the source name.

Factors to consider when reading this chapter

- Data may be collected for a different purpose, not specifically for veterans or health and welfare research.
- In many sources, veterans are a small population, meaning that there may be increased variability in the results over time.
- Data on DVA-funded service events cover both eligible veterans and dependants.
- Hospital and Pharmaceutical Benefits Scheme (PBS) data reflect the number of events or services (hospitalisations, emergency presentations or prescriptions), not the number of people receiving those services.
- Where comparisons are made, differences between veterans and the general population may not be statistically significant, meaning that the difference may be due to chance.
- Data from surveys are based on self-reported veteran status, and all numbers are estimates that have been weighted to the Australian population.

A note on comparisons

Comparisons between veterans and the general population are made using both crude and age-specific rates, where suitable data were available. When comparing crude rates, any observed differences are due to all causes, including differences in the age and sex profile of each population. As health and welfare service use is often influenced by age and sex, comparisons are made for men between specific age groups, or contextual information has been included (such as the average age of comparison groups) to assist with interpretation. In many cases, comparisons were not able to be made for women due to small numbers.

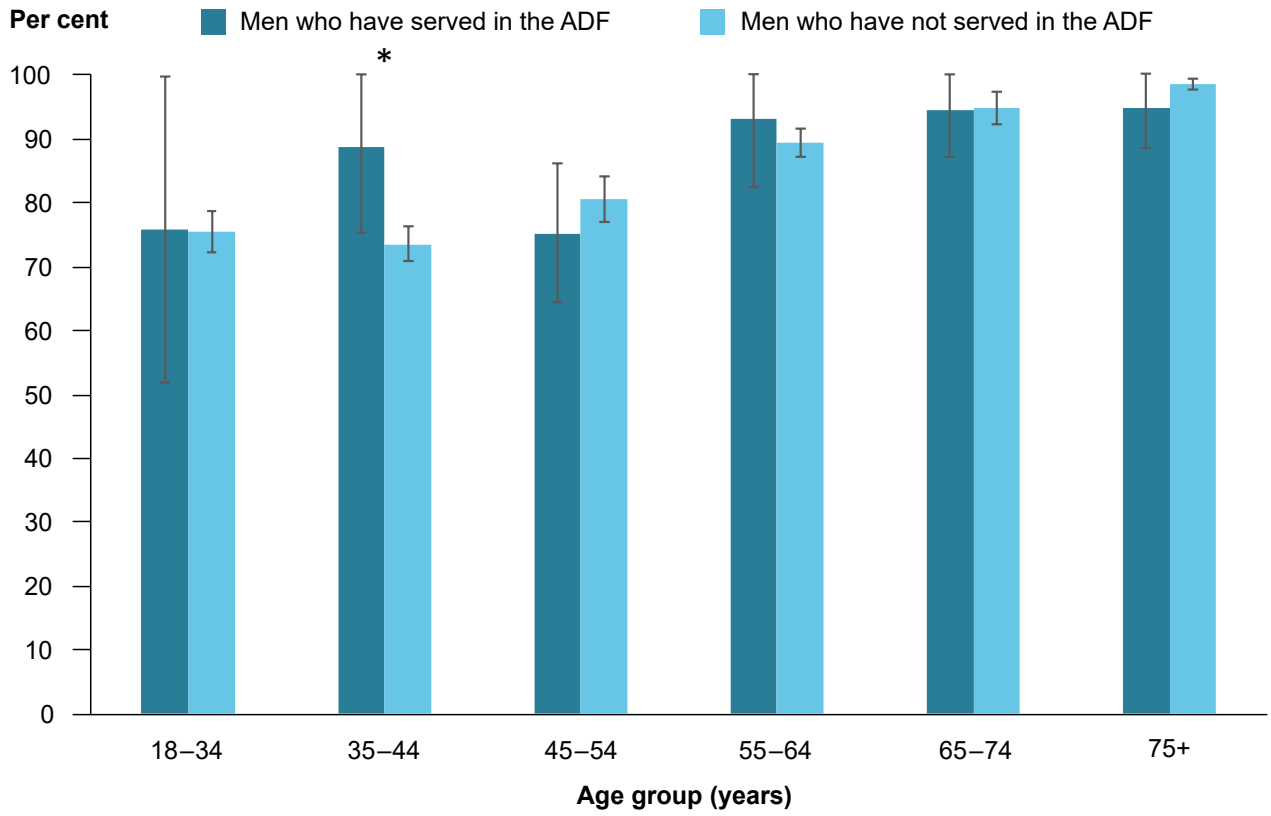
Primary care

Primary care encompasses a broad range of services and activities that act as an entry to the health system. As such, primary care is often a person's first point of contact with the health system. It covers health promotion, preventive care, and treatment and management of acute and chronic conditions (AIHW 2018a).

Nine in 10 people who have served in the ADF visited a general practitioner in the past year

The ABS 2014-15 National Health Survey estimated that 90% of those who have served in the ADF had consulted a general practitioner (GP) in the last 12 months (ABS 2017e). For men who have served, the highest rate of GP visits was for those aged over 75 (95%) and the lowest for those aged 45–54 (75%) (Figure 6.1). Results were similar between men of the same age who have, and have not, served, except for men aged 35–44, who were more likely to have consulted a GP if they have served (89% compared with 74%). Personnel who have discharged from the ADF are eligible to access the ADF post-discharge GP health assessment (Department of Health 2015), which may contribute to higher GP attendance. DVA Gold Card holders have previously been found to use GP services at a similar rate to people of the same age and disability level in the general community (AIHW 2002).

Figure 6.1: Age-specific proportion of men who consulted a GP in the last 12 months, by ADF service status, 2014–15



* A statistically significant difference between men who have served in the ADF and men who have not served in the ADF, calculated using the confidence interval of the difference between the two proportions.

Notes

1. The thin vertical lines superimposed over the top end of each bar are 95% confidence intervals.
2. The upper confidence intervals for ages 35–44, 55–64, 65–74 and 75+ exceeded the range of possible values and have been truncated at 100%.

Source: ABS 2016.

Use of medicines

The PBS is a national, government-funded scheme that subsidises the cost of a wide range of pharmaceutical drugs for all Australians to promote timely, reliable and affordable access to necessary medicines. For eligible war veterans, war widow(er)s and their dependants, the RPBS provides access to a range of pharmaceuticals and wound dressings at a concessional rate (DVA 2017c). Those with access to the RPBS are able to access all items listed on the PBS, an additional list contained in the RPBS, and items listed on neither the PBS nor RPBS that are clinically justified.

DVA Gold and White Card holders are eligible to access the RPBS in line with the specifications of their card—all medical conditions for Gold Card holders, and accepted medical conditions for White Card holders. DVA Orange Card holders, who did not serve in the ADF and are generally not considered to be Australian veterans, are also eligible to access the RPBS for all medical conditions, and are included in RPBS data. Orange Cards are provided to eligible veterans who did not serve in the ADF, but served as a member of a British Commonwealth or allied defence force, and have met criteria related to qualifying service, age and residency (DVA 2018c).

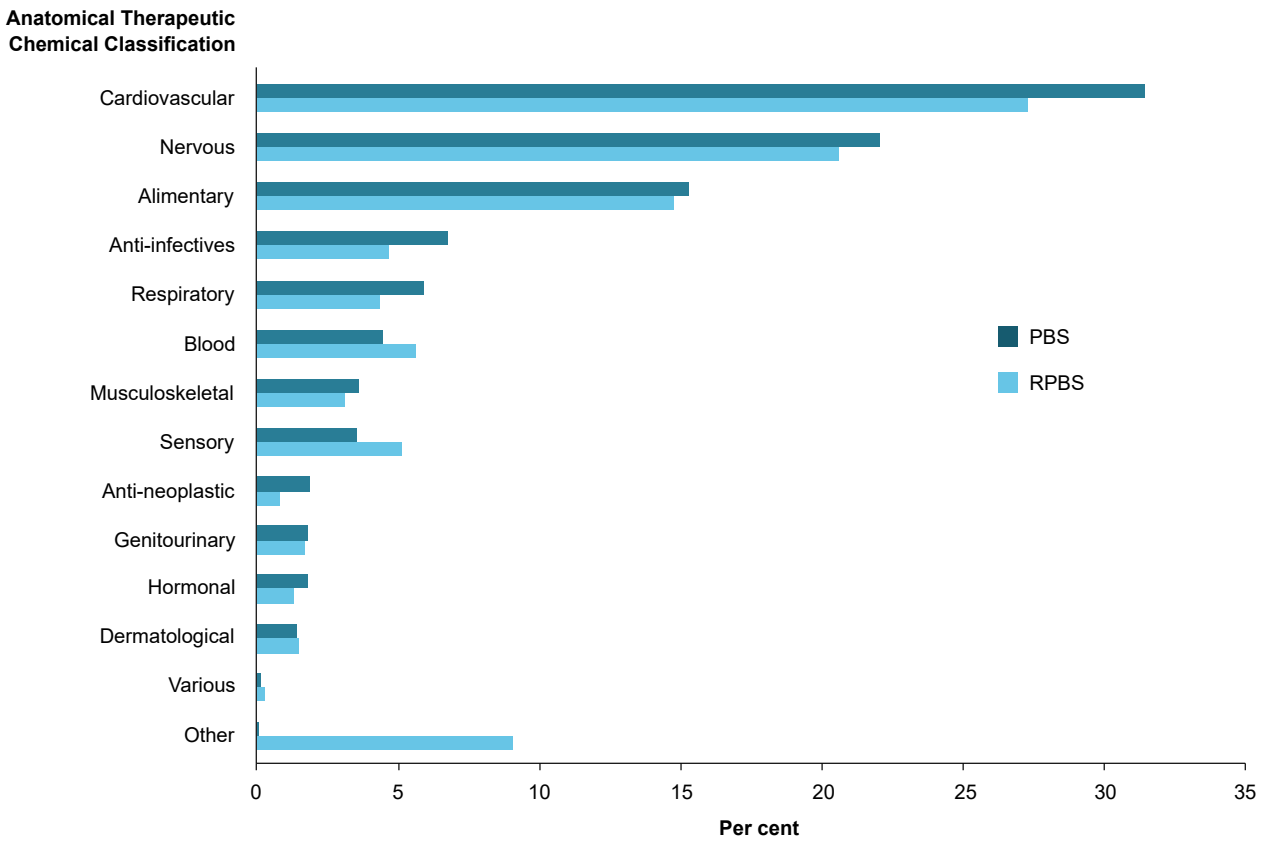
In 2016–17, about 9.4 million prescriptions were funded by the RPBS (DHS 2017b). This represents a decrease of 3.0 million from 2012–13, when 12.4 million RPBS prescriptions were dispensed. This change is influenced by the ongoing decrease in the DVA card holder population who are eligible to access the RPBS (DVA 2017a).

RPBS data are used to inform the Veterans' Medicines Advice and Therapeutics Education Services (Veterans' MATES) program. The program identifies the most common medication related problems among veterans and war widow(er)s, and provides written advice to GPs, pharmacists and other relevant health professionals to improve the use of medicines in the veteran community (DVA 2018f).

Cardiovascular system medicines are the most commonly dispensed through both the PBS and RPBS

Using the first level of the Anatomical Therapeutic Chemical classification, which categorises pharmaceuticals by the organ or system on which they act, medicines used to treat cardiovascular conditions were the most commonly dispensed treatments on the RPBS, comprising 27% of all prescriptions (Figure 6.2). Medicines to treat the nervous system (21%) and digestive tract (alimentary system; 15%) were the next most common. The most commonly dispensed RPBS medicines are similar to those for the PBS, except in the 'Other' category, which accounted for 0.1% of PBS prescriptions and 9% of RPBS prescriptions. This is likely due to additional items (such as wound dressings) being available on the RPBS and not the PBS, and the ability for doctors to prescribe additional medications to DVA card holders through the RPBS, which are not listed on the PBS.

Figure 6.2: PBS and RPBS prescriptions, by Anatomical Therapeutic Chemical classification, 2016–17



Note: Anti-parasitic medicines accounted for 0.04% of PBS prescriptions and 0.03% of RPBS prescriptions, not visible on chart.

Source: DHS 2017b.

Hospital care

Hospitals are an important part of the Australian health system, and provide a range of services to patients each year.

Patients may be admitted to public or private hospitals for emergency or elective (planned) care involving medical or surgical procedures, known as admitted patient care. DVA Gold Card holders have previously been found to have a higher rate of hospitalisations than the Australian population, which may be attributed to higher rates of disability (AIHW 2002). Among Gold Card holders aged 70–84, those without disability had 4% fewer hospitalisations per person in 1999–00 than the Australian population of the same age, whereas those with extreme disability (pensioners receiving DVA's extreme disablement adjustment) had almost 3 times as many hospitalisations per person.

Patients may also visit a formal public hospital emergency department for urgent medical, surgical or other care (AIHW 2017a). According to the ABS 2014–15 National Health Survey, around 13% of men and 14% of women who have ever served in the ADF visited an emergency or casualty department in the last 12 months (ABS 2017e). This was slightly higher for DVA card holders, with 19% visiting an emergency department in the last 12 months.

This section reports on patients who are admitted to hospital, and patients who present to emergency departments, using two national data sets outlined in Box 6.1.

Box 6.1: Admitted patient and emergency department data

The National Hospital Morbidity Database is a comprehensive data set that captures data on hospitalisations of admitted patients from essentially all public and private hospitals in Australia (see Appendix A for scope and quality information). A visit to hospital is termed a 'hospitalisation'. A patient may be admitted and discharged on the same day or stay in hospital for 1 or more nights.

The National Non-Admitted Patient Emergency Department Care Database collects information on emergency department activity in selected public hospitals (see Appendix A for the scope of the collection). A visit to a hospital emergency department is termed an emergency department presentation.

Hospitalisations and emergency department presentations for DVA patients can be identified by funding source. Veterans and dependants eligible to receive DVA-funded medical care can identify themselves to the hospital, usually by presenting their DVA health card. The funding source is assigned using the best estimate of where the majority of funds for the episode of care will come from. For both admitted patient and emergency department services, DVA patients:

- include both veterans and dependants who are eligible to have their health care covered by DVA, and identify as such on admission/presentation to the hospital
- exclude veterans who are not eligible to receive DVA-funded health care and receive care through Medicare or other funding arrangements. Such hospitalisations/presentations could not be identified, and are included with 'other hospitalisations/presentations', which comprise all other funding sources
- may include hospitalisations/presentations that were identified as DVA at the hospital but ultimately not accepted by DVA for funding, due to ineligibility for care, or inability of the patient to be identified as a veteran or dependant.

(continued)

Box 6.1 (continued): Admitted patient and emergency department data

While the majority of serving ADF members receive hospital treatment through contracted arrangements, a small number access publicly available hospital services using their Defence Force Service number. Using the National Hospital Morbidity Database, hospitalisations funded by the Department of Defence were identified and termed 'Defence hospitalisations'. Emergency department presentations could not be identified for Defence patients.

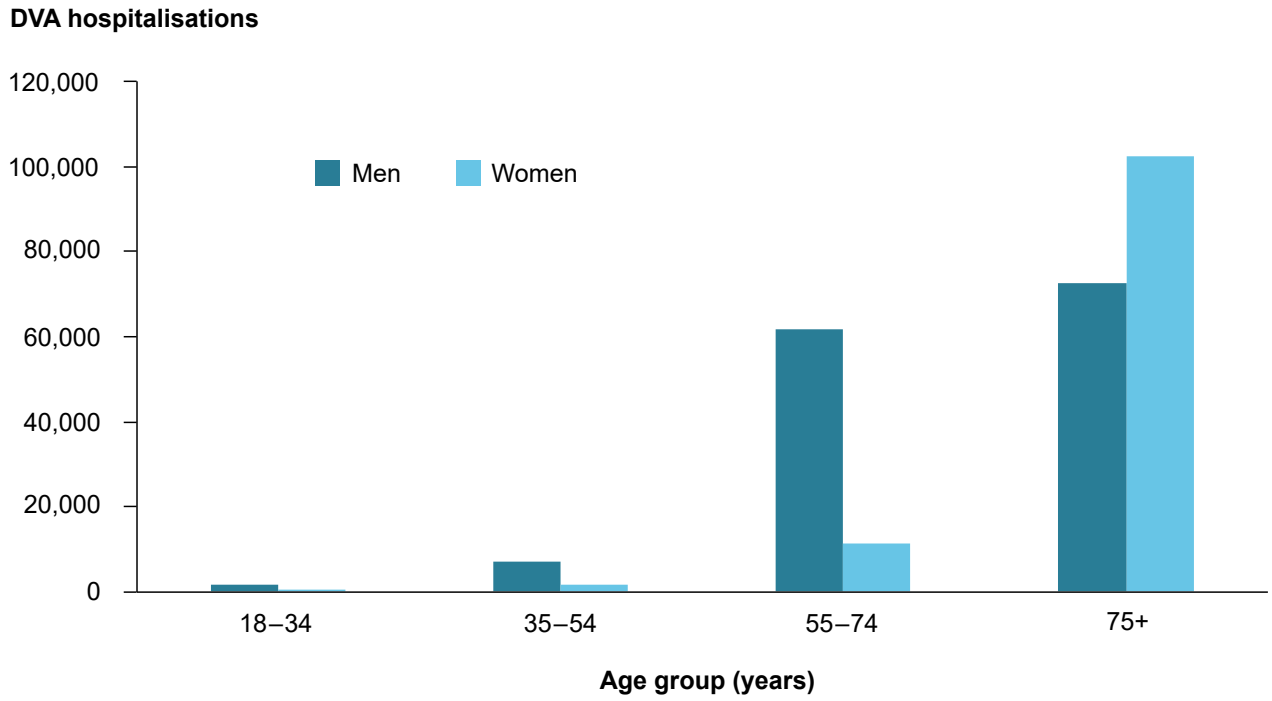
Hospitalisations and emergency department presentations represent the total number of visits. Where one patient has multiple visits throughout the year, each visit is counted as a separate hospitalisation/presentation. The number of unique patients accessing hospital care is not known.

Most DVA hospitalisations were for people aged 75 and over

In 2015–16, 2% (259,300) of the 10.6 million total hospitalisations were DVA hospitalisations. Just over half (55%) of DVA hospitalisations were for males and 45% for females. Almost 7 in 10 (67%) were for people aged 75 and over (Figure 6.3). About 55% of DVA hospital patients were identified as veterans (based on their DVA card eligibility), and the remainder were dependants (DVA 2018b).

The older age profile of DVA patients reflects the profile of DVA card holders who are eligible to receive DVA-funded hospital care. Based on the DVA client profile, older female DVA patients are also likely to be war widows who are eligible to receive DVA funded health care, rather than veterans. As the reasons people visit hospital and the type of care they receive differ greatly with age, further analysis of DVA hospitalisations was restricted to men aged 55 and over.

Figure 6.3: DVA hospitalisations, by age group and sex, patients aged 18 and over, 2015–16

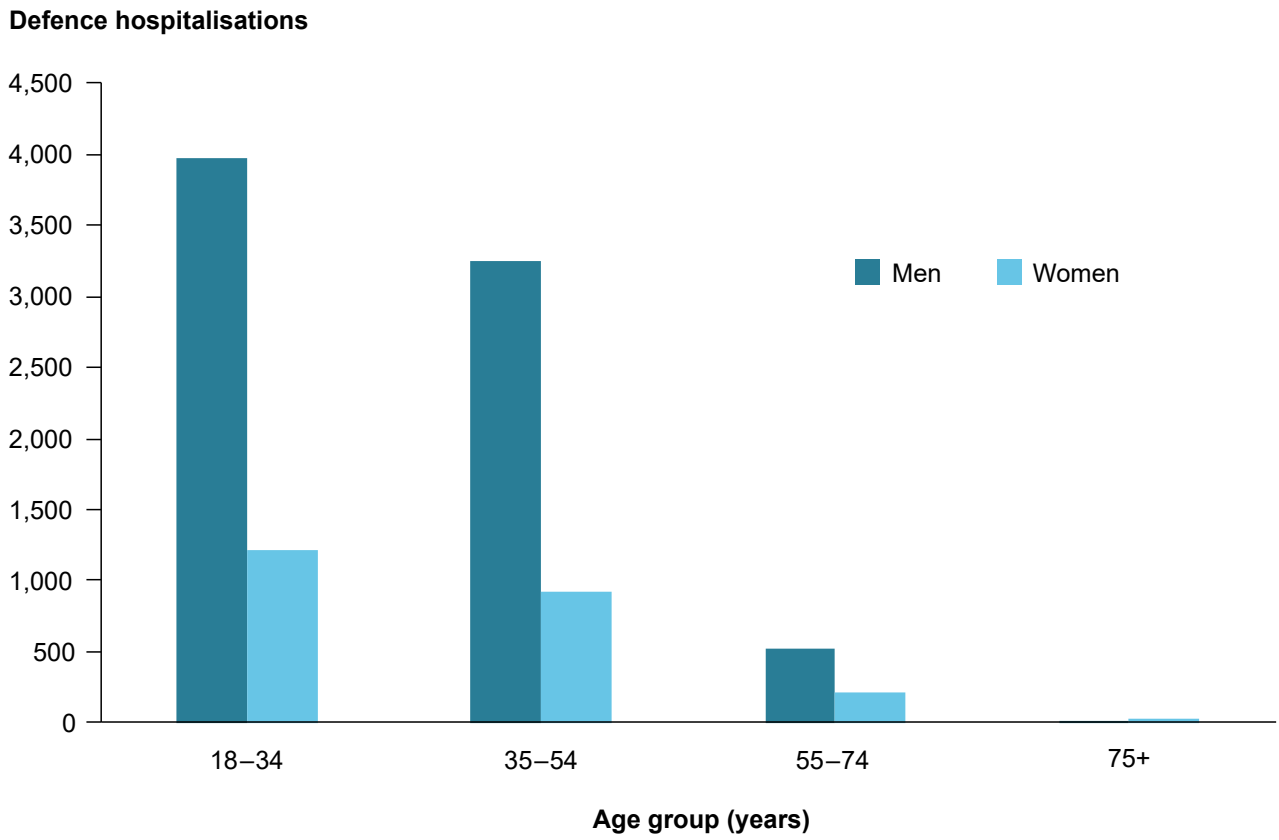


Source: AIHW National Hospital Morbidity Database 2015–16.

Most Defence hospitalisations were for people aged under 55

In the same period (2015–16), there were 10,200 Defence hospitalisations, representing 0.1% of all hospitalisations. Almost three-quarters (71%) of Defence hospitalisations were for men aged 18–54, and 21% for women of the same age (Figure 6.4). This reflects the general age and sex profile of serving ADF personnel who are eligible to receive hospital care funded by the Department of Defence. Due to the small number of hospitalisations for women and older men, further analysis of Defence hospitalisations was restricted to men aged 18–54.

Figure 6.4: Defence hospitalisations, by age group and sex, patients aged 18 and over, 2015–16



Source: AIHW National Hospital Morbidity Database 2015–16.

Most DVA hospitalisations were for anxiety disorders

The main reason for a person's hospitalisation is known as a principal diagnosis; it is classified in Australian hospitals according to the *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian modification* (ICD-10-AM). Principal diagnoses can be grouped according to the Australian Burden of Disease Study disease list, which identifies 188 conditions, or sets of conditions, relevant to health reporting and monitoring in Australia.
The conditions in the list are mutually exclusive and collectively cover the full spectrum of disease and injury (see Appendix B for a list of disease groups featured in this report and the corresponding ICD-10-AM codes). Principal diagnoses that cannot be mapped to a specific disease or condition are excluded from analysis. To present a clear picture of the most common reasons for hospitalisation, any disease or injury categorised as 'other' was also excluded.

Many of the most common conditions among male DVA hospital patients (veterans and dependants) aged 55 and over also appeared in men of the same age in the Australian population, suggesting many conditions are related to age and sex rather than to ADF service (Table 6.1). However, there were some key differences. The most common reason for hospitalisations for DVA patients was anxiety disorders, representing 9% of hospitalisations. Anxiety disorders did not feature in the top 10 reasons for men in the Australian population. DVA patients also had a higher proportion of hospitalisations due to non-melanoma skin cancer (7%) and back pain and problems (7%) than the Australian population (5% and 4%, respectively).

Table 6.1: Top 10 disease and injury diagnoses for DVA and other hospitalisations (proportion of all hospitalisations), men aged 55 and over, 2015–16

Rank	DVA hospitalisations	Other hospitalisations
1	Anxiety disorders (9.3%)	Cataract and other lens disorders (8.8%)
2	Non-melanoma skin cancer (6.8%)	Osteoarthritis (8.0%)
3	Osteoarthritis (6.7%)	Coronary heart disease (7.6%)
4	Back pain and problems (6.6%)	Non-melanoma skin cancer (4.8%)
5	Cataract and other lens disorders (5.9%)	Back pain and problems (3.6%)
6	Coronary heart disease (5.5%)	Lower respiratory infections (3.5%)
7	Lower respiratory infections (5.0%)	Functional gastrointestinal disorders (3.2%)
8	Chronic obstructive pulmonary disease (3.7%)	Abdominal wall hernia (3.2%)
9	Age-related macular degeneration (3.1%)	Chronic obstructive pulmonary disease (2.9%)
10	Stroke (2.6%)	Stroke (2.7%)
Proportion of all hospitalisations (number)	**55.2% (33,631)**	**48.2% (555,729)**

Notes

1. Other hospitalisations includes all hospitalisations where DVA was not listed as the funding source.
2. Excludes principal diagnoses that cannot be mapped to a specific condition, and where grouped as 'other' conditions.

Source: AIHW National Hospital Morbidity Database 2015–16.

Most Defence hospitalisations were for anxiety disorders and back pain

More than 1 in 5 (22%) Defence hospitalisations for men aged 18–54 were for anxiety disorders, a condition that did not appear in the top 10 conditions for men of the same age in the Australian population (Table 6.2). Anxiety disorders, which includes PTSD, have been found to be the most common group of mental health condition among serving ADF personnel (McFarlane et al. 2011).

Back pain and problems (18%) were more than 3 times as likely, and upper respiratory conditions (8%) more than 2 times as likely, among Defence hospitalisations than the Australian population. Depressive (7%) and alcohol use (5%) disorders were also slightly more common among Defence hospitalisations. Schizophrenia was the second most common (5%) condition for general hospitalisations, but did not appear in the most common Defence conditions. This is likely a reflection of the mental health screening undertaken during ADF recruitment and selection, as serious mental illnesses such as schizophrenia are generally rare among ADF personnel (O'Donnel et al. 2014).

In contrast, functional gastrointestinal disorders, characterised by persistent and recurring gastrointestinal symptoms, were a less common reason for Defence hospitalisations (2%) than for the Australian population (6%).

Table 6.2: Top 10 disease and injury diagnoses for Defence and other hospitalisations (proportion of all hospitalisations), men aged 18–54, 2015–16

Rank	Defence hospitalisations	Other hospitalisations
1	Anxiety disorders (22.3%)	Functional gastrointestinal disorders (6.1%)
2	Back pain and problems (17.8%)	Schizophrenia (4.8%)
3	Upper respiratory conditions (8.2%)	Back pain and problems (4.8%)
4	Depressive disorders (6.6%)	Skin infections (incl. cellulitis) (4.3%)
5	Alcohol use disorders (5.2%)	Soft tissue injuries (4.0%)
6	Soft tissue injuries (4.3%)	Abdominal wall hernia (3.9%)
7	Osteoarthritis (3.7%)	Upper respiratory conditions (3.6%)
8	Abdominal wall hernia (3.4%)	Alcohol use disorders (3.5%)
9	Appendicitis (2.4%)	Depressive disorders (3.4%)
10	Functional gastrointestinal disorders (2.3%)	Inflammatory bowel disease (3.4%)
Proportion of all hospitalisations (number)	**76.0% (2,520)**	**41.8% (252,503)**

Notes

1. Other hospitalisations includes all hospitalisations where DVA was not listed as the funding source.
2. Excludes principal diagnoses that cannot be mapped to a specific condition, and where grouped as 'other' conditions.

Source: AIHW National Hospital Morbidity Database 2015–16.

Same-day mental health-related hospitalisations are more common for DVA and Defence patients

Mental health-related hospitalisations are defined as those that had either a mental health related principal diagnosis and/or included specialised psychiatric care, and can be identified in the National Hospital Morbidity Database (AIHW 2018g). Most mental health related hospitalisations are same-day hospitalisations, meaning that the patient is admitted and discharged on the same day.

In 2015–16, 23% of same-day Defence hospitalisations for men aged 18–54 were related to mental health (Figure 6.5). This was 4 times the proportion of same-day mental health related hospitalisations for men of the same age in the Australian population (6%). In contrast, the proportion of mental health-related overnight hospitalisations for Defence patients (6%) was about half that of other patients (14%). Among men aged 55 and over, the proportion of mental health-related hospitalisations was higher for DVA patients for both same-day (8%) and overnight hospitalisations (4%) than for other patients (1% and 3%, respectively).

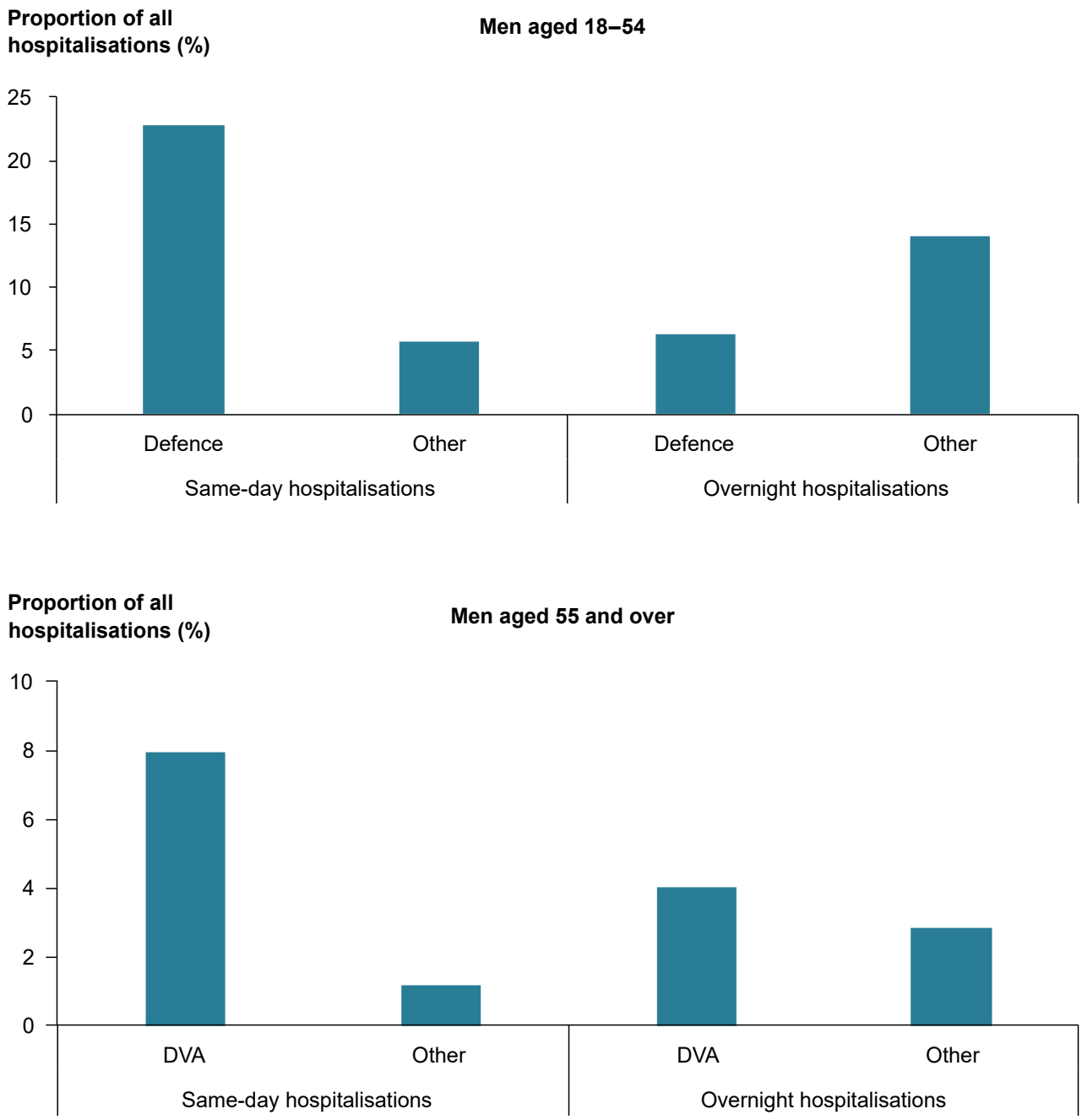
These results show that the likelihood that a hospitalisation will be related to mental health is greater for serving and ex-serving ADF personnel than for the Australian population and may reflect the higher prevalence of some mental health conditions among the ADF population (McFarlane et al. 2011; McGuire et al. 2015). Differences in the proportion of hospitalisations between the groups also reflect differences in the number of hospitalisations for other conditions.

Most DVA emergency department presentations were for people aged 75 and over

In 2016–17, 63,900 emergency department presentations were funded by DVA, representing 1% of all presentations. Almost 8 in 10 (78%) DVA presentations were for patients aged 75 and over, and just over half (52%) were female (Figure 6.6). This age and sex profile is similar to that for hospitalisations for DVA patients; it also reflects the profile of DVA card holders who are eligible to receive DVA-funded hospital care.

While the exact distribution of veterans and dependants is not known for emergency department presentations, the older female DVA patients are likely to be war widows rather than veterans. As a result of this, and the small number of presentations for younger patients, further analysis of DVA emergency department presentations was restricted to men aged 55 and over.

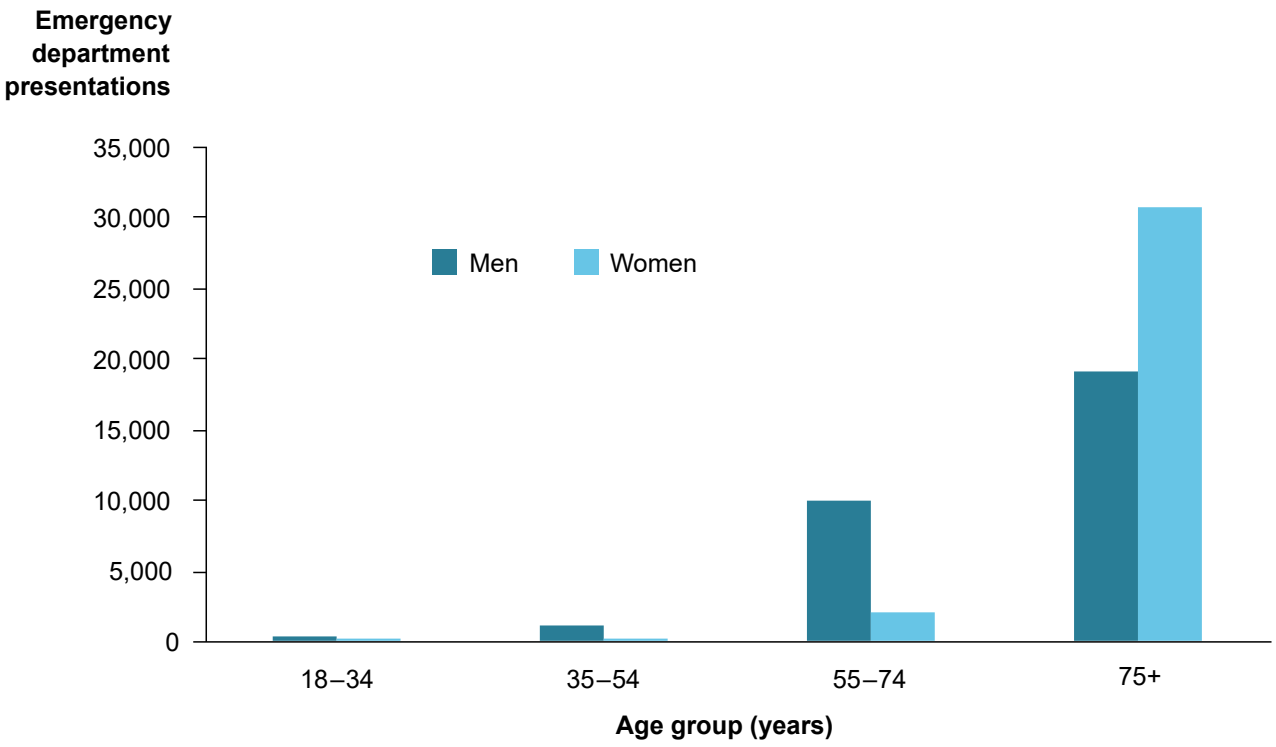
Figure 6.5: Proportion of all same-day and overnight hospitalisations related to mental health, by funding source, 2015–16



Note: A hospitalisation is classified as being related to mental health if it had a mental health-related principal diagnosis (from the mental and behavioural disorders section of the ICD-10-AM, or a number of other selected diagnoses) or it included any specialised psychiatric care.

Source: AIHW National Hospital Morbidity Database 2015–16.

Figure 6.6: DVA emergency department presentations, by age group and sex, patients aged 18 and over, 2016–17



Source: AIHW National Non-Admitted Patient Emergency Department Care Database 2016–17.

Two in 3 DVA presentations were assigned a triage category of *resuscitation*, *emergency* or *urgent*

Emergency departments use triage categories to classify the urgency of the patient's need for medical and nursing care (AIHW 2017d). Nearly 2 in 3 (64%) DVA presentations were classified as urgent or higher, similar to that for the Australian population (60%, Table 6.3).

Table 6.3: Emergency department presentations, by DVA funding status and triage category, men aged 55 and over, 2016–17

	DVA presentations		Other presentations	
Triage category	Number	%	Number	%
Resuscitation (care required immediately; within seconds)	370	1.3	15,306	1.3
Emergency (care required within 10 minutes)	5,395	18.5	223,647	18.9
Urgent (care required within 30 minutes)	13,003	44.6	475,384	40.2
Semi-urgent (care required within 60 minutes)	8,699	29.8	370,838	31.3
Non-urgent (care required within 120 minutes)	1,677	5.8	97,534	8.2

Notes

1. 'Other presentations' includes all presentations not funded by DVA, but excludes 5,064 presentations for which DVA status was not known.
2. Triage category was not assigned for 5 DVA presentations and 611 other presentations.

Source: AIHW National Non-Admitted Patient Emergency Department Care Database 2016–17.

Over half of DVA patients were admitted to hospital from the emergency department

In 2016–17, 56% of DVA emergency department presentations for men aged 55 and over ended with the patient's being admitted to the same hospital, while 35% received care and departed without being admitted to the hospital or referred to another hospital. The proportion resulting in admission for other presentations for men of the same age was slightly less (49%), while a higher proportion ended without the patient's being admitted or referred (44%).

DVA patients stay in the emergency department longer than the Australian population

The length of stay in the emergency department differs by whether a patient is subsequently admitted to the hospital. Hence, results are presented separately for emergency department patients who were, and were not, subsequently admitted to the same hospital (AIHW 2017d). Length of stay also varies by triage category, as patients in higher triage categories generally spend more time in the emergency department due to the increased complexity of care. Results should be interpreted with this in mind.

The median length of stay in the emergency department is the amount of time spent there at the 50th percentile (AIHW 2017d); half of the presentations were longer and half were shorter.

In 2016–17, the overall median length of stay for DVA presentations for men aged 55 and over was 3 hours 57 minutes, compared with 3 hours 34 minutes for men of the same age in the Australian population (Table 6.4). For patients who were subsequently admitted to hospital, the median length of stay was similar for DVA and other presentations. However, for presentations that did not end in admission, the median length of stay was 25 minutes longer for DVA presentations than other presentations.

Table 6.4: Median length of stay in emergency department, by DVA funding status and whether presentation ended with admission to hospital, men aged 55 and over, 2016–17 (hours:minutes)

Presentation type	Admitted to this hospital	Not admitted to this hospital	All presentations
DVA presentation	4:51	3:03	3:57
Other presentations	4:40	2:38	3:34

Notes

1. Includes presentations for all types of visit.
2. Length of stay is calculated as the length of time between presentation to the emergency department and physical departure.

Source: AIHW National Non-Admitted Patient Emergency Department Care Database 2016–17.

Duration of clinical care somewhat different for DVA presentations

The duration of clinical care is calculated as the time between when a doctor, nurse, mental health practitioner or other health professional starts care and the end of the non-admitted patient emergency department episode (the end of clinical care) (AIHW 2017d). The duration of clinical care can differ between patients who were subsequently admitted to the same hospital and patients who were not. As a result, duration of clinical care statistics are presented separately for these two groups of patients (AIHW 2017d). Generally, the duration of clinical care was greater for patients in higher triage categories, due to the increased complexity of care required. Results should be interpreted with this in mind.

Overall, the duration of clinical care in DVA presentations somewhat differed from that for the Australian population, particularly for those not admitted to the same hospital. For patients who were subsequently admitted to the same hospital, 42% of DVA emergency presentations (excludes planned visits, transits, and where a patient was dead on arrival) had a duration of clinical care of 4 hours or more, compared with 40% of the Australian population. For patients who were not subsequently admitted to the same hospital, 23% of DVA emergency presentations had a duration of clinical care of 4 hours or more, compared with 17% of the Australian population.

Mental and specialised health care

Mental health services focus on providing care to people with mental health issues. Other health services may provide mental health support as well as their specialised care, such as alcohol and drug treatment or social and welfare services. There are several mental health and specialised services available to current and ex-serving ADF personnel, but some people may experience barriers to accessing these services.

Mental health care services available to all veterans

As at June 2017, around 53,000 ex-serving ADF members had a mental health condition and were approved to receive services and treatments from DVA (also known as an accepted condition) (DVA 2017a). The majority (85%, 45,000) of these members were determined to have a service-related condition. From July 2016, all current and ex-serving members of the ADF with at least 1 day of full-time service became eligible to access DVA-funded mental health treatment for the following mental health conditions (regardless of whether the condition was related to service): PTSD, depressive disorder, anxiety disorder, alcohol use disorder and substance use disorder. From July 2017, this was expanded to include treatment for any diagnosed mental health condition, and to cover access to counselling services through Open Arms (previously known as the Veterans' and Veterans' Families Counselling Service) for the veteran and their family.

Help-seeking behaviours for mental health care vary by sex, rank and deployment history

The 2010 ADF Mental Health Prevalence and Wellbeing Study conducted by McFarlane and others investigated the help-seeking behaviours of ADF members in relation to mental health (such as talking to friends and family, or seeking professional care). Their research found that nearly 1 in 5 ADF members (18%) had sought help for stress-related, emotional, mental health or family problems—in the last 12 months (McFarlane et al. 2011). Two key factors that affect help-seeking behaviour are the fear of stigma and perceived barriers to care.

The most common perceived stigmas and barriers were that seeking help would reduce the likelihood of future deployments (37%), that members would be treated differently because they had sought help (28%), and that seeking help would harm their career (27%).

The prevalence of help-seeking behaviours among ADF members varied by a number of demographic and service-related factors:

- Among ADF members, women (29%) were more likely to seek help than men (16%).
- Non-commissioned officers (18%) and ADF members at other ranks (19%) were more likely to seek help than officers (16%).
- ADF members with high levels of psychological distress were 10 times as likely to seek help as those with low levels of distress.
- ADF members who had previously been deployed were 10% more likely to seek help than those who had never been deployed.

Despite female ADF members being more likely to seek help than their male counterparts, research has identified unique barriers to health care perceived by female veterans (Crompvoets 2012). These include not associating with the veteran identity, lack of trust in the confidentiality of DVA- or ADF-funded services, and the stigma associated with mental health. Such barriers result in a reluctance to seek help and could contribute to worse health outcomes for these veterans.

Almost 2 in 5 ADF members with a mental health concern consulted a GP in the last 12 months

The 2015 Mental Health and Wellbeing Transition Study identified patterns of health care among current serving and recently transitioned ADF personnel (Forbes et al. 2018). The study estimated that 64% of recently transitioned and 52% of serving ADF members have been concerned about their mental health during their lifetime. Of these members, around 3 in 4 (both transitioned and current serving) received assistance for their mental health. This assistance was often sought from health professionals, such as GPs, medical officers, psychologists and psychiatrists. Of the recently transitioned members who were concerned about their mental health and sought assistance:

- 38% had consulted a GP in the last 12 months (the same proportion of serving ADF members)
- 32% had consulted a psychologist in the last 12 months (compared with 44% of serving members)
- 23% had consulted a psychiatrist in the last 12 months (compared with 15% of serving ADF members).

Aged and community care

Australia's ageing population means that the proportion of older people in the population, generally classified as those aged 65 and over, is projected to increase in the coming decades (ABS 2013a). As well, many older people are choosing to stay in their home for longer and receive support services when needed (AIHW 2017b). Aged care is designed to support the health and welfare of older Australians, whether living in their home or in a residential aged care facility.

DVA provides two main services which can assist older veterans and war widow(er)s: the Veterans' Home Care Program and the Community Nursing Program. Older veterans and war widow(er)s needing assistance may also access mainstream aged care services, including the Commonwealth Home Support Program and Residential Aged Care. Younger veterans are able to access household services and attendant care that is reasonably required as a result of their service-related injury or disease.

Around 51,800 DVA card holders approved for the Veterans' Home Care Program

The Veterans' Home Care Program provides services to DVA Gold or White Card holders with low-level care needs to support them in continuing to live at home (DVA 2017a). In 2016–17, about 51,800 DVA card holders were approved for Veterans' Home Care services (Steering Committee for the Review of Government Service Provision 2018). Slightly fewer card holders received services in the same period (51,000; DVA 2018b). Of those who received services, almost 3 in 5 (58%) were dependants; the remainder were veterans (42%).

The most common service type approved was domestic assistance, with almost 9 in 10 (89%) Veterans' Home Care clients approved for this service in 2016–17 (Table 6.5; Steering Committee for the Review of Government Service Provision 2018). Domestic assistance provides support with basic household tasks, such as cleaning, paying bills, or meal preparation. About one-third (34%) of Veterans' Home Care clients were approved for home and garden maintenance, which provides safety-related repair and upkeep services to minimise hazards around the home.

Table 6.5: DVA card holders approved for Veterans' Home Care services, by service type, 2016–17

Service type	Number	%
Domestic assistance	46,300	89.4
Home and garden maintenance	17,500	33.7
Personal care	3,000	5.8
Respite	6,900	13.4
Total	**51,800**	**100.0**

Notes

1. Numbers relate to services approved in the reference year, but may not have been provided in the same year.
2. Individual service numbers (and percentages) do not add to the total as people may be approved for more than one service.

Source: Steering Committee for the Review of Government Service Provision 2018.

Around 19,400 DVA card holders received support through the Community Nursing Program

The Community Nursing Program provides services to eligible DVA Gold and White Card holders with high-level personal care needs or disability, such as for acute/post-acute support and maintenance and palliative care. In 2016–17, about 19,400 card holders received services (excluding those who received wound management services; Steering Committee for the Review of Government Service Provision 2018). Depending on their needs, Community Nursing Program clients may receive more than one type of service. Almost all (95%) received clinical care, and more than two thirds (68%) received personal care (Table 6.6).

Table 6.6: DVA card holders receiving Community Nursing Program services, by service type, 2016–17

Service type	Number	%
Clinical care	18,400	94.9
Personal care	13,200	68.3
Palliative care	800	4.1
Other	14,000	72.6
Total	**19,400**	**100.0**

Notes

1. Individual service numbers (and percentages) do not add to the total as people can receive more than one service type.
2. Excludes wound management services.

Source: Steering Committee for the Review of Government Service Provision 2018.

About 900 DVA card holders also received wound management services through the Community Nursing Program. Of all Community Nursing Program clients in 2016–17, just over 3 in 5 (61%) were dependants and the remainder were veterans (39%) (DVA 2018b).

Some DVA card holders access mainstream aged care services

DVA card holders may also access mainstream aged care services, either in place of or as well as the veteran-specific programs provided by DVA. Veterans can generally access both mainstream and DVA services if they meet eligibility criteria for both services and there is no duplication of services.

Under the Aged Care Assessment Program, Aged Care Assessment Teams (ACATs) conduct assessments to determine people's care needs and to recommend aged care services and long-term living arrangements. ACAT approval is required to access selected aged care services, including residential aged care. In 2014–15, about 22,100 DVA Gold or White Card holders received an ACAT assessment, representing 10% of all ACAT assessments in the year (Table 6.7). In 2016–17, around 23,700 DVA Gold or White Card holders received support from the Commonwealth Home Support Program, around 25,500 accessed permanent residential aged care and 3,800 accessed respite residential aged care (DVA 2018b). Most card holders in residential aged care were dependants (70% of permanent care clients, and 64% of respite care clients).

Table 6.7: Number of DVA Gold or White Card holders accessing mainstream aged care services

Aged care service	Period	Number of DVA assessments/recipients	Proportion of all assessments/recipients (%)
ACAT assessments	2014–15[a]	20,000[b]	9.1
Commonwealth Home Support Program recipients	2016–17	19,700[b]	2.7
Permanent Residential Aged Care recipients	2016–17	25,500	10.7
Respite Residential Aged Care recipients	2016–17	3,800	6.4

(a) For ACAT assessments, data for 2014–15 are the latest available data from the National Aged Care Data Clearinghouse due to changes in collection processes.

Sources: AIHW analysis of Department of Health 2017a and DVA 2018b; AIHW National Aged Care Data Clearinghouse 2014–15, 2016–17; Steering Committee for the Review of Government Service Provision 2018.

Eligible veterans may also access the Home Care Packages Program, which provides a range of home-based personal care, support services, clinical services and other services tailored to the needs of the recipient. Prisoners of War and Victoria Cross recipients are also eligible to receive DVA-funded Short-Term Restorative Care, designed to reverse and/or delay functional decline in older people and to improve wellbeing and independence (DVA 2018d).

Health and welfare services: what is missing?

A range of services are available to veterans to support or improve their health and welfare. These services can be categorised as being designed for, and targeted at, veterans (often funded by DVA and the Department of Defence) or available to the wider community (mainstream services). While some information is known about veterans' use of these services, most information is restricted to a subgroup of the population, such as DVA card holders. As well, some subgroups comprise veterans and dependants, limiting the utility of this information in understanding the service patterns of veterans. Key gaps in health and welfare services include:

- the characteristics and outcomes of veterans using targeted services and programs
- the characteristics of veterans who do not access these services, their needs, and the enablers of/barriers to service use
- the use of mainstream services by the whole veteran population, beyond DVA card holders
- the pathways through both targeted and mainstream services, and how these pathways differ among different groups of the veteran population, and over time
- how different models of care influence the uptake of services and outcomes for veterans.

Data gaps and next steps

7

This report used a veteran-centred model to understand the factors and interactions that affect the health and welfare of veterans. The model groups these factors into seven domains: health, housing, social support, education and skills, employment, income and finance, and justice and safety. The model also illustrates the four broad stages of the veteran pathway: from entry and training, through service life, to transition, and then to ex-serving or civilian life. As the veteran progresses through each of these stages, their needs will differ, and the relative importance of each of the domains (coloured segments in Figure 2.1) will change. The model's person-centred approach focuses on the experiences of, and outcomes for, the individual across these domains and stages, rather than on specific services used or the broader health and welfare system.

Using these seven domains and four stages as a framework, this report presents a range of information currently available on the health and welfare of Australian veterans. In doing so, it identifies a number of areas where information on veterans is sparse and need to be filled to provide a comprehensive picture. Some gaps are due to the absence of a suitable data source within a domain; however, in many cases, gaps exist because veterans cannot be identified in existing data sets. Where data do exist and veterans can be identified, there are often limitations to building a complete picture of health and welfare for the whole veteran population. The main limitations in the veterans' data are:

- **population:** only one segment of the veteran population is captured or the exact scope is not clear. Information is not known for the whole veteran population
- **domain coverage:** although some information exists, the breadth or depth is limited, meaning it has limited utility for understanding key issues and informing policy and program decisions
- **disaggregations:** there is limited capacity to disaggregate data that are based on small numbers and estimates, or where there is limited information on veteran characteristics (such as service type and operational experience). It is not possible to identify the groups most at risk of adverse health and welfare outcomes.

Table 7.1 summarises how the existing data support analysis and reporting against the seven domains and four veteran pathway stages of the model, and indicates how well the data represent the population experience of a particular domain. Each domain is considered in terms of what is known about the current status, determinants and relevant services. The availability of data within each segment has been assessed and rated as follows:

- **comprehensive:** a substantial amount of information is available to understand veterans; any limitations do not inhibit the utility of the data; minimal work is required to improve the data in this area
- **partial:** some information is available to understand veterans; data have one or more limitations which inhibit their utility as a robust data source; a moderate amount of work is required to improve data in this area
- **little to none:** little or no information is available to understand veterans; any available data have significant limitations that prohibit their use as viable data sources; significant work is required to improve data in this area.

The rating applies to each segment as a whole, noting there may be disparities within each. The assessment is based on the availability of relevant data to support reporting, and does not reflect the underlying quality of the data sources. For ADF personnel who are in training or serving, the Department of Defence collects a range of health and welfare information to monitor and support its service that is not publicly available—indicated with the symbol (♦) in Table 7.1. In some situations, these data may be accessible for research purposes with ethics committee approval.

Table 7.1: Summary of data coverage based on veteran-centred model domains and veteran pathway stages

Coverage of information

			♦
Comprehensive	Partial	Little to none	Information not available for this report

	Entry and training	Serving	Transition	Ex-serving
Veteran information	♦	♦		
Health				
Status	♦	♦		
Determinants	♦	♦		
Services	♦	♦		
Housing				
Status		♦		
Determinants				
Services		♦		
Social support				
Status	♦	♦		
Determinants		♦		
Services		♦		
Education and skills				
Status	♦	♦		
Determinants	♦	♦		
Services		♦		
Employment				
Status	♦	♦		
Determinants	♦	♦		
Services	♦			
Income and finance				
Status	♦	♦		
Determinants	♦	♦		
Services	♦	♦		
Justice and safety				
Status	♦	♦		
Determinants	♦	♦		
Services	♦	♦		

Data gaps across domains

There are also gaps that relate to multiple domains. The lack of data in these areas make it difficult to build an integrated picture of veterans' health and welfare. These gaps include the ability to:

- identify the pathways through care and services, including between services provided by the Department of Defence, the DVA and mainstream providers—and associated outcomes
- identify which groups of veterans (segmented by personal factors, including Indigenous status and geography, and service characteristics) have the best, and which have the poorest, health and welfare outcomes
- identify and monitor health and welfare issues that cross multiple health and welfare domains
- understand the health and welfare needs and outcomes of female veterans, and how they compare with those of male veterans
- understand the health and welfare needs and outcomes of culturally and linguistically diverse veterans, and how they compare with those of the broader veteran population
- assess the overall impact and outcomes of transition from military to civilian life
- assess the changes in veterans' health and welfare outcomes over time.

What can be done?

There are a number of ways to fill the gaps identified above, with several projects planned or underway.

Veteran identifiers

A veteran identifier, indicator or flag is a variable on a population data set (not specific to veterans) that allows veterans, and the information collected about them, to be distinguished from that for the general population. A veteran identifier allows information about veterans to be sourced from a wide range of data sets. Adding an identifier to an existing data set is often more time and cost effective than conducting new research; however, it can still be a complex process. Depending on the data set, the value of an identifier may be limited by the size of the veteran population collected, or the ability to capture historical information. There are also complexities involved in ensuring that the identifier accurately captures the veteran population, as variations in wording or collection processes can affect how meaningful the data are for health and welfare monitoring. A standardised identifier—defined with the consensus of the veteran research and policy community and implemented consistently across data collections—could enhance the ability to report more comprehensively on patterns and trends in veterans' health and welfare.

The planning and implementation of veteran identifiers is already underway for some data sets (see Box 7.1).

Box 7.1 Opportunities for veteran identifiers

The importance of improving veterans' health and welfare data is understood across government, with veteran identifiers being considered and implemented across some data collections.

Specialist Homelessness Services Collection

The Specialist Homelessness Services Collection collects information on people who are referred to, or seek assistance from, specialist homelessness agencies (AIHW 2018d). From 1 July 2017, the collection included a requirement for service providers to ask clients whether they are currently, or have ever served, in the ADF. For the first time, this change to the collection will indicate the number of veterans accessing homelessness services.

Census of Population and Housing

The Census provides an estimate of Australia's population and information about people, families and dwellings to inform planning and funding for services and infrastructure (ABS 2017b). Currently, it is not possible to identify veterans in Census data. However, in 2017, a Roundtable of Australian Veterans' Ministers supported the inclusion of a veteran identifier in the Census (Tehan 2017).

Data linkage

Data linkage (also called data integration) is a process that combines information from multiple sources to tell a much more powerful story than would be possible from a single source. The methods used ensure individual privacy with researchers and analysts only accessing de-identified data. The number and variety of data linkage activities have increased rapidly in recent years, demonstrating the value of linked data analysis (AIHW 2017b). In certain cases, this can provide a time sequence, helping to show a 'pathway' (for example, the sequential contact an individual makes with services across systems) and provide insights into cause and effect. Linked data also allow researchers to construct a more detailed picture of the population of interest, and explore relationships between multiple elements of health and welfare. This results in analysis that more closely resembles reality and improves the value of evidence for policy and program development.

Data linkage is a powerful tool, but some challenges remain in maximising the benefits. The time needed to gain approvals, access multiple data sets perform linkage and establish secure data access arrangements is greater than what is required for standard analysis, affecting the ability to report timely results. Currently, most data linkage projects are funded as one-off activities; therefore, full approval to use the data is required again before researchers can carry out follow-up investigations or ongoing monitoring (AIHW 2017b). One approach to meet these challenges is to establish enduring linked databases, which are approved to continually update the linkages as new data are released over time. This allows for efficiencies in analysis and reporting, leading to more timely release of information.

Data linkage has particular value when taking a person-centred approach (as proposed through the veteran-centred model) enabling a whole-of-population approach to analysis of health and welfare outcomes for veterans.

Veteran-specific research

Much of the current literature on veterans' health and welfare has come from studies or collections directly focused on veterans. A key benefit of veteran-specific research is the ability to target specific groups of veterans—such as those with certain service or demographic characteristics—and gather in-depth information about their experiences or needs. This research can be used to evaluate and improve interventions and services, and can be designed based on research objectives. Research into causes of poor health and welfare often makes use of a control group, to allow results to be considered against those for a comparable population.

The body of research on Australian veterans continues to grow, with projects of various size and complexity underway from DVA, the Department of Defence, academic researchers and independent research bodies. An example of a substantial research project currently in progress is the Transition and Wellbeing Research Programme (see Box 7.2). First results from the programme were released in 2018 and were included throughout this report.

Box 7.2 Transition and Wellbeing Research Programme

The Transition and Wellbeing Research Programme is the largest and most comprehensive veterans study programme undertaken in Australia; it seeks to understand the impact of military service on the mental, physical and social health of serving and ex-serving ADF personnel and their families (DVA 2017a). The programme brings together a number of leading researchers, and encompasses the Mental Health and Wellbeing Transition Study, the Impact of Combat Study, and the Family Wellbeing Study.

Next steps

This report is the first step in building a comprehensive profile of the health and welfare of Australia's veterans. The AIHW will continue to develop the evidence base around veterans through the opportunities outlined earlier in this chapter. This work—which will be progressed under the strategic partnership established between the AIHW and DVA in 2017 to build a comprehensive profile of the health and welfare of Australia's veterans—will include:

- continuing the development of the veteran-centred model to identify and improve on the information domains and data capture, including monitoring of peer-reviewed literature
- building study-specific populations, including contemporary veterans and families of veterans
- establishing a veterans' health and welfare data repository at the AIHW for the ongoing storage, access and governance arrangements for veteran-related data under the oversight of relevant ethics committees.

The program of work will produce a compendium report on the health and welfare of Australia's veterans in 2020, updating this report; it will contain results from new analyses, and newly available data, and will update the gaps in veterans' data.

Summary of data sources

Appendix A

Table A1: Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
ABS General Social Survey (2014)	Collected data from people aged 15 and over, on different social circumstances and outcomes, including housing, education, health, income, transport, social networks and participation, information technology, homelessness, crime, and discrimination. In total, 12,932 dwellings were surveyed. The survey included only usual residents of private dwellings, and excluded very remote areas and people living in discrete Aboriginal and Torres Strait Islander communities.	People who receive a DVA payment or benefit.	Data from the 2014 release are comparable with those for previous releases. The survey target sampled from low socioeconomic areas to explore the relative outcomes of those more vulnerable to socioeconomic disadvantage.	The exclusion of very remote areas, and discrete Aboriginal and Torres Strait Islander communities may have an impact on aggregate estimates for the Northern Territory, where those living in very remote areas account for over 20% of the population. The estimates are based on data collected from March 2014 to June 2014. As such, the results may not be representative of other periods during the year. This may affect aspects affected by seasonal variation, such as employment and health. Being collected via survey, the data do not capture the entire population of interest, and are susceptible to non-response and sampling error.	http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4159.0Explanatory%20Notes12014?OpenDocument

(continued)

Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
ABS National Health Survey (2014–15)	Collected information about Australians' long-term health conditions, health risk factors, and mental health. The survey was conducted from July 2014 to June 2015. Around 14,700 private dwellings were surveyed (around 19,000 individuals). Non-private dwellings were excluded from the survey. The survey also excluded those in very remote areas, and non usual residents (diplomatic personnel, non-ADF members, those whose usual place of residence was outside Australia, and visitors to private dwellings).	People who have ever served in the ADF.	Data from the 2014–15 release are comparable with those for previous health surveys. Data are collected from a nationally-representative sample across Australia and weighted to infer results to the non-sampled population.	The exclusion of very remote areas and discrete Aboriginal and Torres Strait Islander communities may have an impact on aggregate estimates for the Northern Territory, where those living in very remote areas account for 23% of the population. The exclusion of non-private dwellings may affect the health estimates of older Australians (by excluding those in aged care) and individuals who require periods of hospitalisation. Being collected via survey, the data do not capture the entire population of interest, and are susceptible to non-response and sampling error.	http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4364.0.55.001Explanatory%20Notes12014-15?OpenDocument

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Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
ABS Survey of Disability, Ageing and Carers (2015)	Provides information on the prevalence of disability, supporting older persons, and the number of carers in Australia. The data were collected in 2015, from private dwellings, and establishments providing accommodation (hospitals, nursing homes, retirement villages, and other group homes). This included around 63,500 people from 25,500 private dwellings, and a further 11,700 people from 1,000 establishments. Excluded from the survey were non-usual residents; discrete Indigenous and Torres Strait communities; those living in very remote areas; those living in hotels, motels, short-stay caravan parks, boarding houses, and religious, correctional and educational institutions.	People who receive a DVA payment or benefit.	Data from the 2015 release are comparable with data for previous releases. Data are collected from a nationally-representative sample across Australia and weighted to infer results to the non-sampled population. Dwellings in each state were selected using multi-stage random sampling. The study allowed for interviews by proxy in order to reduce non-response.	The exclusion of discrete Aboriginal and Torres Strait Islander communities may have an impact on aggregate estimates for the Northern Territory, where those living in very remote areas account for 10% of the population. In some cases, responses were provided by proxy (usually a family member). Proxy interviews were conducted for children aged under 15; those aged 15–17 whose parents did not consent to their children being interviewed; and those incapable of answering for themselves due to illness, impairment, injury or language problems. Estimates of disability may have been affected by under-reporting due to the sensitive or episodic nature of the condition, a lack of awareness of the presence of the condition or its correct medical terminology, or a lack of medical information kept by their cared accommodation establishment. Measures of one's need for help, may be affected by the desire to remain independent, or by individual variation in the perception of the difficulty of a task. Being collected via survey, the data do not capture the entire population of interest, and are susceptible to non-response and sampling error.	http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4430.0Explanatory%20Notes12015?OpenDocument

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Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
ABS Survey of Mental Health and Wellbeing (2007)	Examines the prevalence of particular lifetime, and 12-month mental disorders (anxiety, affective, and substance use disorders), the impairment caused by these disorders, heath services accessed, physical conditions, social networks, demographic information, and socioeconomic characteristics. In total, 8,841 households fully completed the interview. Interviews were conducted among those aged 16–85, who were usual residents of private dwellings in Australia. This includes members of the permanent ADF, and overseas visitors who have been working or studying in Australia for the 12 months or more before the survey. Non-usual residents were excluded from the survey.	People who have ever served in the ADF.	Younger (16–24 years) and older persons (65–85 years) were given a higher chance of selection to improve the reliability of estimates for these groups.	A relatively older data set, as the survey is conducted less frequently than other ABS surveys (every 10 years). When comparing the 1997 and 2007 releases, users should exercise caution, due to differences in how the data were collected, as the 1997 survey did not examine lifetime prevalence, and did not capture those aged 16–17. Proxy and foreign language interviews were not conducted. Therefore, people who were unable to answer for themselves were not included in the survey coverage but are represented in statistical outputs through inclusion in population benchmarks used for weighting. The estimates are based on data collected from August 2007 to December 2007. As such, the results may not be representative of other periods during the year, as seasonal effects may have affected the results. Being collected via survey, the data do not capture the entire population of interest, and are susceptible to non-response and sampling error.	http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4326.0Explanatory%20Notes12007?OpenDocument

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Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
ADF Mental Health Prevalence and Wellbeing Study (2010)	Investigated the mental health of serving ADF personnel in 2010. The study does not include those in the reserves or ex-serving personnel. Survey responses were gathered from 24,481 personnel (a response rate of 49%).	All regular ADF personnel who were serving in 2010.	Creates a baseline for future monitoring of the mental health of serving ADF members.	Does not include those in the reserves or ex-serving personnel. As participation in the survey was voluntary, it does not capture the entire population of interest due to non-response. As such, the data are susceptible to sampling error.	http://www.defence.gov.au/Health/DMH/MentalHealthReformProgram.asp
Australian Gulf War Veterans' Health Study (2000–2002)	Investigated mental and physical health outcomes and mortality among Australian Gulf War veterans, comparing these levels to ADF members who were not deployed to the Gulf.	A sample of veterans listed on the Gulf War Nominal Roll.	Provides detailed information on a broad range of health outcomes, using physiological, self report measures.	As some of the data were collected via survey, it is susceptible to inaccuracies in reporting by participants. The survey aspect of the study did not capture the entire population of interest due to non-response. As such, the data are susceptible to sampling error.	https://www.dva.gov.au/health-and-wellbeing/research-and-development/health-studies/gulf-war-veterans-health-study
Australian Gulf War Veterans' Follow Up Health Study (2011–2013)	A follow-up to the Australian Gulf War Veterans' Health Study. The follow-up study consisted of two parts: an analysis of mortality and cancer information on all participants from the 2003 study; and an examination of the health status of participants from the 2003 study who were not lost to attrition, using survey and linked administrative data.	A sample of veterans listed on the Gulf War Nominal Roll.	Provides detailed information on a broad range of health outcomes.	As some of the data were collected via survey, it is susceptible to inaccuracies in reporting by participants. The survey aspect of the study did not capture the entire population of interest due to non-response. As such, the data are susceptible to sampling error.	https://www.dva.gov.au/consultation-and-grants/research-and-development/health-studies/australian-gulf-war-veterans-follow

(continued)

Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
Australian National Service Vietnam Veterans' Mortality and Cancer Incidence Study (1966–2001)	Examined the mortality and cancer incidence of male National Service personnel who served in the Vietnam War, and compared this with that for National Servicemen who did not serve in Vietnam, as well as the male Australian population. The study was conducted by linking records from the Vietnam Veterans' Nominal Roll with the NDI (National Death Index) and the NMD (National Mortality Database).	Male army personnel who served in the Vietnam War between 1966 and July 1973, who were deceased at 31 December 2001.	Compares Vietnam veterans with National Service veterans who did not deploy to Vietnam.	The NDI does not capture deaths that occurred overseas, except for Australian diplomats, and deaths occurring in transit. A small number of records may be incorrectly linked due to errors or incorrect details provided during death registration. As the study uses only cause of death information, it is not possible to identify what factors may have affected a veteran's cause of death (for example, pre-existing conditions, or other exposures aside from Vietnam War service).	NDI: http://meteor.aihw.gov.au/content/index.phtml/itemId/480010%3E NMD: http://www.abs.gov.au/ausstats/abs%40.nsf/mf/3302.0/ http://www.abs.gov.au/ausstats/abs%40.nsf/mf/3303.0 Report: https://www.aihw.gov.au/reports/veterans/vietnam-veterans-mortality-cancer-2005/contents/summary

(continued)

Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
Cancer incidence study 2003: Australian veterans of the Korean War (1982–1999)	The study examined the incidence of cancer among Australian male veterans of the Korean War compared with that for the Australian community for the period 1982–1999. This was done through linking data from the Korean War Veterans' Nominal Roll, the NDI and the National Cancer Statistics Clearing House (NCSCH).	Australian male veterans on the Korean War Nominal Roll.	Compares Korean War veterans with men from the general Australian population. A long follow-up period allowed for the expression of long-term health conditions.	The NDI does not capture deaths that occurred overseas, except for Australian diplomats, and deaths occurring in transit.	NDI: http://meteor.aihw.gov.au/content/index.phtml/itemId/480010%3E NCSCH: https://www.aihw.gov.au/about-our-data/our-data-collections/australian-cancer-database/ncsch Nominal Roll: http://nominal-rolls.dva.gov.au/

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Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
Causes of death among serving and ex-serving ADF personnel (2002–2015)	The report examines the leading causes of death among serving and ex-serving ADF populations, and compares these with those for the general Australian population. Results are based on analysis of 1,939 deaths that occurred between 2002 and 2015 among serving and ex-serving personnel with at least 1 day of ADF service since 2001. Overseas deaths are generally outside the scope of Australian death statistics, and therefore are not captured in these results. Analysis focuses on men as they made up the majority of both ADF personnel (around 85%) and deaths (92%) in the study.	ADF personnel who served from 2001–2015.	The PMKeyS contains information on all people with ADF service on or after 1 January 2001. Deaths recorded in the NMD are certified by a doctor or coroner. As the data are administrative, they are not subject to individuals opting out—thus capturing all records.	The NDI does not capture deaths that occurred overseas, except for Australian diplomats, and deaths occurring in transit. A small number of records may be incorrectly linked due to errors or incorrect details provided during death registration. The number of deaths occurring in the last year of data may be underestimated, as it has been observed that, each year, around 5% of deaths are not being registered until the following year. Some records linked to the 2013 (revised), 2014 (preliminary) and 2015 (preliminary) Cause of Death Unit Record File may change where a death is being investigated by a coroner and more information is acquired. This will affect tables containing the number of suicides by period, as some deaths currently coded as 'undetermined intent' could later be identified as 'intentional self-harm'. Some of the findings are based on small numbers of deaths (for example, when broken down by service status, age and gender). Rates calculated using small numbers are susceptible to small changes, and thus have wide confidence intervals. Such results should be interpreted with caution. Further, some results are not publishable because of small numbers, confidentiality or other concerns about the quality of the data. The maximum length of time between discharge and death captured by the study (the follow-up period) is short (15 years). Where there is a shorter period of time between discharge and death, less information can be collected on the individual. For example, there is more information available on an individual who is discharged in 2001 and dies in 2015, than on someone who is discharged in 2013 and dies in 2015. As such, factors that take an extended period of time to affect one's risk of death may not be captured.	NDI: http://meteor.aihw.gov.au/content/index.phtml/itemId/480010%3E. NMD: http://www.abs.gov.au/ausstats/abs%40.nsf/mf/3302.0/ http://www.abs.gov.au/ausstats/abs%40.nsf/mf/3303.0 PMKeyS: https://www.aihw.gov.au/reports/veterans/causes-of-death-in-adf-personnel-2002-2015/contents/table-of-contents

(continued)

Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
Centre for Military and Veterans' Health Deployment Health Surveillance Program (2007–2008)	The program examined the health and wellbeing of ADF members who were deployed on active service overseas during the late 1990s and early 2000s. The program consists of the Solomon Islands Health Study, Bougainville Health Study and the East Timor Health Study.	ADF members deployed to the Solomon Islands, Bougainville or East Timor.	Compares deployed veterans with matched groups of those who did not deploy. The studies use both administrative and self reported health data.	As some of the data were collected via survey, it is susceptible to inaccuracies in reporting by participants. There was a short follow-up time between deployment to the Solomon Islands and the study. Measures of distress were not available for some personnel, which may have resulted in underestimation among this group. Differences in the characteristics of responders and non-responders may have introduced bias. The survey aspect of the study did not capture the entire population of interest due to non-response. As such, the data are susceptible to sampling error.	http://www.defence.gov.au/Health/Home/CMVH_studies.asp
Department of Defence annual report (2016–17)	Information on the operations of the Department of Defence, updated annually.	Current serving and recently discharged permanent and reserve members of the ADF.	Regularly updated.	Content designed to meet reporting requirements for the Department of Defence, not as a source of health and welfare information.	http://www.defence.gov.au/AnnualReports/
DVA annual reports (2016–17)	Information on the operations of DVA, updated annually.	DVA clients.	Regularly updated.	Content designed to meet reporting requirements for DVA, not as a source of health and welfare information.	https://www.dva.gov.au/about-dva/accountability-and-reporting/annual-reports

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Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
Fourth study of mortality and cancer incidence in aircraft maintenance personnel: a continuing study of F-111 Deseal/ Reseal personnel 2016 (1999–2012)	Aimed to determine whether ADF personnel who were involved in the formal DSRS programs on F-111 aircrafts (from 1974–2000) experienced higher than expected rates of mortality or cancer incidence when compared with that for non exposed RAAF personnel.	ADF personnel who were involved in the formal DSRS programs.	Provides comparisons between the exposed and non-exposed RAAF personnel.	Does not capture all who were involved in these DSRS programs, as participants were self-identified.	https://www.aihw.gov.au/reports/veterans/mortality-cancer-incidence-in-aircraft-maintenance/contents/table-of-contents
Health Study 2005: Australian veterans of the Korean War (2004)	Compared the physical and psychological health, quality of life, and life satisfaction of surviving male Korean War veterans, with that of Australian men.	Australian male veterans on the Korean War Nominal Roll.	High participation rate (81%) from living Korean War veterans. Provides comparisons with a matched group of Australian men.	The results may be confounded by the 'healthy worker effect', in that only those who were fit for service were deployed to Korea. This screening may partly conceal the health outcomes that should be attributed to war service. As the study involved the use of survey data, it is susceptible to inaccurate reporting by participants. Being collected via survey, the data do not capture the entire population of interest, and are susceptible to non-response and sampling error.	https://www.dva.gov.au/health-and-wellbeing/research-and-development/health-studies/health-study-2005-australian-veterans

(continued)

Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
Middle East Area of Operations (MEAO) Health Study (2000–2011)	Investigated the health of ADF members who deployed to the MEAO. Sub-studies include the MEAO Preliminary Study, Census Study, Morality and Cancer Incidence Study, and Prospective Study.	ADF members deployed to the MEAO between 2001 and 2009.	The study provides depth and breadth of information by using survey and administrative data. Provides comparisons with ADF personnel not deployed to the MEAO, and the general Australian population.	The results may be confounded by the 'healthy worker effect', in that those deployed to the MEAO needed to be fit for deployment. This requirement meant that their mental and physical health may have been better than those who were not deployed. Short follow-up periods (between exposure and the expression of symptoms) may have resulted in a premature analysis of cancer and mortality incidence. As some aspects of the study involved the use of survey data, the study is susceptible to inaccurate reporting by participants. The survey aspect of the study did not capture the entire population of interest due to non-response. As such, the data are susceptible to sampling error.	http://www.defence.gov.au/Health/Home/MilHOP.asp
Morbidity of Vietnam veterans: A study of the health of Australia's Vietnam veteran community (1972–1997)	Examined the prevalence of selected health conditions among Vietnam War veterans and their children, and compared this with that for the general Australian population. The study involved the completion of a questionnaire (by veterans, their children, and their doctors) as well as linkage between the NCSCH, the NDI and other clinical records.	Male veterans on the Nominal Roll of Vietnam Veterans, who were alive in 1998.	Uses several measures for validation of conditions.	The analysis did not capture those who died between the Vietnam War and 1997, whose address could not be obtained from the Australian electoral roll, who did not have a condition selected for analysis, and non-respondents.	https://www.aihw.gov.au/reports/veterans/morbidity-vietnam-veterans-health/contents/table-of-contents

(continued)

Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
Mortality study 2003: Australian veterans of the Korean War (1950-2000)	Analysed causes of death among Korean War veterans, using linkage between the Nominal Roll of Korean War veterans and the NDI, NMD, Department of Defence and DVA records, and other administrative data.	Korean War veterans who were deceased at December 2000.	A long follow-up period allowed for the expression of long-term health conditions. Vital status was established for 95% of veterans in the study.	The NDI does not capture deaths that occurred overseas, except for Australian diplomats, and deaths occurring in transit. A small number of records may be incorrectly linked due to errors or incorrect details provided during death registration. As the vital status of 5% of Korean War veterans could not be ascertained, there is potential for underestimation of the effects of Korean War service on mortality. As the study uses only cause of death information, it is not possible to identify what factors may have affected a veteran's cause of death (for example, pre-existing conditions, or other exposures aside from Korean War service).	NDI: http://meteor.aihw.gov.au/content/index.phtml/itemId/480010%3E NMD: http://www.abs.gov.au/ausstats/abs%40.nsf/mf/3302.0/ http://www.abs.gov.au/ausstats/abs%40.nsf/mf/3303.0 Report: https://www.aihw.gov.au/reports/veterans/mortality-study-2003-australian-veterans-of-the-k/contents/table-of-contents

(continued)

Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
National Aged Care Data Clearinghouse (2014–15, 2016–17)	Includes information on aged care providers, services, care recipients and payments. Administrative data are collected at the service provider level, a subset of which is then collected by the Department of Social Services. A subset of this is provided to the Clearinghouse, which is updated each year. The Clearinghouse holds data on services and clients from the time of the introduction of the Aged Care Act 1997 (including historical data on clients receiving care at this time). The data include aged care services subsidised by the Australian Government (Aged Care Assessment Program, Community packaged care programs, Home and Community Care, Transition Care Program).	Aged care services funded by the DVA, or provided to DVA card holders.	The data are consistent and comparable over time. Data linkage is required to estimate the number of people receiving aged care services and programs. To improve the ability to interpret the data, technical documentation for all data sets in the Clearinghouse is currently being developed. As the data are administrative, it is not subject to individuals opting out—thus capturing all records.	As only subsets of data are provided at each stage of collection, the data stored at the Clearinghouse are not comprehensive. It is unknown which subsets are collected. Identification of Indigenous status was non-compulsory, which may result in an underestimation of the number of Indigenous Australians. Information about geographical location refers to the location of the service provider, which may not reflect the residence of the recipients. Information on the sociodemographic characteristics of recipients (such as residence status and living arrangements) were captured at the time of application, and may not reflect recipients' circumstances while receiving care.	http://meteor.aihw.gov.au/content/index.phtml/itemId/586498

(continued)

Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
National Hospital Morbidity Database (2015–16)	Collects information about care provided to admitted patients in Australian hospitals and includes information from the Admitted Patient Care national minimum data set (NMDS) and the Admitted Subacute and Non-acute Hospital Care data set specification. The Admitted Patient Care NMDS includes episodes of care for admitted patients in all public and private acute and psychiatric hospitals, free-standing day hospital facilities and alcohol and drug treatment centres in Australia. Hospitals operated by the ADF, corrections authorities and in Australia's off shore territories may also be included. Hospitals specialising in dental, ophthalmic aids and other specialised acute medical or surgical care are included. Community health centres are excluded from the data set.	Hospitalisations funded by DVA. Hospitalisations funded by the Department of Defence.	The Admitted Patient Care NMDS includes the minimum set of data elements agreed for mandatory collection and reporting at a national level. The Admitted Subacute and Non-acute Hospital Care data set specification includes metadata that are recommended for best practice. The data set is quite comprehensive, receiving data from almost all public and private hospitals.	A record is collected for each separation from hospital, not each patient. As such patients who were admitted more than once during the year have multiple records. Data on state/territory hospitalisations should be interpreted with caution as, in some cases, these capture admissions to hospitals outside of the individual's usual state/territory of residence. The classification of hospitals as public or private differs between jurisdictions, and may change between or within years. Hospital boarders and stillbirths are not included as they are not admitted to hospital. Episodes relating to organ donation after death are excluded. Classifications and coding standards for diagnoses, procedures, and external causes can change over time. As such, caution should be used when comparing these results across time. A total of 22% of Indigenous patients were not correctly identified in public hospitals, and the extent to which Indigenous Australians may be under-identified in private hospitals data is unknown.	Admitted Patient Care NMDS: http://meteor.aihw.gov.au/content/index.phtml/itemId/588909 Admitted Patient Mental Health Care NMDS: http://meteor.aihw.gov.au/content/index.phtml/itemId/590510 Admitted Patient Palliative Care NMDS: http://meteor.aihw.gov.au/content/index.phtml/itemId/590512 Admitted Subacute and Non-Acute Hospital Care data set specification: http://meteor.aihw.gov.au/content/index.phtml/itemId/588098

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Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
National Non-Admitted Patient Emergency Department Care Database (NNAPEDCD) (2016–17)	A collection of episode-level data from emergency departments in public hospitals from 1 July 2016 to 30 June 2017. The database includes information about the care provided (including waiting times) for non-admitted patients registered for care in public hospital emergency departments that have: • a purposely designed and equipped area with designated assessment, treatment and resuscitation areas • the ability to provide resuscitation, stabilisation and initial management of all emergencies • availability of medical staff in the hospital 24 hours a day • designated emergency department nursing staff 24 hours per day, 7 days per week, and a designated emergency department nursing unit manager. Patients who were dead on arrival are in scope if an emergency department clinician certified the death. Patients who leave the emergency department after being triaged, and then advised of alternative treatment options are included. Non-physical presentations to emergency departments, advice provided by telephone or video conferencing are excluded. Excluded from the scope of the National Best Endeavor Data Set (NBEDS) are episodes where: • care is provided to patients in GP co-located units • only a clerical service is provided to people supporting a pre-arranged admission • people are awaiting transit to another facility and receive no clinical care.	Emergency department presentations funded by DVA.	The Non-Admitted Patient Emergency Department Care (NAPEDC) NMDS includes the minimum set of data elements agreed for mandatory collection and reporting at a national level. The NBEDS includes metadata that are recommended for best practice.	Does not include information for emergency departments in private hospitals. A record is collected for each separation from hospital, not each patient. As such patients who were admitted more than once during the year have multiple records. Caution should be used when interpreting results on Indigenous Australians, as the quality of the data reported for Indigenous status has not been formally assessed. Victoria, Queensland and Western Australia provided data to the database using the NAPEDC NBEDS, while the other states and territories used the NAPEDC NMDS. Hence, data from Victoria, Queensland and Western Australia may not be comparable with data provided for other states and territories. Due to missing or invalid data, information on waiting times could not be calculated for around 43,000 presentations. The length of emergency department stay could not be calculated for 7,000 emergency department presentations. The duration of clinical care could not be calculated for about 88,000 records. A principal diagnosis was not reported for about 308,000 records. Changes to the scope of the data set and to methods of reporting by hospitals have occurred over time. As such, caution should be exercised when comparing data sets.	https://www.aihw.gov.au/reports/hospitals/ahs-2016-17-emergency-department-care/contents/table-of-contents

(continued)

Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
National suicide monitoring of serving and ex-serving ADF personnel: 2018 update (2002–2016)	This report investigated the level of suicide among serving, reserve and ex-serving ADF personnel, and examined the factors associated with suicide risk. This involved linkage between the Department of Defence's PMKeyS, the NDI and the NMD. The PMKeyS data were used to identify ADF members with at least 1 day of service between 2001 and 2016.	ADF personnel who served from 2001–2016.	The PMKeyS contains information on all people with ADF service on or after 1 January 2001. Deaths recorded in the NMD are certified by a doctor or coroner. As the data are administrative, it is not subject to individuals opting out—thus capturing all records.	The NDI does not capture deaths that occurred overseas, except of Australian diplomats, and deaths occurring in transit. A small number of records may be incorrectly linked due to errors or incorrect details provided during death registration. The number of deaths occurring in the last year of data may be underestimated, as it has been observed that, each year, around 5% of deaths are not being registered until the following year. Some records linked to the Cause of Death Unit Record File may change where a death is being investigated by a coroner and more information is acquired. This will affect tables containing the number of suicides by period, as some deaths currently coded as 'undetermined intent' could later be identified as 'intentional self harm'. Some of the findings are based on small numbers of deaths (for example, when broken down by service status, age and gender). Rates calculated using small numbers are susceptible to small changes, and thus have wide confidence intervals. Such results should be interpreted with caution. Further, some results are not publishable because of small numbers, confidentiality or other concerns about the quality of the data.	NDI: http://meteor.aihw.gov.au/content/index.phtml/itemId/480010%3E. NMD: http://www.abs.gov.au/ausstats/abs%40.nsf/mf/3302.0/ http://www.abs.gov.au/ausstats/abs%40.nsf/mf/3303.0 Report: https://www.aihw.gov.au/reports/veterans/national-veteran-suicide-monitoring/contents/summary

(continued)

Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
Peacekeepers' health study (2009–2010)	Investigated the mental and physical health of a sample of ADF peace keepers who were deployed on peace keeping missions between 1989 and 2002.	Former ADF peace keepers.	Compares the study population with other cohorts of deployed ADF members, as well as the general Australian population.	Small but significant differences in the characteristics of responders and non responders may have introduced bias. As the data were collected via survey, it is susceptible to inaccuracies in reporting by participants. Being collected via survey, the data do not capture the entire population of interest, and are susceptible to non-response and sampling error.	https://www.dva.gov.au/health-and-wellbeing/research-and-development/health-studies/peacekeepers-health-study
Pharmaceutical Benefits Scheme group reports (2016–17)	These reports provide statistics on groups of pharmaceutical items. The RPBS provides compensation for veterans and eligible dependants for war-related injury or death. Data regarding RPBS claims are included as part of PBS claims data. PBS and RPBS data are derived from the Department of Human Services' administration of the pharmaceutical payment system.	RPBS claims.	Administrative data capture all in-scope events.	The RPBS claims data do not include information on pharmaceutical use among veterans who are not eligible for the RPBS (that is, veterans who are not DVA clients).	http://medicarestatistics.humanservices.gov.au/statistics/pbs_group.jsp
Report on Government Services (2016–17)	The annual Report on Government Services provides information on the equity, effectiveness and efficiency of government services in Australia. Updated annually.	Services and programs funded by DVA.	Regularly updated.	Data format and specifications available only as reported.	https://www.pc.gov.au/research/ongoing/report-on-government-services

(continued)

Table A1 (continued): Summary of data sources

Data source	Scope	Veteran population	Advantages	Limitations	Data quality statement
Survey of Veterans, War Widows and their Carers (2006)	Examined the health status, lifestyle, and use of services among DVA card holders and SRCA clients and their carers.	DVA clients, SRCA clients.	Provides information on veterans' attitudes toward lifestyle and health behaviours of veterans.	The report provides limited information on the results of the survey, and does not clearly define the study populations or recruitment methods. Being collected via survey, the data do not capture the entire population of interest, and are susceptible to non-response and sampling error.	https://www.dva.gov.au/health-and-wellbeing/research-and-development/social-research/australian-veterans-and-war-widows-%E2%80%93
Transition and Wellbeing Research Programme: Mental Health and Wellbeing Transition Study (2015)	The study includes two reports on the mental health of transitioned ADF members: the Mental Health Prevalence Report, which estimated the prevalence of mental disorders and self-reported suicidality; and the Pathways to Care Report, which examined the patterns of seeking and using mental health services. Comparisons were made between transitioned ADF members and ADF members serving in 2015, as well as the general Australian population. The study also provided a comparison over time (ADF members serving in 2010 with those serving in 2015).	ADF members who transitioned out of full-time regular service between 2010 and 2014.	Includes several subgroups of veterans, allowing comparisons to be made between the different stages of a veteran's service life.	The response rate for the study was low (29%) and, as a result, the estimates are heavily reliant on weighting. As the data were collected by surveying and interviewing, it is susceptible to inaccuracies in reporting by participants and to differences in participants' perceptions of what constitutes a mental health concern. There may be overlap between some comparison samples. As participation in the study was voluntary, the study did not capture the entire population of interest due to non-response. As such, the data are susceptible to sampling error.	https://www.dva.gov.au/health-and-wellbeing/research-and-development/social-research/transition-and-wellbeing-research

ICD-10-AM codes for the most common burden of disease conditions

Appendix B

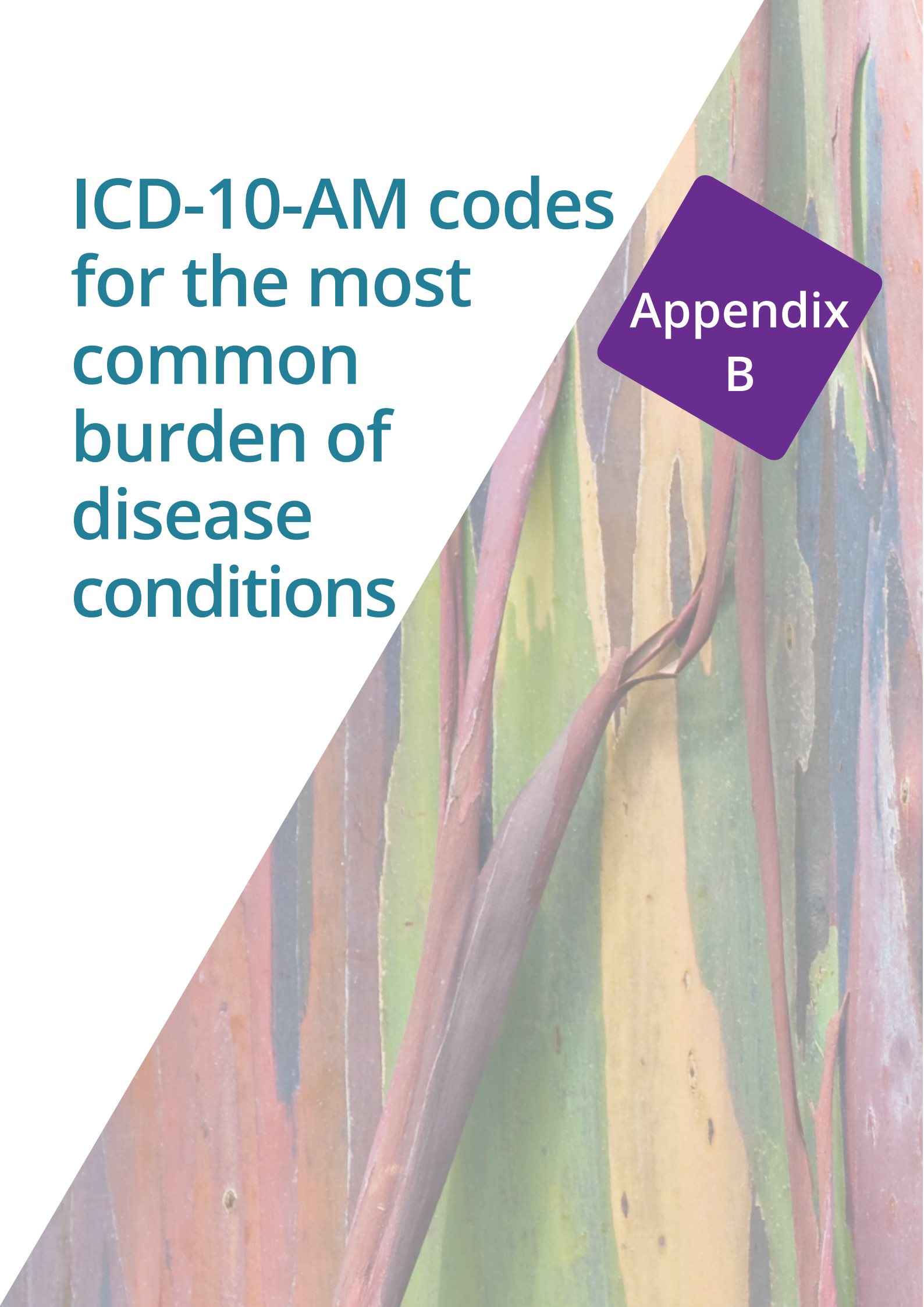

Table B1: Burden of disease condition to ICD-10-AM codes

Burden of disease condition	ICD-10-AM codes
Abdominal wall hernia	K40, K400, K4000, K4001, K401, K4010, K4011, K402, K4020, K4021, K403, K4030, K4031, K404, K4040, K4041, K409, K4090, K4091, K41, K410, K411, K412, K413, K414, K419, K42, K420, K421, K429, K43, K430, K431, K432, K433, K434, K435, K436, K437, K439, K45, K450, K451, K458, K46, K460, K461, K469
Age-related macular degeneration	H353
Alcohol use disorders	F10, F100, F101, F102, F103, F104, F105, F106, F107, F108, F109, Z811, Z8641
Anxiety disorders	F40, F400, F4000, F4001, F401, F402, F408, F409, F41, F410, F411, F412, F413, F418, F419, F42, F420, F421, F422, F428, F429, F43, F430, F431, F432, F438, F439
Appendicitis	K35, K350, K351, K352, K353, K358, K359, K36, K37

(continued)

Table B1 (continued): Burden of disease condition to ICD-10-AM codes

Burden of disease condition	ICD-10-AM codes
Back pain and problems	M40, M400, M4000, M4001, M4002, M4003, M4004, M4005, M4006, M4007, M4008, M4009, M401, M4010, M4011, M4012, M4013, M4014, M4015, M4016, M4017, M4018, M4019, M402, M4020, M4021, M4022, M4023, M4024, M4025, M4026, M4027, M4028, M4029, M403, M4030, M4031, M4032, M4033, M4034, M4035, M4036, M4037, M4038, M4039, M404, M4040, M4041, M4042, M4043, M4044, M4045, M4046, M4047, M4048, M4049, M405, M4050, M4051, M4052, M4053, M4054, M4055, M4056, M4057, M4058, M4059, M41, M410, M4100, M4101, M4102, M4103, M4104, M4105, M4106, M4107, M4108, M4109, M411, M4110, M4111, M4112, M4113, M4114, M4115, M4116, M4117, M4118, M4119, M412, M4120, M4121, M4122, M4123, M4124, M4125, M4126, M4127, M4128, M4129, M413, M4130, M4131, M4132, M4133, M4134, M4135, M4136, M4137, M4138, M4139, M414, M4140, M4141, M4142, M4143, M4144, M4145, M4146, M4147, M4148, M4149, M415, M4150, M4151, M4152, M4153, M4154, M4155, M4156, M4157, M4158, M4159, M418, M4180, M4181, M4182, M4183, M4184, M4185, M4186, M4187, M4188, M4189, M419, M4190, M4191, M4192, M4193, M4194, M4195, M4196, M4197, M4198, M4199, M4200, M4201, M4202, M4203, M4204, M4205, M4206, M4207, M4208, M4209, M421, M4210, M4211, M4212, M4213, M4214, M4215, M4216, M4217, M4218, M4219, M429, M4290, M4291, M4292, M4293, M4294, M4295, M4296, M4297, M4298, M4299, M4300, M4301, M4302, M4303, M4304, M4305, M4306, M4307, M4308, M4309, M431, M4310, M4311, M4312, M4313, M4314, M4315, M4316, M4317, M4318, M4319, M432, M4320, M4321, M4322, M4323, M4324, M4325, M4326, M4327, M4328, M4329, M433, M434, M435, M4350, M4351, M4352, M4353, M4354, M4355, M4356, M4357, M4358, M4359, M436, M438, M4380, M4381, M4382, M4383, M4384, M4385, M4386, M4387, M4388, M4389, M439, M4390, M4391, M4392, M4393, M4394, M4395, M4396, M4397, M4398, M4399, M45, M450, M4500, M4501, M4502, M4503, M4504, M4505, M4506, M4507, M4508, M4509, M46, M460, M4600, M4601, M4602, M4603, M4604, M4605, M4606, M4607, M4608, M4609, M461, M462, M4620, M4621, M4622, M4623, M4624, M4625, M4626, M4627, M4628, M4629, M463, M4630, M4631, M4632, M4633, M4634, M4635, M4636, M4637, M4638, M4639, M464, M4640, M4641, M4642, M4643, M4644, M4645, M4646, M4647, M4648, M4649, M465, M4650, M4651, M4652, M4653, M4654, M4655, M4656, M4657, M4658, M4659, M468, M4680, M4681, M4682, M4683, M4684, M4685, M4686, M4687, M4688, M4689, M469, M4690, M4691, M4692, M4693, M4694, M4695, M4696, M4697, M4698, M4699, M47, M470, M4700, M4701, M4702, M4703, M4704, M4705, M4706, M4707, M4708, M4709, M471, M4710, M4711, M4712, M4713, M4714, M4715, M4716, M4717, M4718, M4719, M472, M4720, M4721, M4722, M4723, M4724, M4725, M4726, M4727, M4728, M4729, M478, M4780, M4781, M4782, M4783, M4784, M4785, M4786, M4787, M4788, M4789, M479, M4790, M4791, M4792, M4793, M4794, M4795, M4796, M4797, M4798, M4799, M48, M480, M4800, M4801, M4802, M4803, M4804, M4805, M4806, M4807, M4808, M4809, M481, M4810, M4811, M4812, M4813, M4814, M4815, M4816, M4817, M4818, M4819, M482, M4820, M4821, M4822, M4823, M4824, M4825, M4826, M4827, M4828, M4829, M483, M4830, M4831, M4832, M4833, M4834, M4835, M4836, M4837, M4838, M4839, M484, M4840, M4841, M4842, M4843, M4844, M4845, M4846, M4847, M4848, M4849, M485, M4850, M4851, M4852, M4853, M4854, M4855, M4856, M4857, M4858, M4859, M488, M4880, M4881, M4882, M4883, M4884, M4885, M4886, M4887, M4888, M4889, M489, M4890, M4891, M4892, M4893, M4894, M4895, M4896, M4897, M4898, M4899, M49, M490, M4900, M4901, M4902, M4903, M4904, M4905, M4906, M4907, M4908, M4909, M491, M4910, M4911, M4912, M4913, M4914, M4915, M4916, M4917, M4918, M4919, M492, M4920, M4921, M4922, M4923, M4924, M4925, M4926, M4927, M4928, M4929, M493, M4930, M4931, M4932, M4933, M4934, M4935, M4936, M4937, M4938, M4939, M494, M4940, M4941, M4942, M4943, M4944, M4945, M4946, M4947, M4948, M4949, M495, M4950, M4951, M4952, M4953, M4954, M4955, M4956, M4957, M4958, M4959, M498, M4980, M4981, M4982, M4983, M4984, M4985, M4986, M4987, M4988, M4989, M50, M500, M501, M502, M503, M508, M509, M51, M510, M511, M512, M513, M514, M518, M519, M53, M530, M531, M532, M5320, M5321, M5322, M5323, M5324, M5325, M5326, M5327, M5328, M5329, M533, M538, M5380, M5381, M5382, M5383, M5384, M5385, M5386, M5387, M5388, M5389, M539, M5390, M5391, M5392, M5393, M5394, M5395, M5396, M5397, M5398, M5399, M54, M540, M5400, M5401, M5402, M5403, M5404, M5405, M5406, M5407, M5408, M5409, M541, M5410, M5411, M5412, M5413, M5414, M5415, M5416, M5417, M5418, M5419, M542, M543, M544, M545, M546, M548, M5480, M5481, M5482, M5483, M5484, M5485, M5486, M5487, M5488, M5489, M549, M5490, M5491, M5492, M5493, M5494, M5495, M5496, M5497, M5498, M5499, M60, M6300, M6301, M6302, M6303, M6304, M6306, M6307, M6308, M6309, M631, M6311, M6312, M6313, M6314, M6315, M6317, M6318, M6319, M632, M6320, M6322, M6323, M6324, M6325, M6326, M6328, M6329, M633, M6330, M6331, M6333, M6334, M6335, M6336, M6337, M6339, M638, M6380, M6381, M6382, M6384, M6385, M6386, M6387, M6388, M6389, M6800, M6802, M6804, M6806, M6808, M688, M6881, M6883, M6885, M6887, M6889, M7301, M7304, M7307, M731, M7312, M7315, M7318, M7380, M7383, M7386, M7388, M99, M990, M991, M992, M993, M994, M995, M996, M997, M998, M999

(continued)

Table B1 (continued): Burden of disease condition to ICD-10-AM codes

Burden of disease condition	ICD-10-AM codes
Cataract and other lens disorders	H25, H250, H251, H252, H258, H259, H26, H260, H261, H262, H263, H264, H268, H269, H27, H270, H271, H278, H279, H28, H281, H282, H288
Chronic obstructive pulmonary disease	J40, J41, J410, J411, J418, J42, J43, J430, J431, J432, J438, J439, J44, J440, J441, J448, J449, J961, J9610, J9611, J9619
Coronary heart disease	I20, I200, I201, I208, I209, I21, I210, I211, I212, I213, I214, I219, I22, I220, I221, I228, I229, I23, I230, I231, I232, I233, I234, I235, I236, I238, I24, I240, I241, I248, I249, I25, I250, I251, I2510, I2511, I2512, I2513, I252, I253, I254, I255, I256, I258, I259
Depressive disorders	F32, F320, F3200, F3201, F321, F3210, F3211, F322, F3220, F3221, F323, F3230, F3231, F328, F3280, F3281, F329, F3290, F3291, F33, F330, F331, F332, F333, F334, F338, F339, F340, F341, F348, F349, F38, F380, F381, F388, F39, Z830
Functional gastrointestinal disorders	K580, K589, R10, R100, R101, R102, R103, R104, R11, R12, R13, R14, R15
Inflammatory bowel disease	K50, K500, K501, K508, K509, K51, K510, K511, K512, K513, K514, K515, K518, K519, K52, K520, K521, K522, K523, K528, K529
Lower respiratory infections	J12, J120, J121, J122, J123, J128, J129, J14, J15, J150, J151, J152, J153, J154, J155, J156, J157, J158, J159, J16, J160, J168, J17, J170, J171, J172, J173, J178, J18, J180, J181, J182, J188, J189, J20, J200, J201, J202, J203, J204, J205, J206, J207, J208, J209, J21, J210, J211, J218, J219, J22, J85, J850, J851, J852, J853, J86, J860, J869
Non-melanoma skin cancer	C44, C440, C441, C442, C443, C444, C445, C446, C447, C448, C449, C792
Osteoarthritis	M15, M150, M151, M152, M153, M154, M158, M159, M16, M160, M161, M162, M163, M164, M165, M166, M167, M169, M17, M170, M171, M172, M173, M174, M175, M179, M18, M180, M181, M182, M183, M184, M185, M189, M19, M190, M1901, M1902, M1903, M1904, M1907, M1908, M1909, M191, M1911, M1912, M1913, M1914, M1917, M1918, M1919, M192, M1921, M1922, M1923, M1924, M1927, M1928, M1929, M198, M1981, M1982, M1983, M1984, M1987, M1988, M1989, M199, M1991, M1992, M1993, M1994, M1997, M1998, M1999
Schizophrenia	F20, F200, F201, F202, F203, F204, F205, F206, F208, F209, F21, F22, F220, F228, F229, F23, F230, F2300, F2301, F231, F2310, F2311, F232, F2320, F2321, F233, F2330, F2331, F238, F2380, F2381, F239, F2390, F2391, F24, F25, F250, F251, F252, F258, F259, F28, F29
Skin infections (including cellulitis)	A46, B86, H000, H001, H01, H010, H011, H018, H019, H03, H030, H031, H038, H600, H601, H602, H603, H604, H605, H608, H609, J340, L00, L01, L010, L011, L02, L020, L021, L022, L023, L024, L0240, L0241, L0242, L0243, L028, L029, L03, L030, L0301, L0302, L031, L0312, L0313, L0314, L0319, L032, L033, L038, L039, L050, L08, L080, L081, L088, L089
Soft tissue injuries	S034, S035, S134, S135, S136, S16, S230, S233, S234, S235, S290, S335, S3351, S336, S337, S390, S434, S435, S436, S437, S46, S460, S461, S462, S463, S467, S468, S469, S532, S533, S534, S5340, S5341, S5342, S5343, S5344, S5348, S56, S560, S561, S562, S563, S564, S565, S567, S568, S633, S634, S635, S6350, S6351, S6352, S6353, S6358, S636, S6360, S6361, S6362, S6368, S637, S66, S660, S661, S662, S663, S664, S665, S666, S667, S668, S669, S731, S7310, S7311, S7312, S7318, S76, S760, S761, S762, S763, S764, S767, S832, S833, S834, S8340, S8341, S8342, S8343, S8344, S835, S8350, S8351, S8352, S8353, S8354, S836, S837, S86, S860, S861, S862, S863, S867, S868, S869, S932, S934, S9340, S9341, S9342, S9343, S9348, S935, S936, S96, S960, S961, S962, S967, S968, S969, T064, T095, T115, T135, T146
Stroke	I60, I600, I601, I602, I603, I604, I605, I606, I607, I608, I609, I61, I610, I611, I612, I613, I614, I615, I616, I618, I619, I62, I620, I621, I629, I63, I630, I631, I632, I633, I634, I635, I636, I638, I639, I64, I65, I650, I651, I652, I653, I658, I659, I66, I660, I661, I662, I663, I664, I668, I669, I67, I670, I671, I672, I673, I674, I675, I676, I677, I678, I679, I68, I680, I681, I682, I688, I69, I690, I691, I692, I693, I694, I698, Z823
Upper respiratory conditions	J30, J300, J301, J302, J303, J304, J31, J310, J311, J312, J32, J320, J321, J322, J323, J324, J328, J329, J33, J330, J331, J338, J339, J341, J342, J343, J348, J35, J350, J351, J352, J353, J358, J359, J36, J37, J370, J371, J38, J380, J3800, J3801, J3802, J3803, J3804, J381, J382, J383, J384, J385, J386, J387, J39, J390, J391, J392, J393, J398, J399

Glossary

95% confidence interval: A range of values around the point estimate in which there is 95% certainty that the true value of the difference lies.

ADF personnel: Serving and ex-serving members of the Australian Defence Force; does not include civilian personnel employed by the Department of Defence.

aged care services: Regulated care delivered in either residential or community settings, including the person's own home. Most formal care is funded through government programs but may also be purchased privately. The Department of Veterans' Affairs funds the Veteran Home Care Program and Community Nursing Program for eligible veterans, war widows and widowers.

age-specific rate: A rate for a specific age group. The numerator and denominator relate to the same age group.

alcohol disorder: A class of mental disorder involving the harmful use and/or dependence on alcohol.

Australia's Physical Activity and Sedentary Behaviour Guidelines: The guidelines recommend that adult Australians aged 18–64:

- be active on most, preferably all, days every week
- accumulate 150 to 300 minutes of moderate intensity physical activity or 75 to 150 minutes of vigorous intensity physical activity, or an equivalent combination of both moderate and vigorous activities, each week
- do muscle-strengthening activities on at least 2 days each week
- minimise the amount of time spent in prolonged sitting
- break up long periods of sitting as often as possible.

For Australians aged 65 and over, the guidelines recommend people should be active every day in as many ways as possible, and accumulate at least 30 minutes of moderate intensity physical activity on most, preferably all, days.

body mass index (BMI): The most commonly used method of assessing whether a person is normal weight, underweight, overweight or obese. It is calculated by dividing the person's weight (in kilograms) by their height (in metres) squared; that is, kg ÷ m^2. For both men and women, underweight is a BMI below 18.5, acceptable weight is from 18.5 to less than 25, overweight is from 25 to less than 30, and obese is 30 and over. Sometimes overweight and obese are combined, and defined as a BMI of 25 and over.

cancer: Also called malignancy, a term for diseases in which abnormal cells divide without control and can invade nearby tissues. Cancer cells can also spread to other parts of the body through the blood and lymph systems.

cause of death: The causes of death entered on the Medical Certificate of Cause of Death are all diseases, morbid conditions or injuries that either resulted in, or contributed to, death, and the circumstances of the accident or violence that produced any such injuries. Causes of death are commonly reported by the underlying cause of death: the disease or injury that initiated the train of events leading directly to death, or the circumstances of the accident or violence that produced the fatal injury.

cohort: A group of people who share a similar characteristic(s) (for example, age).

core activity limitation: A limitation where one needs assistance with, has difficulties with, or uses aids or equipment to help with self-care, mobility and/or communication.

crude rate: A rate based on the number of occurrences of an event (for example, number of deaths) divided by the corresponding population multiplied by 100,000 (which provides the number of deaths per 100,000 population in a given time period).

current smoker: A person who reported at the time of interview that they smoked cigarettes, cigars or pipes.

data linkage: The bringing together (linking) of information from two or more different data sources that are believed to relate to the same entity; for example, the same individual or the same institution. This can provide more information about the entity and, in certain cases, provide a time sequence, helping to 'tell a story', show 'pathways' and perhaps unravel cause and effect. The term is used synonymously with 'record linkage' and 'data integration'.

dependant: The partner, parent, step-parent, grandparent, child, step-child, grandchild, sibling or half-sibling of a current or former ADF member. The member's partner's parent, step-parent, child or step-child may also be included as dependants. Further, a dependant may also include a person who stands in the position of a parent to the member, or a person in respect of whom the member stands in the position of a parent.

deployment: Warlike or non-warlike service overseas by members assigned for duty with a United Nations mission or a similar force.

disability: An umbrella term for any or all of an impairment of body structure or function, a limitation in activities, or a restriction in participation. Disability is a multidimensional concept, and is considered as an interaction between health conditions and personal and environmental factors.

employed: Describes people aged 15 and over who had a job or business, or who undertook work without pay in a family business for a minimum of 1 hour per week. Includes people who were absent from a job or business.

ex-serving: ADF members who have discharged from the serving or reserve population.

ex-smoker: A person who reported that they did not currently smoke, but had regularly smoked daily, or had smoked at least 100 cigarettes, or smoked pipes, cigars, and so on at least 20 times in their lifetime (from the ABS 2014–15 National Health Survey).

family: Two or more people, one of whom is at least 15 years old, who are related by blood, marriage (registered or de facto), adoption, step or fostering, and who are usually living in the same household. Each separately identified couple relationship, lone parent to child relationship or other blood relationship forms the basis of a family. Some households contain more than one family.

general practitioner (GP): A medical practitioner who provides primary comprehensive and continuing care to patients and their families within the community.

hospitalisation: Synonymous with admission and separation; that is, an episode of hospital care that starts with the formal admission process and ends with the formal separation process. An episode of care can be completed by the patient's being discharged, transferred to another hospital or care facility, or dying, or by a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute to rehabilitation).

Indigenous: Describes a person of Aboriginal and/or Torres Strait Islander descent or who identifies as an Aboriginal and/or Torres Strait Islander.

informal carer: A person of any age who provides any informal assistance, in terms of help or supervision, to people with disability or long-term conditions, or to people aged 65 and over. This assistance must be ongoing, or likely to be ongoing, for at least 6 months.

labour force: People who were **employed** or unemployed (not employed but actively looking for work).

length of stay: Duration of hospital stay, calculated by subtracting the date the patient is admitted from the date of separation. All leave days, including the day the patient went on leave, are excluded. A same-day patient is allocated a length of stay of 1 day.

lifetime risk (alcohol): The accumulated risk from drinking either on many drinking occasions, or on a regular (for example, daily) basis over a lifetime. The lifetime risk of harm from alcohol-related disease or injury increases with the amount consumed. For healthy men and women, drinking no more than 2 standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury. In this report, alcohol risk was derived from an individual's average daily consumption over the 3 most recent days that they had consumed alcohol in the week before the interview, collected in the ABS National Health Survey.

median: The midpoint of a list of observations that have been ranked from smallest to largest.

Medicare: A national, government-funded scheme that subsidises the cost of personal medical services for all Australians and aims to help them afford medical care. The Medicare Benefits Schedule (MBS) is the listing of the Medicare services subsidised by the Australian Government. The schedule is part of the wider Medicare Benefits Scheme (Medicare).

mortality: Number or rate of deaths in a population during a given time period.

non-school qualification: Educational attainments other than those of pre-primary, primary and secondary education. They include qualifications at the following levels: Postgraduate Degree, Graduate Diploma and Graduate Certificate, Bachelor Degree, Advanced Diploma and Diploma, and Certificates I, II, III and IV. Non-school qualifications may be attained concurrently with school qualifications.

nutrition: The intake of food, considered in relation to the body's dietary needs.

Pharmaceutical Benefits Scheme (PBS): A national, government-funded scheme that subsidises the cost of a wide range of pharmaceutical drugs for all Australians to ensure timely, reliable and affordable access to necessary medicines. The Schedule of Pharmaceutical Benefits (Schedule) is published monthly and lists all the medicinal products available under the PBS and explains the uses for which they can be subsidised.

principal diagnosis: The diagnosis established after study to be chiefly responsible for occasioning an episode of patient care **(hospitalisation)**, an episode of residential care or an attendance at the health care establishment.

protective factors: Factors that enhance the likelihood of positive outcomes and lessen the chance of negative consequences from exposure to risk.

Repatriation Pharmaceutical Benefits Scheme (RPBS): The RPBS is subsidised by the Department of Veterans' Affairs (DVA), and can be accessed by veterans who have the following DVA cards:

- Gold or Orange Card (all medical conditions)
- White Card (specific medical conditions).

Under the RPBS, eligible veterans/war widow(er)s may receive:

- items listed for supply in the PBS
- items listed under the RPBS, including wound care products
- items not listed on either the PBS or RPBS schedules, if clinically justified.

All medicines supplied under the RPBS are dispensed at the concessional rate (or free if the patient has reached their Safety Net threshold).

standard drink (alcohol): Containing 10 grams of alcohol (equivalent to 12.5 millilitres of alcohol). Also referred to as a full serve.

statistical significance: A statistical measure indicating how likely the observed difference is due to chance alone.

suicide: Deliberately ending one's own life.

transition: The process of moving from full-time ADF service into civilian life.

triage category: Used in the emergency departments of hospitals to indicate the urgency of the patient's need for medical and nursing care. Patients are triaged into 1 of 5 categories on the Australasian Triage Scale. The triage category is allocated by an experienced registered nurse or medical practitioner.

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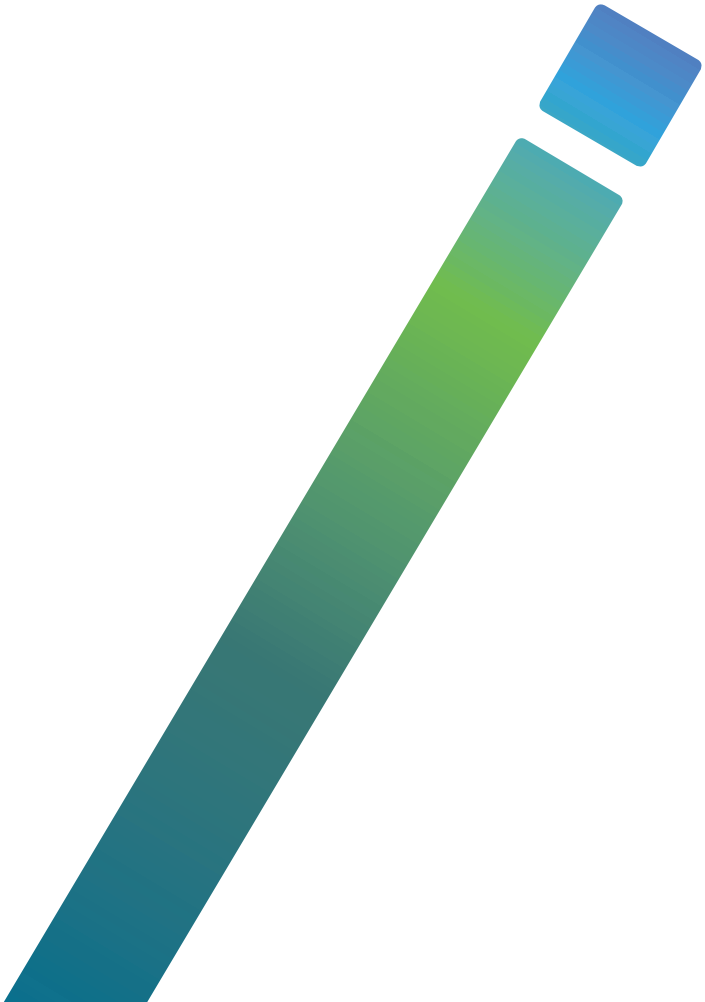
Related publications

The following AIHW publications relating to veterans' health and welfare might also be of interest:

- AIHW 2018. Causes of death among serving and ex-serving ADF personnel: 2002–2015. Cat. no. PHE 228. Canberra: AIHW.
- AIHW 2018. Development of a veteran-centred model: a working paper. Cat. no. PHE 224. Canberra: AIHW.
- AIHW 2018. National suicide monitoring of serving and ex-serving ADF personnel: 2018 update. Cat. no. PHE 222. Canberra: AIHW.
- AIHW 2018. Incidence of suicide among serving and ex-serving ADF personnel 2001–2015: detailed analysis. Cat. no. PHE 218. Canberra: AIHW.
- AIHW 2016. Fourth study of mortality and cancer incidence in aircraft maintenance personnel: a continuing study of F-111 Deseal/Reseal personnel 2016. Cancer series no. 99. Cat. no. CAN 98. Canberra: AIHW.
- AIHW 2016. Incidence of suicide among serving and ex-serving ADF personnel 2001–2014. Cat. no. PHE 212. Canberra: AIHW.
- Harrex W, Horsley K, Jelfs P, van der Hoek R & Wilson E 2003. Mortality of Korean War veterans: the veteran cohort study. Canberra: DVA.
- Wilson E, Horsley K & van der Hoek R 2005a. Australian National Service Vietnam Veterans Mortality and Cancer Incidence Study 2005. Canberra: DVA.
- Wilson E, Horsley K & van der Hoek R 2005b. Australian Vietnam Veterans Mortality Study 2005. Canberra: DVA.
- Wilson E, Horsley K & van der Hoek R 2005c. Cancer incidence in Australian Vietnam Veterans study 2005. Canberra: DVA.

Veterans of the Australian Defence Force are an important group of people for health and welfare monitoring. The unique nature of military service means many veterans experience health and welfare challenges above those of the Australian population. This report presents an overview of what is known about the health and welfare of Australian veterans, identifies key data gaps and looks at what could be done to improve the evidence base.



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