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Development of a veteran-centred model

A working paper

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Australian Institute of Health and Welfare
GPO Box 570
Canberra ACT 2601
Tel: (02) 6244 1000
Email: info@aihw.gov.au

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Abbreviations

ADF	Australian Defence Force
AIHW	Australian Institute of Health and Welfare
BMI	Body mass index
DVA	Department of Veterans' Affairs
GSS	General Social Survey
MBS	Medicare Benefits Schedule
NHS	National Health Survey
NSMHW	National Survey of Mental Health and Wellbeing
PBS	Pharmaceutical Benefits Scheme
PTSD	Post-traumatic stress disorder
RPBS	Repatriation Pharmaceutical Benefits Scheme
SDAC	Survey of Disability, Ageing and Carers

Summary

A veteran-centred model to support holistic analysis and reporting of veterans' health and welfare has been developed as part of a 3-year program of work agreed between the Department of Veterans' Affairs and the Australian Institute of Health and Welfare (AIHW).

This working paper introduces and applies the veteran-centred model, which is based on the AIHW's person-centred model. The person-centred model focuses on the experiences and outcomes of the individual, rather than on specific services or the broader health and welfare system.

The person-centred approach identifies the information domains needed to understand the experiences of the population and its various cohorts. There are seven domains across health and welfare: health, housing, social support, education and skills, employment, income and finance, and safety and justice. The domains in the model can be monitored in the context of individual factors, influences of the community and environment, and social determinants of health and wellbeing.

The development of the veteran-centred model involved exploring the domains to identify elements relating to population health and welfare, including those specific to veterans.

This paper aims to assist researchers, students and policymakers who are working to improve veterans' health and welfare outcomes. This paper can:

- show how the AIHW person-centred model can be relevantly applied to the veteran population
- show how the model will be applied in future reporting on veterans by the AIHW (Next steps)
- prompt improvements to the model by engaging broadly with the research community
- prompt a response from researchers looking at topics across veterans' health and wellbeing to consider the broader impact and interrelated nature of biological, lifestyle, socioeconomic, societal and environmental factors.

1 Introduction

In 2017–18, the Department of Veterans' Affairs (DVA) and the Australian Institute of Health and Welfare (AIHW) set up a 3-year strategic partnership to build a comprehensive profile of the health and welfare of Australia's ex-serving (veteran) population. This program of work will take a coordinated, whole-of-population approach to monitoring and reporting on the current health and welfare and future needs of veterans and their families. This program is in support of DVA's strategic, research and data needs, including informing reporting to government on Veteran Centric Reform initiatives. Developing the veteran-centred model was part of this program of work. The model will guide the exploration of domains to identify elements relating to the health and welfare of veterans, identify data gaps, and frame reporting for a compendium report on the health and welfare of Australia's veterans in 2020.

Veterans and their families are an important group for health and welfare monitoring as their needs are different from those of the general population. Australian veterans may have unique experiences as a result of their service in the Australian Defence Force (ADF), all of which can influence their health and wellbeing. Veterans can be exposed to protective factors because of their service (such as access to health and welfare services, and maintaining physical fitness), but they can also be exposed to certain risk factors that are potentially detrimental to their health and wellbeing (both during and after service).

Traditionally, the term 'veteran' described former ADF members who were deployed to serve in war or in war-like conflict environments. It is important to note that this definition has since evolved to take a broader and more inclusive view of all ADF personnel. 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', rather than by the definition outlined in legislation (Tehan 2017). Therefore, this report uses the term 'veteran' to cover all current and former serving ADF personnel, whether they were deployed to active conflict or peacekeeping operations or served without being deployed.

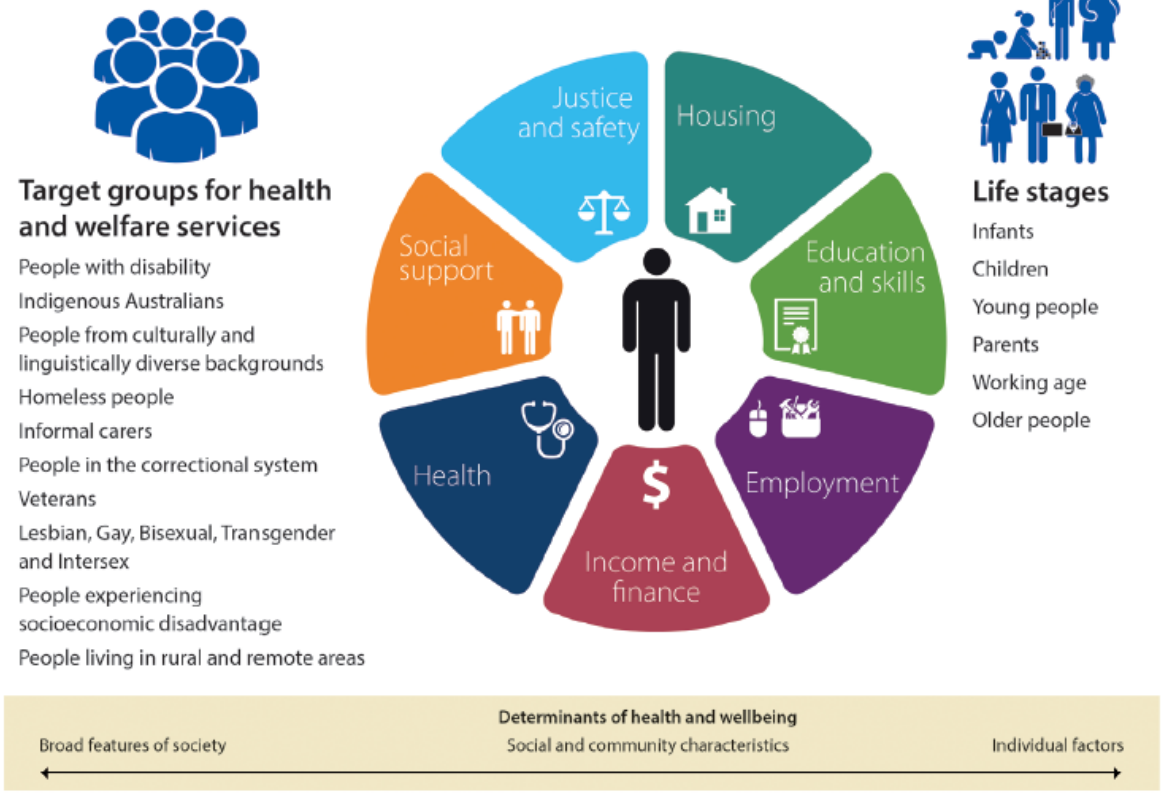
2 What is a person-centred model?

The AIHW has developed a person-centred model to measure and report on health and welfare of the population in a consistent, comprehensive and structured manner (Figure 2.1). The model is based on social–ecological models of the determinants of health and wellbeing, and provides a framework for understanding the key information domains across the health and welfare sectors (AIHW 2017c).

Health and welfare are strongly interrelated. The World Health Organization defines health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' (WHO 1948:1). This definition recognises that being in 'good health' means having positive wellbeing, and that an individual's health status is synonymous with their wellbeing status. In the broadest sense, welfare refers to the wellbeing of people and the state of 'faring well'—for example, being secure, happy, healthy and safe (AIHW 2017c). These broad definitions of health and welfare are applied in the model and throughout this paper.

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 person-centred model provides a way to understand these factors and their interactions, which are grouped into seven domains: health, housing, social support, education and skills, employment, income and finance, and safety and justice. Each domain can be further broken down into elements, which are used to guide analysis and reporting, and allow a picture of the domain to be constructed. Elements differ depending on the domain; they may include factors such as current status, determinants (protective and risk factors), interventions, service availability and use, and outcomes.

The focus of the person-centred model is on the experiences and outcomes of the individual, rather than on specific services or the broader health and welfare system. The model also acknowledges the interactions between each of the domains, the influence of individual and societal factors, and selected population groups who are in greater need of health and welfare services.



Source: AIHW 2017c.

Figure 2.1: Person-centred model

3 Veteran-centred model

The veteran-centred model has been designed to assist understanding of the factors that influence the health and welfare of veterans, and to allow for comprehensive and holistic analysis and reporting. It is based on the AIHW's person-centred model (Figure 2.1) and includes the domains and elements related to the health and welfare of the general population, as well as characteristics specific to the Australian veteran population. Its numerous components interact, but the level of interaction and its associated outcomes depend on the veteran's own circumstances—for example, their age, sex, rank or service experience. The level of interaction and outcomes are also influenced by external factors, such as funding, the types of services and assistance available, and the opportunities accessible to veterans—for example, return-to-work programs for veterans after their discharge from ADF service.

3.1 Understanding the veteran-centred model

Figure 3.1 presents a visual representation of the veteran-centred model. At the model's centre is the veteran, who has certain personal and service characteristics. The veteran is a person with any experience in the ADF (encompassing the broad nature of an individual's ADF employment, be they serving full time, in the reserves, or ex-serving), as well as those involved in the veteran community (such as family members of a veteran, or DVA or Defence clients). Rather than attaching personal and service characteristics to a single domain, they are highlighted separately at the centre of the model. Personal characteristics are those that relate to the veteran, as well as to the general population (for example, age, sex, and place of residence). Service characteristics are specific to the Australian veteran population (for example, type or length of service, conflict/trauma experience, rank, reason for discharge, and transition experience). Personal and service characteristics may present as either protective factors or risk factors for a veteran's health and wellbeing. These characteristics can be used to disaggregate information across each domain and assess the health and welfare of specific subsets of the veteran population.

The inner grey ring of the model illustrates four broad stages of the veteran lifecycle: entry and training, service life, transition, and ex-service life. As veterans will have different experiences, the duration of each of these stages will vary. For example, some individuals may be deployed overseas on war-like or peacekeeping operations, while others remain in Australia or serve in the reserves. As the veteran moves through each of these stages, their needs will continually evolve, and the relative importance of each of the domains will change.

The next layer of the model presents the seven domains (coloured segments)—drawn from the AIHW's person-centred model: health, housing, social support, education and skills, employment, income and finance, and safety and justice. The domains can be monitored in the context of individual factors, influence of the community and environment, and social determinants of health and wellbeing (for example, life stage, family functioning, gender, and risk factors). The domains are further broken down into elements that are specific to the needs of veterans. These elements are used to guide analysis and reporting, and to allow a comprehensive picture of the domain to be constructed. Depending on the individual at the centre of the model, this will influence the elements and domains of the model. For example, a veteran exposed to asbestos may have a higher focus in the health domain, whereas a family member of a veteran adjusting to the challenges of frequent relocations would have a higher focus in the housing and social support domains. These characteristics and components of the model are what enable it to be tailored to the veteran community and their experiences.

The outer grey ring of the model displays the external factors. These are important to consider as they enable a comprehensive understanding of the veterans' experience, and the effectiveness of the wider service delivery system. These external factors, which may influence the veterans' health and welfare, are:

- *environment:* the physical, sociocultural and socioeconomic environment (for example, infrastructure, transportation, social inequality, cultural practices and economic conditions)
- *funding:* the funding of programs and services available to veterans (provided by government and non-government organisations)
- *models of care:* the availability of care to veterans through the Department of Defence, DVA and mainstream services (that is, services available to the general population). This also includes the differences and use of this care, and how these affect the outcomes for the different population groups. This factor covers the operation and delivery of health and welfare services
- *policy:* government policies and legislation specifically related to veterans, as well as to the general population
- *integration/coordination:* the interaction of government policy, services and programs and how these influence the delivery of support to veterans.

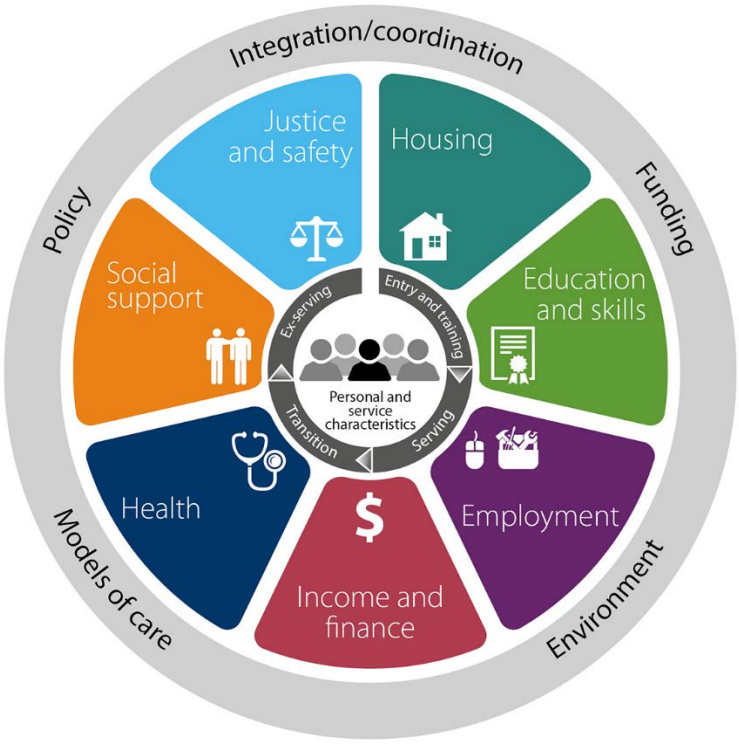


Figure 3.1: Veteran-centred model

3.2 Veteran-centred model: domains and elements

Each domain in the veteran-centred model comprises of specific elements, some of which were identified from the work of the AIHW (for example, those for health) and some within existing public health and welfare reporting. Other elements were based on a review of current literature to identify factors that can be used to measure health and welfare status.

Following this, existing literature on veterans' health and welfare was explored to include any elements specific to veterans. It should be noted that this working paper does not intend to provide an exhaustive review of literature relating to veterans across each of the domains. Rather, the literature is intended to provide evidence of potential importance of each of the domains (and elements) to veterans' health and wellbeing. Each domain of the model includes elements such as current status, determinants (protective and risk factors), interventions, service availability and use, and outcomes (Table 3.1). For more information about each element, see tables 3.2–3.8.

Table 3.1: Veteran-centred model of health and welfare: domains and elements

Health	Housing	Social support	Education and skills
Risk factors (including fruit and vegetable intake, level of physical activity, overweight/obesity, smoking, excessive alcohol consumption, illicit drug use, biomedical and genetic factors, preventive health) Health status (including self-assessed health status, long-term and chronic health conditions, cancer, mental health, disability, cause of death/ life expectancy) Health services (including primary health care, hospital care, mental health services, alcohol and other drug treatment services)	Living conditions Housing assistance Homelessness	Family relationships and friendships Household composition Social networks Social participation Social support programs Aged care Disability support	Educational attainment Vocational education Education support services
	Employment	**Income and finance**	**Justice and safety**
	Labour force status Occupation quality Employment services	Income Financial stress DVA support payments	Crime Feelings of safety Family, domestic and sexual violence

Note: The domains and elements presented in this table are not exhaustive; they are intended to represent key concepts in veterans' health and welfare.

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. Further, the model allows for exploration of the interactions between domains; of the influence of individual, environmental and societal factors; and of certain population groups in greater need of health and welfare services.

3.3 Overview of the domains

The elements of each domain can be explored based on their impact on health and welfare, and their relevance to veterans.

Health domain

Health is a term related to whether the body and mind are in a well or ill state. With good health, 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). More specifically, the concept of health can be defined as the presence, or absence of disease and medically measured risk factors in an individual; a broader concept of health is 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' (WHO 1948:1). Many factors can affect how healthy an individual is, ranging from the macro to the molecular. 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 the health care and access to preventive health care, such as screening and immunisation (AIHW 2016a).

Impact on health and welfare

Health is an important part of how people feel and function and contributes to both social and economic wellbeing (AIHW 2016a). Good health is related to strong welfare outcomes. For example, being in good health enables people to seek educational opportunities, find and secure stable employment, and build and engage with social and community networks. It is also an important factor to the contribution of economic progress, as healthy populations live longer and are more productive (WHO 2017). Health can influence the welfare of a society as the community can ensure that individuals have access to the essentials for a healthy and satisfying life, which raises overall societal productivity in both social and economic terms (WHO 2009).

Relevance to veterans

During the last century, servicemen and servicewomen have served Australia in numerous wars and peacekeeping missions. This service has placed them at a greater risk for particular diseases, exacerbated certain conditions, or resulted in newly acquired physical or mental disabilities (Clarke et al. 2015). However, veterans may also experience positive health effects from their service, through ongoing physical fitness and access to health care during their career. This is known as the 'healthy soldier effect' (Harrex et al. 2003; Kang et al. 2015).

The elements to measure health can be grouped broadly into three categories: risk factors, health status, and health services. Risk factors are experiences or behaviours that can influence health in a positive or negative way, both in the short and/or long term (AIHW 2016a). For example, many chronic diseases share common lifestyle risk factors that are largely preventable, including smoking, excessive alcohol consumption, and excess body weight. Conversely, protective factors or behaviours can positively influence the health of an individual; these include regular exercise, a well-balanced diet and lifestyle, and genetics. Many risk factors are modifiable, meaning they can be changed to improve a person's health. The risk factors identified for the veteran-centred model are fruit and vegetable intake, level of physical activity, overweight/obesity, smoking, excessive alcohol consumption, illicit drug use, preventive health, and selected biomedical and genetic factors.

As a broad concept, health status encompasses measures of functioning, physical illness and mental wellbeing. At the individual level, health status is a person's overall level of health; it can be measured through elements such as self-assessed health status, long-term health conditions, and cause of death (AIHW 2016a). Elements of disability status, mental health, and cancer incidence have been identified as being particularly relevant to veterans' health status, due to the experiences and exposures of military service.

Understanding the risk factors and health status of veterans is important for identifying the needs of the population to design and direct interventions and services. Health services in Australia are provided by a variety of organisations and health professionals to deliver a wide range of support—from public health and preventive services in the community, to primary health care, emergency health services, hospital-based treatment in public and private hospitals, and rehabilitation and palliative care (AIHW 2016a). The Department of Defence and DVA provide services to support veterans during and after their ADF service. Veterans may access these services—and/or services available to all Australians—through mainstream providers. When it comes to managing the health care of veterans, it is important to understand how all health services are delivered, to whom, and at what cost.

Specific topics or health conditions related to veterans (such as hospitalisations, cancer, mental health, and so on) that have not been discussed in this working paper, will be covered in the content of a literature review to supplement the report *A profile of Australia's veterans* (AIHW forthcoming).

Exclusions

Services that are predominantly health or medically related have been included within the health domain. Services related to social interaction and participation may have outcomes for mental and general health; such services are measured and presented within the social support domain, based on the nature of the service.

Housing domain

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. In simple terms, housing can be defined as a structure or a discrete space intended for people to live in, or where a group of people can live (AIHW 2017c). This can include a house, flat, unit, apartment, caravan, boarding room within a house, house/flat attached to a shop—or an improvised house, tent or camper. 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.

Impact on health and welfare

Obtaining sustainable housing is one of the most basic needs for individuals and families, and is fundamental for overall wellbeing (AIHW 2016b). The right to have access to safe and secure housing is viewed as a basic human right; therefore, homelessness (including among veterans) has become an increasing public health concern (UN 1948). Secure housing is associated with improved health; it often facilitates other opportunities—such as stable employment, education and connection to the community—and affects social and familial relationships (AIHW 2017c; Mallett et al. 2011). Further, the quality of living conditions, including housing, also has the potential to affect an individual's health. Substandard housing can be associated with chronic illness and mental health conditions, and individuals who are homeless tend to have limited access to and engagement with primary and/or preventive care (Gabrielian et al. 2014; Krieger & Higgins 2002). The residential environment is also an important aspect of health and welfare through the impact of local resources, community behaviour and safety (Commission on Social Determinants of Health 2008). As well, communities and neighbourhoods that are more socially cohesive, that promote physical and psychological wellbeing, and that protect the natural environment and facilitate goods and services are considered positive factors for 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, such as home purchase assistance, rent assistance, the provision of social housing, and services to support people in maintaining tenancies (AIHW 2016a). The aim of these services is to support individuals to maintain housing and to avoid homelessness. Homelessness can be defined in different ways for different purposes; however, it is commonly defined as the state of a person who does not have suitable accommodation alternatives and whose current living arrangement is inadequate (that is unfit for human habitation), has no tenure, or does not allow them to have control and access to space for social relations (AIHW 2017c). Homelessness is a concern due to its associations with various negative health outcomes, including medical complications, mental health conditions, substance abuse problems and premature mortality.

People experiencing homelessness may access specialist homelessness services; these services provide accommodation assistance and general support, such as domestic/family violence services, mental health services, family/relationship assistance, disability services, drug/alcohol counselling, legal/financial services and immigration/cultural services (AIHW 2017d). 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 2017c).

Relevance to veterans

In Australia, there is growing concern about the number of veterans who experience homelessness. This makes housing a key element in understanding the welfare of veterans, as safe, secure and affordable housing is fundamental to the wellbeing of all individuals (AHURI 2017). Preventing and/or reducing homelessness among Australian veterans is a key priority for DVA—evident in the funding of research projects to identify the scale of the problem and in recommending policy and practice solutions (AHURI 2017). Research from the United States has identified that military service can affect a personnel's social relationships and community engagement, and be associated with social isolation—thus increasing the likelihood of homelessness among veterans (Tsai & Rosenheck 2015).

Due to the limited availability of comparative studies of homelessness among Australian veterans and non-veterans, international studies have been sourced. However, it is important to be aware of the different social, cultural and service variances between Australia and other counties when reviewing international studies. Comparative studies in the United States with non-veterans have consistently shown that veterans are at greater risk of homelessness, and that homeless veterans were at an increased risk of criminal arrest (Tsai & Rosenheck 2015). Other studies from the United States have found that for homeless veterans' with mental illness, this can have a negative consequence, as self-care, adequate nutrition, and access to health care become an even greater challenge (Copeland et al. 2009). Other international studies suggest that homeless veterans are less likely to use health care than housed veterans (Gabrielian et al. 2014). In Australia, homelessness has been strongly associated with suicide risk in males (Arnautovska et al. 2014), but at present no research has been conducted in veteran populations. However, as suicide risk has been identified as being higher in the Australian ex-serving population (AIHW 2017e), homelessness may pose an even greater risk for suicide in this group. Currently, there are no comprehensive models of what leads to veterans' homelessness, but it has been recognised that pre-military, military and post-military factors need to be considered in identifying risk factors for veteran homelessness (Hamilton 2011; Tsai & Rosenheck 2015).

Exclusions

Although housing is closely related to income and employment, elements that specifically measure these factors will be presented in the relevant domains ('income and finance' and 'employment'). Similarly, though income and employment services may influence an individual's housing circumstances, only services directly related to housing (such as housing assistance and homelessness services) are included in this domain.

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. 1979:109). Specifically, social support can be conceptualised as two components: structural and functional. Structural components of social support include aspects such as social networks and social participation. Functional components of social support include the social interaction and

qualities of relationships and engagements between different individuals (Piferi & Lawler 2006; Reblin & Uchino 2008; Umberson & Montez 2010).

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

Impact on health and welfare

Evidence has shown that social determinants (such as income, education, employment and social support), in conjunction with an individual's personal circumstances, can substantially influence their health (AIHW 2016a; WHO 2017). Social connections with family and friends are viewed as a protective factor for a person's wellbeing (Worthen & Ahern 2013). Specifically, social relationships, networks, and interactions with one another can foster positive health outcomes and have a substantial effect on an individual's health throughout their life (Umberson & Montez 2010). Individuals whose spouses, family members and friends provide psychological and physical support have improved mental and physical wellbeing, compared with those with limited social supports (Lincoln 2000). However, at the other end of the spectrum, individuals with less engagement socially and limited social relationships tend to show adverse health outcomes and mortality as well as having a greater prevalence and severity of mental health disorders (such as depression) (Lincoln 2000; Sripada et al. 2016; Umberson & Montez 2010).

Families and social supports can provide a strong foundation on which individuals can become self-reliant and more engaged in their community (DSS 2015). Disruption among families, specifically family violence, can be particularly detrimental to the wellbeing of those involved (ABS 2001a). The wellbeing of individuals living alone or without family support can be affected as they may be more susceptible to loneliness, may be less financially secure, or feel less physically secure in their environment (ABS 2001a).

Relevance to veterans

Maintaining ongoing social supports while completing military service is complex, as frequent moves often make it challenging for the individual to preserve intimate family relationships and social networks outside the military, therefore limiting social supports (Riviere et al. 2012). Once retired from service, transitioning from military life to civilian life can be a difficult and ongoing process, which often requires long-term support. Challenges faced during this transition include a loss of identity, direction and belonging from social supports (National Mental Health Commission 2017). This transition can also involve changes and adjustments to roles and relationships within the home. As such, social networks and access to support programs are important elements of veterans' health and welfare.

International research has established the role of social support in protecting against mental and physical health problems in veteran populations (Boscarino 1995; Sripada et al. 2016). For veterans who are managing mental health issues or comorbid conditions, ongoing social support is even more imperative. In the United States, these issues have been linked to difficulties in maintaining intimate relationships and account for an increased risk of distressed relationships, intimate-partner violence, and divorce (Tanielian & Jaycox 2008). Other international studies found that, for veterans with high rates of post-traumatic stress disorder (PTSD), depression or traumatic brain injury, they are also more likely to experience higher levels of family difficulties (Gros et al. 2016; Sripada et al. 2016).

Social support services are important to veterans as military experience can result in frequent relocations, often to remote places, which can lead to reduced access and use of social support programs (Clarke et al. 2015). Australian research has identified that many ADF personnel lack experience when it comes to managing their health; many, too, have not learnt to navigate the Australian civilian health system and are often unaware of the social support programs available to them (Gill et al. 2016). Government and non-government programs continue to encourage social support for veterans and their families, with DVA often collaborating and supporting ex-service organisations in providing social support, as well as operating its own programs. DVA currently funds a range of psychosocial rehabilitation activities, as part of a veteran's rehabilitation program. The aim of these activities is to provide a set of interventions used to maximise the veteran's quality of life. These include developing or improving life management skills, family functioning, social connectedness, and meaningful engagement with their family and the broader community (DVA 2016b). DVA funds a range of programs to support the veteran community and provides funding to community organisations for projects that benefit veterans, as well as their families, widow(er)s, dependants and carers (DVA 2017a). Ex-service organisations also provide a range of services, from housing and homelessness support, to social groups, sport and health services (DVA 2017a).

Exclusions

Social support is often used to describe a variety of government welfare services, such as those providing housing, employment and educational assistance. Under the veteran-centred model, these services are presented with the domain most closely associated with the type of support provided.

Education and skills domain

Within Australia, formal education is compulsory until the completion of Year 10; after then, the individual must either participate in full-time education, employment or training (or a combination of these) until the age of 17 (AIHW 2017c). After secondary school, young people can enter the workforce, complete further study, or complete a combination of both (AIHW 2017c). There are several education and training options available, with many young people continuing their education pathway through higher or vocational education and training (including apprenticeships and traineeships) (AIHW 2017c). Education can be a lifelong pursuit, equipping a person with core skills and creating pathways to employment. There are many important factors in considering pathways from education to employment—for example, completing schooling and attaining higher levels of education (particularly tertiary level qualifications) can open up broader employment opportunities and outcomes (such as higher relative earnings) in the future (AIHW 2017c).

Impact on health and welfare

Education and training are crucial to a person's development and ability to lead a productive and fulfilling life. Participating and engaging in formal education from an early age can promote self-confidence and independence and provide the skills and competencies needed to obtain employment and stay competitive throughout adulthood (AIHW 2017c). Low school attainment and poor engagement with school can lead to worse outcomes across the life course, including poverty and social exclusion (AIHW 2017c).

Education equips individuals with general as well as specific knowledge and skills that are useful for preventing disease. At the same time, higher educational attainment confers greater prestige and status within the community, as well as serving as a credential for

employment. Earning a degree increases one's chances for obtaining a job that pays well, has prestige, and that exposes workers to fewer safety hazards (Kawachi et al. 2010).

Relevance to veterans

Members leaving the ADF can find it difficult as they transition from military to civilian life; ongoing support in all the major transition areas will help to identify opportunities for the veterans' future (O'Conner et al. 2016). This includes identifying military education and skills that are transferrable to civilian life. The military offers a unique experience; which can provide individuals with a range of opportunities that can be beneficial to the civilian environment (Teachman & Tedrow 2014). Skills to be gained from the military include communication, teamwork, problem solving, self-management, planning and organising, technology skills, and initiative (Department of Defence 2017), though some veterans face challenges in translating such skills in the civilian environment. Transition to civilian life also provides an opportunity for veterans to develop new skills, through tertiary or vocational education.

As the civilian workforce is becoming increasingly more qualified, veterans will need additional qualifications to be competitive on entering the civilian labour market (Mavromaras et al. 2015). University qualifications can take several years to complete, require numerous resources, and are generally aimed at school leavers; many veterans discharged from service are generally older than school leavers, with considerably more work and life experience (Mavromaras et al. 2015). Currently, DVA is the primary service delivery agency of the Australian Government responsible for developing and implementing programs that include vocational and psychosocial rehabilitation for veterans (Mavromaras et al. 2015). DVA provides support for veterans wanting to undertake further education, regardless of the rank achieved during their employment in the ADF. For those undertaking tertiary education, an open rehabilitation plan (with a return to work goal) must be in place. If a DVA client was receiving incapacity payments from DVA, and is fully participating in a retraining or a tertiary education course, then they are eligible to continue receiving these payments (DVA 2017e). These programs are particularly important now as veterans transitioning to the civilian workforce are generally much younger than in previous years, and have a much longer working life ahead of them (Mavromaras et al. 2015). Further, there is a relatively higher probability that veterans will enter the civilian workforce with a disability or long-term health condition (Mavromaras et al. 2015). This combination of factors has resulted in an increased demand in the need for and capacity to upgrade veterans' education and qualifications (Mavromaras et al. 2015).

Exclusions

Although commonly associated with education, elements related predominantly to employment or income and finance were considered under those domains. For example, income support provided to assist with study, or based on an individual's status as a student, would be measured under the 'income and finance' domain.

Employment domain

A successful transition to civilian work is associated with psychological and rehabilitative benefits, including improved mental health, enhanced self-esteem and overall improved quality of life (Bond et al. 2001; Drebing et al. 2012; O'Conner et al. 2016). Employment can be defined as people of working age who are engaged in any activity to produce goods or provide services for pay or profit, during a specified reference period (ILO 2017). Employment can be full time, part time or casual and can include working as an employee or working for oneself (O'Conner et al. 2016). Paid employment can involve either an individual

who has performed work of some form for wages or salary, or an individual who is temporarily absent from a paid job but who has retained a formal attachment to that job (ABS 2006). Employment can also refer to self-employment, whereby a person performs work for profit or family gain (ABS 2006). Determining a person's labour force status includes identifying the categories described here, but excludes activities such as unpaid domestic work and volunteer community service (ABS 2006).

Impact on health and welfare

There are numerous benefits associated with employment, as individuals who are employed are more likely to report higher levels of overall wellbeing. Securing employment can lead to financial independence while also facilitating social relationships and enhancing emotional wellbeing (O'Conner et al. 2016). Securing employment allows people to achieve financial security for the present and their future (DSS 2015). Participation in quality work is also considered a protective factor for health and welfare as this leads to increased self-esteem, a positive sense of identity, as well as improved social interaction and personal development (Commission on Social Determinants of Health 2008). These benefits are not only felt by the person working, but also extend to other family members and the broader community. These include financial and health benefits, social connectedness and psychological wellbeing (DSS 2015). Increased employment outcomes in a community can result in heightened social outcomes as well as having employed adults serve as positive role models (DSS 2015).

When compared with unemployment, employment is associated with lower rates of mortality, better general and physical health, and lower rates of medical consultation and hospital admission (DSS 2015). The psychosocial stress caused by unemployment has a marked effect on physical and mental health and wellbeing (Dooley et al. 1996). Extended periods of unemployment increase the likelihood of ongoing unemployment; further, long-term reliance on income support is associated with poorer health, low self-esteem, and social isolation (DSS 2015). Comparing those of similar age, those who are unemployed have a higher risk of illness, disability and mortality (Mathers & Schofeld 1998). It is also important to note that poorer health can affect an individual's employment. For example, individuals with chronic health conditions or higher levels of anxiety and depression nearly double their risk of unemployment (Kaspersen et al. 2015; Thielen et al. 2013). Further, musculoskeletal pain, insomnia, high alcohol consumption, or poor self-rated health were all factors associated with an increased risk of unemployment (Kaspersen et al. 2015).

Relevance to veterans

For working age ADF personnel, transitioning to civilian life after military service can often result in a loss of identity and direction. International research has identified that employment plays a substantial role in how individuals identify themselves, and a successful transition to civilian work is associated with higher psychological and rehabilitative benefits, including improved mental health, enhanced self-esteem, and overall improved quality of life (Bond et al. 2001; Drebing et al. 2012; O'Conner et al. 2016). For veterans in the United States who are managing mental health symptoms, returning to work can be challenging as symptoms often manifest themselves and affect the individual's ability to maintain employment (Harrod et al. 2017). Australian research has found that psychological distress (from panic attacks, depressive episodes, specific phobias, and PTSD) can lead to days out of work (McFarlane et al. 2011).

In Australia, there are government-funded networks (private and community) that aim to deliver employment services to unemployed job seekers (Department of Jobs and Small Business 2015). The ADF, DVA and the Australian Government operate a range of

assistance programs specifically for Australian veterans to help them to gain employment after their discharge from the ADF (Mavromaras et al. 2015). These programs invest in developing the capabilities of their servicemen and servicewomen to ensure that they have a range of skills and abilities that will make them valuable employees in the civilian workforce (DVA 2016a). With an increased incidence of disability and long-term health conditions, some veterans face challenges in securing ongoing employment, and may even see a decrease in weekly earnings compared with those who remain in the ADF (Mavromaras et al. 2015). The programs available for veterans include connecting veterans with potential employers, increasing employment opportunities for veterans, and improving the transition and rehabilitation process to assist veterans to transition to civilian jobs (DVA 2017b). For members of the ADF with entitlements under the Safety, Rehabilitation and Compensation (Defence-related claims) Act or the Military Rehabilitation and Compensation Act and whose conditions impact their ability to undertake or sustain employment, vocational rehabilitation assistance is available (DVA 2016c). These include Work Trials, which are used to allow a person participating in a rehabilitation program to gain civilian work and referees, update existing skills, gain new skills, test their capacity for work, and gain confidence in the workforce. DVA also provide an Employer Incentive Scheme that involves incentive payments to employers to encourage and engage injured veterans who are having difficulty securing work (DVA 2016c).

Exclusions

Aspects of employment related to wages and income and support payments to supplement or replace regular income are captured under the 'income and finance' domain.

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 2017). Income can be in the form of money, goods, services in return for an item, an action, or a promise (DHS 2017). Without proper management of finances or income, individuals may become bankrupt or even reach a state of poverty '…where a person does not have enough income to cover the cost of a given basket of goods that provides an agreed minimal level of decency' (AIHW 2017c:384).

Impact on health and welfare

Health outcomes are often affected by income levels, as those who experience poorer socioeconomic conditions tend to have poorer health than those living in higher socioeconomic areas (Gunasekara et al. 2013). Throughout Australia, there are substantial disparities in health outcomes in different populations, as disadvantaged Australians tend to have higher levels of disease risk factors and a lower use of preventive health service (ABS 1999). Further, income affects health and welfare in a more tangible, practical way—such as access to essentials, including food, clothing and shelter (Kawachi et al. 2010). Income inequality affects not only an individual's welfare but also the welfare of society. Income inequality can lead to psychosocial stress, which, in turn, can have an impact on a society's cohesion and unity (Kondo et al. 2009).

Relevance to veterans

Due to the limited availability of studies exploring income and finance in relation to Australian veterans, international studies have been sourced. However, it is important to be aware of the different social, cultural and economic variances between Australia and other counties when reviewing international studies. A recent study in the United States found that veterans returning from military service often experience financial challenges related to their combat

exposure, military training, service connection, multiple deployments, and psychological or cognitive war injury (Elbogen et al. 2012). Multiple deployments have been shown to disrupt family life, which can reduce financial wellbeing and increase financial strain (Elbogen et al. 2012). Veterans who leave the military due to illness or disability may have a diminished capacity to earn income and achieve financial security. People with disability generally have lower levels of educational attainment, lower rates of labour force participation and employment, and higher rates of unemployment (AIHW 2017d). Research from the United States has found that the potential challenges faced by veterans include achieving a sense of material security, being able to make ends meet, being able to grow financially through work, and possessing knowledge and skill for money management (Elbogen et al. 2012).

International studies have identified financial problems among Iraq and Afghanistan war veterans to include mismanagement of, or limited experience with, finances by younger service members, and an inappropriate savings plan (Elbogen et al. 2012). Further, research shows that veterans experiencing financial strain were more likely to be arrested, homeless, misuse alcohol and drugs, show suicidal behaviour, or engage in aggressive behaviour post-deployment (Elbogen et al. 2012). Research has also shown that major depressive disorder, PTSD and traumatic brain injury were associated with financial difficulties (Elbogen et al. 2012).

Generally, income support systems aim to provide a minimum standard of living for those who do not have the means to support themselves (Klapdor 2013). Income support systems often include two main payment types: allowances and pensions (Klapdor 2013). In Australia, DVA provides a range of income support pensions and payments to assist veterans with everyday living or with extenuating circumstances. These pensions and allowances are predominately provided for wartime military services or as compensation payments for injury and disability, and aim to support the financial wellbeing of veterans and their families (DVA 2017c). A number of smaller allowances and one-off payments are also provided by DVA. Income support payments aim to facilitate injury treatment and rehabilitation and limit financial hardship for veterans and their families after their service (DVA 2017a). DVA also provide Family Support Packages, which under a rehabilitation program, allows veterans and their families to access a free financial counselling service (DVA 2018b).

Exclusions

This domain focused predominantly on income and finance support (DVA specific) in relation to veterans. Income support relating to housing was considered under the housing domain.

Justice and safety domain

Justice and safety are broad but interrelated concepts. Justice is the balance and fairness brought to bear in the process of evaluating behaviours and interactions of individuals within society (ABS 2001b). Safety is the condition of being safe from experiencing or causing hurt, injury, or loss (Meriam Webster Dictionary 2007). Justice and safety are also often closely associated with crime. Australians have reported that it is important for them to be safe and free from physical and emotional violence and harassments in their relationships, in public, while at work, or in other areas of their life—and that they need to feel safe to function well in their lives (ABS 2015a).

Individuals in a community need to feel safe; this includes being secure from physical or emotional danger (ABS 2001b). There are numerous ways in which individuals, communities, governments and other institutions can improve safety and ensure justice. Some examples include maintaining law abiding behaviour; working towards improving feelings of safety; increasing trust in the justice system; encouraging appropriate values and behaviours;

developing community-based safety programs; assisting and supporting victims of crime; and maintaining a well-functioning justice system, police and corrective services (ABS 2001b).

Impact on health and welfare

It has been identified that the relationship between crime, feelings of personal safety, and social wellbeing is often complex (ABS 2012). The health and welfare of a person can be strongly affected by a fear of crime, or the direct experience of it (ABS 2001b). Individuals who witness a crime, or come across evidence of a crime, can suffer anxiety and may feel demoralised or powerless. Crime takes many forms and can have a major impact on the wellbeing of victims, their families and friends, and the wider community. Victims of crime and those close to them can suffer financially, physically, psychologically and emotionally. Household crimes may affect an individual's or family's feelings of safety or security and may result in property damage and/or financial loss (ABS 2001b).

Conversely, engaging in criminal activity may negatively affect one's health and welfare. Incarceration is often associated with job loss, housing instability, and loss of health care benefits (Copeland et al. 2009). Incarceration can also lead to residential displacement, limited employment prospects, stigma and disrupted personal relationships—all of which can increase the risk of homelessness (Tsai & Rosenheck 2015).

Relevance to veterans

An Australian study found no evidence of long-term effects of Vietnam War military service on crime overall, including violence-related crimes, or property-related crimes (Siminski et al. 2016). This may be a result of the training implemented, which may have been less realistic or desensitising than training in countries such as the United States, where live rounds and 'Quick Kill' training techniques were used (Siminski et al. 2016). This may also be because of Australia's role in the war where training in pacification skills was undertaken because of the need for close cooperation with Vietnamese civilians (Siminski et al. 2016).

Due to the limited availability of comparative studies of incarceration among Australian veterans and non-veterans, international studies have been sourced. It is important to be aware of the different social, racial and cultural differences between Australia and other countries. International research has identified that male veterans were at a greater risk of incarceration than non-veterans; these patterns were explained by different racial/ethnic groups and employment levels, rather than by combat trauma or other adverse military experiences (Greenberg & Rosenheck 2012). Prior studies have shown that veteran inmates face an increased risk of death following release from prison in the United States and abroad compared with the general population, and that the leading causes of death among former veteran inmates were cardiovascular disease, homicide and suicide (Bingswanger et al. 2007; Wortzel et al. 2012).

3.4 Evidence to support the relevance of domain elements

The development of the veteran-centred model involved identifying elements within each domain, which can be explored to understand the health and welfare of veterans in more detail. The importance of each element is supported by a selection of relevant literature from the wider evidence base. It is expected that the elements will change over time, as the evidence base grows.

Health

Table 3.2: Health domain elements

Elements	Rationale
Risk factors	
Fruit and vegetable intake	A balanced diet, including a sufficient amount of fruit and vegetables, is important in maintaining a healthy weight and can also reduce a person's risk of developing conditions such as heart disease and diabetes (NHMRC 2013). The guidelines recommend that adults eat 2 serves of fruit and 5–6 serves of vegetables per day to achieve adequate fruit and vegetable intake (NHMRC 2013).
Physical activity	Physical activity can benefit health by helping to prevent and manage chronic conditions such as heart disease, stroke, type 2 diabetes and high blood pressure. Regular physical activity is also an important component in weight management and psychological wellbeing. 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 (Department of Health 2017a). In relation to veterans, the 'healthy soldier effect' is due to the ongoing need to maintain fitness and having ready access to health care during service (Harrex et al. 2003; Kang et al. 2015). The role of physical activity in the ADF is well established, and seen as a substantial component of military readiness. The ADF requires personnel to pass a fitness assessment on entry, and maintain a reasonable level of fitness during their service (Defence Jobs 2017).
Overweight/obesity	Being overweight or obese can increase a person's risk of developing long-term health conditions such as cardiovascular disease, high blood pressure, type 2 diabetes and some cancers (AIHW: Dunn et al. 2002). 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. The ADF acceptable range for entry covers the normal weight, overweight, and part of the obese weight classification based on the international standard (Department of Defence 2018).
Smoking	Tobacco smoking is one of the largest preventable causes of death and disease in Australia. It is associated with an increased risk of a wide range of health conditions, including heart disease, diabetes, stroke, cancer, renal disease, eye disease and respiratory conditions such as asthma, emphysema and bronchitis (Department of Health 2017b). Tobacco consumption in international military populations has been consistently found to be higher than in the general population (Brown 2010; Jahnke et al. 2011), with international research finding associations between military recruitment, smoking initiation and prevalence (Schei & Sogaard 1994; Zarka et al. 2017). Increased rates of smoking-related cancers in some Australian veteran populations have also been observed (AIHW 2003).
Alcohol consumption	Alcohol use is associated with a number of health conditions that may be more prevalent in the veteran population—including anxiety, depression, PTSD and suicide—and play a significant role in the health and welfare outcomes for Australian and international veterans (Boenisch et al. 2010; Debell et al. 2014; Lai et al. 2015). Alcohol occupies a prominent place in Australian culture and is consumed in a wide range of social circumstances. Research has highlighted that alcohol consumption by military personnel differed from that for the general population and that alcohol abuse or dependence was commonly found among Australian Vietnam veterans (O'Toole et al. 1996). Drinking is associated with poorer health and poorer social functioning among ADF members (Waller et al. 2015).
Illicit drug use	Illicit drug use involves the harmful use and/or dependence on drugs. Drug use is a serious and complex issue, which contributes to substantial illness, disease and injury, mortality, social and family disruptions, workplace concerns, violence, and crime and community safety issues (Ministerial Council on Drug Strategy 2011).
Biomedical and genetic factors	Biomedical factors include genetic-related susceptibility to disease, and other factors such as blood pressure, cholesterol levels and body weight (National Health Information Standards and Statistics Committee 2009). Some biomedical factors may pose direct and specific risks to health and contribute to the development of chronic disease.
Preventive health	Preventive health includes population-based strategies to promote wellness and prevent disease. This can also include the quality and timeliness of the health care and access to preventive health care (such as screening and immunisation) (AIHW 2016a).

Elements	Rationale
Health status	
Self-assessed health status	Self-assessed health status is a commonly used measure of overall health, which reflects a person's perception of his or her own health at a given point in time. Self-reported health surveys of Vietnam and Korean war veterans indicated that veterans have a higher prevalence of cancer, cardiovascular disease, liver disease, kidney disease, diabetes, atopic disease and mental health conditions compared with the general Australian population (Harrex et al. 2003).
Long-term and chronic health conditions	Long-term and chronic health conditions can include asthma, arthritis, diabetes mellitus, heart and circulatory conditions, kidney disease, sight and hearing problems and osteoporosis (ABS 2015b). Australian research has found that military service in an armed conflict has an effect on other aspects of physical health, including eye and ear, musculoskeletal, skin and digestive diseases, many of which are not identified as war related until years after (Clarke et al. 2015).
Cancer	Cancer risk and mortality have previously been explored in subsets of the DVA population, specifically Vietnam and Korean War veterans (Vajdic et al. 2014). Studies conducted by DVA and the AIHW have shown that Korean veterans experienced a greater overall cancer risk than the Australian community (AIHW 2003).
Mental health	Among those who participated in military service in the United States, there is an increased lifetime incidence of anxiety, depression and PTSD, particularly from service in conflict zones, when compared with those in the wider community (Rosellini et al. 2015). Studies have shown that the prevalence of mental health disorders for men who have served in the ADF were higher than for men in the Australian community (McGuire et al. 2015).
Disability	Disability refers to an impairment of body structure or function, a limitation in activities, or a restriction in participation (AIHW 2016a). Disability may restrict the activities a person undertakes in their daily life (such as tasks relating to the core activities of self-care, mobility, and communication), or affect their participation in other ways, such as in social and economic life.
Cause of death (including life expectancy)	Long-term effects of deployment into military conflicts are marked, and the likelihood of war-related disability is associated with service history. If similar patterns follow from more recent conflicts, substantial additional resources will be needed to prevent and treat long-term health conditions among veterans (Clarke et al. 2015). Australian research found that the prevalence of disability was associated with aspects of wartime experience (such as duration of deployment) and that claims for disability were significantly higher in the Vietnam veteran group than in an age-matched group of military personnel who did not serve overseas (Clarke et al. 2015).
Health services	
Medicines and pharmaceuticals	Medicines are used to treat, prevent and manage a wide range of health conditions. In Australia, the Pharmaceutical Benefits Scheme (PBS) (for concession card, health card and DVA pension cardholders) and the Repatriation Pharmaceutical Benefits Scheme (RPBS) (for DVA entitlement cardholders) are the two main government subsidy schemes for medicines. The PBS is 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. 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 2017d). 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 or RPBS that are clinically justified.
Primary health care	In Australia, primary health care is typically the point of entry to the health system and can provide a broad range of health services, from health promotion and prevention to treatment and management of acute and chronic conditions. Specifically, the MBS includes a wide range of consultations, procedures and tests, as well as the Schedule fee for each of these items (for example, an appointment with a general practitioner or blood tests to monitor cholesterol level) (CHF 2010). Primary health care encompasses a broad range of services and activities that act as an entry to the health system. As such, primary health care is often a person's first encounter with the health system. Primary health care professionals include general practitioners, dentists and allied health professionals. Australian research has found that veterans reported greater health service use and more recent health actions than would be expected from the non-veteran population (O'Toole et al. 1996).

Elements	Rationale
Hospital care	Hospitals are an important part of the Australian health system, and provide a range of services to patients each year. This section reports on patients who are admitted to hospital, and patients who present to emergency departments. Patients who are admitted to hospital may receive acute care, mental health care, maternity services, subacute and/or non-acute care. For Australian veterans, research has found that the most common hospitalisations were for hip fracture and other fractures, asthma/chronic obstructive pulmonary disorder, haemorrhagic event, congestive heart failure, gastrointestinal conditions, followed by depression, myocardial infarction and thromboembolic cerebrovascular event (Kalisch et al. 2012). Emergency departments are also a critical component of Australia's health care system, providing care for patients who require urgent medical care (AIHW 2017b). The use of emergency department services may indicate the presence of a serious or life-threatening condition. In Australia, public hospital emergency department care is provided to anyone with a valid Medicare card. Depending on the emergency department admission procedure of the hospital, a veteran may not be required to present their DVA card until they are admitted to hospital.
Mental health services	Mental health services provide health and welfare support to people with mental health issues. Although ADF members are encouraged to seek help for mental health support, some fail to seek assistance while still serving (Biskin 2015). Many men who served in the ADF who also had mental health problems did not report receiving care from any service provider, despite demonstrating better access to services (McGuire et al. 2015).
Alcohol and other drug treatment services	Alcohol and other drug treatment services assist people to manage their drug use through a range of treatments. Treatment objectives can include reduction or cessation of drug use as well as improving social and personal functioning (AIHW 2016a). Assistance may also be provided to support the family and friends of people using drugs. Treatment services include detoxification and rehabilitation, counselling, and pharmacotherapy, and are delivered in residential and non-residential settings (AIHW 2016a). Information on publicly funded alcohol and other drug treatment services in Australia, and the people and drugs treated, are collected through the Alcohol and Other Drug Treatment Services National Minimum Data Set (AIHW 2016a). Veterans holding a DVA Gold or White Health Card can be referred to treatment services through DVA Community-based Alcohol and Other Drug Services Panel. As well, veterans with mental health conditions who have served 1 day in the full-time ADF are eligible to receive DVA-funded treatment for alcohol and other substance misuse under the non-liability health care arrangements (DVA 2018a).

Housing

Table 3.3: Housing domain elements

Elements	Rationale
Living conditions	Living conditions can have a direct impact on the health and welfare of veterans. An increasing body of evidence has associated housing quality with morbidity from infectious diseases, chronic illnesses, injuries, poor nutrition, mental disorders and limited health care (Gabrielian et al. 2014; Krieger & Higgins 2002).
Housing assistance	Individuals who are not able to access affordable housing with their own economic and social resources may require housing assistance. Housing assistance can include home purchase assistance, rent assistance, the provision of social housing, and services supporting people in maintaining tenancies. The aim of these services is to support individuals in maintaining housing and to avoid homelessness. People needing extra support due to disability or ageing may access support to secure accommodation. For many older Australians, the desire for them to remain in their own homes as they age has led to a focus on aged care services within the community. As well, residential aged care provides a range of care options and accommodation on a permanent or respite basis for people unable to continue living independently in their own homes (AIHW 2017a).
Homelessness	Homelessness can profoundly affect a person's mental and physical health, their education and employment opportunities, and their ability to participate fully in social and community life. Research from the United States has identified that military service can have an effect on personnel's social relationships and community engagement, and be associated with social isolation—therefore increasing the likelihood of homelessness among veterans (Tsai & Rosenheck 2015).

Social support

Table 3.4: Social support domain elements

Elements	Rationale
Family relationships	Families are seen as a protective factor for veterans' wellbeing as they can provide emotional, practical and financial support. Research from the United States has shown that this is particularly important for veterans returning to civilian life, when a family can facilitate emotional support and promote independence (Worthen & Ahern 2013). Veterans are often vulnerable when it comes to maintaining family relationships, as multiple deployments have been shown to disrupt family life in both the Australian and international context (McFarlane 2009; Sayers et al. 2009).
Friendships	Friendships (how individuals form close bonds and connections with friends and acquaintances) have been associated with lower morbidity and increased life expectancy (Kawachi et al. 1997). Friendships can provide a source of resilience against poor health, as these relationships can help veterans cope with economic or material hardship (AIHW 2017c). At the other end of the spectrum, reduced social support has been associated with a greater prevalence and severity of mental health disorders in United States veterans (Sripada et al. 2016).
Household composition	Household composition refers to the composition of people living in a dwelling. This takes account of whether a person lives alone or with others, and whether there are any children or dependants living in the household. Household structure may contribute to a person's feelings of safety, and social and community connectedness.
Social networks	Social networks have been shown to foster healthy communities and improve overall wellbeing for individuals (Baum & Ziersch 2003). Well-maintained social networks are important for veterans as frequent moves associated with military service has been shown in Australia and the United States to affect personal relationships and social support, all which can lead to a sense of dislocation (ACPMH 2007; Lester et al. 2010; Riviere et al. 2012).
Social participation	Social participation is imperative for veterans as the transition from military service to civilian life can result in social isolation (National Mental Health Commission 2017). Reduced social participation can be described as an individual having limited resources, opportunities or skills to participate in their community (Hayes et al. 2008). This can result in social exclusion, which can damage relationships, increase the risk of disability and illness and lead to social isolation (AIHW 2016a).
Social support programs	Social support programs include activities and services that provide social engagement and personal assistance to improve participants' welfare. After leaving the military environment, veterans may experience challenges in managing their health and welfare, and in navigating the Australian civilian support systems. Many are unaware of the social support programs available to them as well as the means to access to these programs (Gill et al. 2016). In Australia, ex-service organisations play a key role in supporting veterans in the community. Research from the United States have also shown that being involved in a veteran support service was beneficial as it was associated with a reduced risk of all-cause deaths (Wortzel et al. 2012).
Aged care	Australia's ageing population means that the proportion of older people, generally classified as those aged 65 and over, is projected to increase in the coming decades (ABS 2013). As well, there has been a shift in our approach to aged care, with many older people choosing to stay in their home for longer, and receive support services when needed (AIHW 2013). 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 to assist older veterans and war widow(er)s: the Veterans' Home Care Program and the Community Nursing Program. Veterans needing assistance may also access mainstream aged care services, including the Commonwealth Home Support Program and Residential Aged Care. Veterans 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.
Disability support	Assistance for people with disability and their carers is available in many ways. Numerous services and programs are provided or subsidised by the government, or are provided through not-for-profit organisations or the private sector (DSS 2018).

Education and skills

Table 3.5: Education and skills domain elements

Elements	Rationale
Educational attainment	Higher levels of educational attainment are associated with higher employment rates, higher relative earnings, more social engagement and better health (OECD 2016). With respect to Australian veterans, as the civilian workforce is becoming increasingly more qualified and as more veterans are entering the workforce at a younger age, the demand to upgrade veterans' education and qualifications is increasing (Mavromaras et al. 2015).
Vocational education	Identifying military skills that are transferable to the workforce can enhance return-to-work outcomes for veterans. International studies have identified how early intervention improves the effectiveness of return-to-work programs and that these vocational programs lead to obtaining employment (O'Conner et al. 2016). A study in the United States identified that veterans involved in a 12-month vocational program had higher stable employment rates and were able to obtain employment faster than those in the non-program conditions (Drebing et al. 2012; LePage et al. 2017).
Education support services	Education support services facilitate opportunities at secondary, tertiary, trade or other teaching organisations to enhance the teaching and learning skills of their students (Education Services Australia 2016). Educational support can be provided before or during transition to civilian life, or after discharge. International studies have shown how early intervention improves the effectiveness of return-to-work programs and that these vocational programs lead to obtaining employment (O'Conner et al. 2016).

Employment

Table 3.6: Employment domain elements

Elements	Rationale
Labour force status	An unemployed person can be an individual aged 15 or over who is not employed during the reference week but had actively looked for work and was currently available for work. Underemployment refers to a lower quality of employment relative to some comparative standard (Friedland & Price 2003). Both underemployed and unemployed persons may experience poorer health and welfare. Research has shown that unemployed people have higher rates of illness and disability, and a higher risk of death than those of a similar age who are employed (Mathers & Schofeld 1998). The psychosocial stress caused by unemployment has a strong impact on physical and mental health and welfare (Dooley et al. 1996). For employed people, certain aspects of work such as working hours, job control, demands and conditions can also have an impact on physical and mental health (Barnay 2015). Participation in quality work is health protective, instilling self-esteem and a positive sense of identity, while providing the opportunity for social interaction and personal development (Commission on Social Determinants of Health 2008).
Occupation quality	Occupation has a strong link to position in society and is often associated with higher education and income levels—a higher educational attainment increases the likelihood of higher status occupations and these occupations often come with higher incomes. As well, low occupational position has been associated with poorer self-assessed health, greater physician-diagnosed diseases, increased risk of disability, and shorter lifespan (Ravesteijn et al. 2013; Volkers et al. 2007). Different occupations may also be associated with increased risk of certain health outcomes. For example, veterans in the United States who worked as shipyard workers, truck drivers and plumbers were found to have higher rates of lung cancer, while carpenters and machinists were at increased risk of stomach cancer (Blair et al. 1985).
Employment services	International research has found that veterans returning from deployments requires retraining for civilian work, which can make it more difficult to find employment and may leave the veterans at risk of having lower incomes and increased difficulty in paying bills (Harrod et al. 2017; O'Conner et al. 2016). When a separation occurs due to medical reasons, increased pressure is often placed on members and their family, as the member's partner may need to obtain additional employment (National Mental Health Commission 2017). Therefore, the Industry Advisory Committee on Veterans' Employment has been established to develop measures to embed veterans' employment strategies into recruitment practices of Australian businesses (DVA 2016a).

Income and finance

Table 3.7: Income and finance domain elements

Elements	Rationale
Income	Income is defined as an amount an individual can earn, derive or receive for their own use or benefit. Income can be derived from a variety of sources, such as employment, pensions or other support payments. As well as improving socioeconomic position, a higher income allows for greater access to goods and services that provide health and welfare benefits, such as better food and housing, additional health care options, and greater choice in social and educational pursuits. Loss of income through illness, disability or injury can adversely affect an individual's socioeconomic position and health (Galobardes et al. 2006). A recent study in the United States identified the challenges faced by veterans who return home from deployment; these challenges include achieving financial wellbeing (which encompasses a sense of material security), having the ability to make ends meet, finding opportunities to grow financially through work, and possessing the knowledge and judgement to make appropriate monetary decisions (Elbogen et al. 2012).
Financial stress	Financial stress may involve an individual or household having difficulty in meeting basic financial commitments due to financial constraints (Bray 2001). Financial stress could be linked to post-deployment complications in numerous ways. International research found that developing PTSD, traumatic brain injury or major depressive disorder related to war experience (Hoge et al. 2004; Tanielian & Jaycox 2008) could lead to ongoing disability, which (in turn) could potentially result in financial hardship such as reduced income, unemployment, and debt.
DVA support payments	DVA provides income support pensions designed to assist with everyday living costs. These include service pensions, Defence Force Income Support Allowance, Income Support Supplement, Allowances, Supplements, Concessions (that is, DVA Gold Card holders may be eligible for concessions such as public transport, rates and utilities), and Commonwealth Seniors Health Cards (DVA 2017d).

Justice and safety

Table 3.8: Justice and safety domain elements

Elements	Rationale
Crime	Crime can be defined as an 'offence punishable by the State on behalf of the general public whose standards do not permit the offending behaviour' (ABS 2001b:239). While Australian evidence is limited, international research has found that male veterans were at greater risk of incarceration than non-veterans, that veterans were more likely to be in prison for a violent offence and that they were less likely to be serving for drug offences (Wortzel et al. 2012). This research has also found that combat veterans in prison were no more likely to be violent offenders than other veterans, that incarcerated veterans were more likely to report a mental illness and that they were as likely as non-veterans to have been homeless when arrested (Wortzel et al. 2012). Other international studies identified great challenges for prisoners who return to the community in trying to obtain housing, reintegrate into their families and communities, find suitable employment, and gain access to health care (Bingswanger et al. 2007). On the other end of the spectrum, victims of a crime, or those who have witnessed a crime, can suffer anxiety and may feel demoralised or powerless. This can have a major impact on the wellbeing of victims, their families and friends and the wider community (ABS 2001b).
Feelings of safety	Whether or not a person feels safe in their day-to-day life can directly or indirectly affect their quality of life. Feeling unsafe due to fear of crime may result in restricted community engagement, reduced levels of trust and impaired social cohesion (ABS 2001b).
Family, domestic and sexual violence	Family, domestic and sexual violence is usually defined by a set of violent behaviours between either family members, or current or former intimate partners. Violence can have a severe impact on physical, mental and behavioural health (AIHW 2017c).

4 Next steps

This working paper has outlined the development and components (including a visual representation) of the veteran-centred model. The development of the model was informed by a review of current literature around the health and welfare of the veteran population, drawing on both Australian and international research. Building on this work, the next steps for this model will entail:

- ongoing consultation with stakeholders on the domains and elements
- publication in the report *A profile of Australia's veterans* (AIHW forthcoming)
- informing the content of a literature review to supplement the report *A profile of Australia's veterans* (AIHW forthcoming) and guide ongoing monitoring of new research and literature
- guiding and informing the content of a compendium publication on the health and welfare of Australia's veterans in 2020.

Glossary

ADF personnel: Serving and **ex-serving** members of the Australian Defence Force (ADF); civilian personnel employed by the Department of Defence are excluded.

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.

body mass index (BMI): The most commonly used method of assessing if a person is normal weight, underweight, overweight or obese (see **obesity**). 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—defined as a BMI of 25 and over.

cancer: Also called malignancy, is a term for diseases where 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(s) of death: An entry on the Medical Certificate of Cause of Death to itemise 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.

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

dependant: The partner, parent, step-parent, grandparent, child, step-child, grandchild, sibling or half-sibling of a current or former ADF member. The parent, step-parent, child or step-child of the member's partner may also be included as a dependant. As well, a dependant may 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 ADF members assigned for duty with a United Nations mission or a similar force.

disability: An umbrella term for any or all of the following: 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.

domestic violence: A set of violent behaviours between current or former intimate partners, where one partner aims to exert power and control over the other through fear. Domestic violence can include physical violence, sexual violence, emotional abuse and psychological abuse.

employed: A term that describes people aged 15 and over who worked for 1 hour or more for pay, profit, commission or payment in kind in a job or business.

ex-serving (Australian Defence Force): Includes serving, reserve, and ex-serving members in the ADF.

family: Two or more people, one of whom is aged at least 15, 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: 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).

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 people who are aged 65 and over. This assistance must be ongoing, or likely to be ongoing, for at least 6 months.

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

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: The number or rate of deaths in a population during a given time period.

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

obesity: Marked degree of overweight, defined for population studies as **body mass index** of 30 or over.

peacetime service: Service provided by a Australian person who is serving, or has served, with a Peacekeeping Force outside Australia. These are military operations in support of diplomatic efforts to restore peace between belligerents, who may not be consenting to intervention and may be engaged in combat activities.

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.

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): A scheme subsidised by the Department of Veterans' Affairs (DVA), and accessed by veterans with these 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**).

reserve/reservist: An Australian Defence Force member in the active or inactive reserve forces of the Navy, Army or Air Force. Most members leaving full-time service make the transition to the inactive reserve forces, unless there are medical or other grounds preventing this.

Safety Net threshold: When a patient spends a certain amount on PBS or RPBS items within a calendar year, they qualify to receive PBS or RPBS items at a cheaper price or free of charge for the rest of that year.

serving full time (Australian Defence Force): Describes ADF members serving in a regular capacity in the Navy, Army or Air Force on continuous full-time service, or participating in the gap year program.

suicide: Deliberately ending one's own life.

unemployed: A term that describes people aged 15 and over who are not employed, and have actively looked for full- or part-time work at any time.

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Development of a veteran-centred model: a working paper introduces the veteran-centred model. The veteran-centred model is based on the AIHW's person-centred model and supports a person-centred approach to understanding the experiences and outcomes of Australia's veterans. This working paper shows how the AIHW person-centred model can be relevantly applied to the veteran population to support holistic analysis and reporting of veterans' health and welfare.

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