accountability is applied to PTSD treatments, particularly group programmes (Forbes *et al*, 2008). In line with the 2008 US Veterans Affairs mandate, it is expected that Australian veterans with PTSD have access to prolonged exposure or cognitive processing therapy (CPT). Recent local research demonstrated the efficacy of CPT for Australian veterans (Forbes *et al*, 2012) and this approach is being systematically rolled out through the VVCS.

Conclusions

Psychiatric casualties will always be a part of war and it is incumbent on those tasked with the care of veterans to provide the best possible prevention, early intervention, treatment and long-term management. While many challenges remain, Australia has come a long way in the past few decades towards an integrated and comprehensive approach to veteran mental healthcare.

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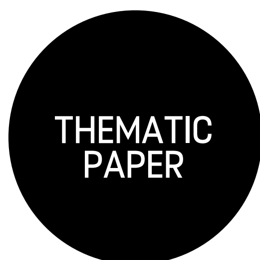

THE MENTAL HEALTH OF MILITARY VETERANS

Out of the shadows: mental health of Canadian armed forces veterans

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In the past 15 years in Canada, as in other nations, the mental health of veterans has emerged as a key concern for both government and the public. As mental health service enhancement unfolded, the need for wider population studies became apparent. This paper describes the renewal of services and key findings from national surveys of serving personnel and veterans.

In the past 15 years in Canada, as in other countries, the mental health of veterans has emerged as a key concern for both government and the public. Policies and programmes tailored for Second World War veterans dominated in Canada until the wake of the difficult deployments in the Persian Gulf, the Balkans, Somalia, Rwanda and elsewhere in the 1990s. A 1999 survey of contemporary (post-Korean War) serving Canadian armed forces (CAF) personnel and veterans (ex-service CAF personnel) participating in Veterans Affairs Canada (VAC) programmes brought to light the extent of mental health problems. The CAF, Department of National Defence (DND) and VAC recognised the need to strengthen mental health services for serving personnel and veterans.

This emerging awareness of mental health issues in military populations and increased recognition of post-traumatic stress disorder (PTSD) coincided with national efforts to bring the mental health of all Canadians out of the shadows. Studies conducted in the 1990s included only serving personnel and veterans who were receiving services from VAC, who today represent less than 12% of the estimated 599 200 contemporary CAF veterans. As mental health service enhancement unfolded, the need for wider population

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studies became apparent. This paper describes the renewal of services and key findings from national surveys of CAF serving personnel and veterans.

Service renewal

The CAF largely comprise two groups: full-time Regular Force serving personnel and primary Reserve Force personnel, who serve part-time, sometimes with periods of full-time service. Health services for serving Regular Force personnel are mostly provided through the CAF health system, while Reserve Force personnel generally receive care from civilian providers in their home communities through publicly funded provincial healthcare plans. The CAF provide occupational health services for both Regular and Reserve Force personnel. The CAF mental health service renewal included establishing seven regional centres for the treatment of occupational mental health problems, doubling the number of mental health clinicians, and post-deployment screening. Destigmatisation efforts included educational programming, introduction of the term 'operational stress injury' (OSI) to describe persistent service-related psychological difficulties and development of an OSI peer support programme in partnership with VAC.

Eligible serving personnel can participate in VAC programmes prior to release. After release from service, veterans receive healthcare from publicly funded provincial healthcare systems. VAC pays for access to civilian healthcare and rehabilitation services primarily for service-related health problems, and provides case management for complex needs. In 2002, VAC contracted a national network of OSI clinics to provide specialised mental healthcare. The 2006 Canadian Forces and Veterans Reestablishment and Compensation Act established a cash award to compensate for service-related disability and provided an array of healthcare, rehabilitation and financial supports tailored to meet the needs of contemporary CAF veterans transitioning to civilian life, shifting the focus from chronic health maintenance to promotion of ability, well-being and independence.

Population surveys of mental health in serving CAF personnel

The first comprehensive population study of the mental health of serving CAF personnel was the 2002 Canadian Forces Mental Health Supplement (CFMHS) to the Canadian Community Health Survey (CCHS), which included serving Regular and Reserve Force personnel. The prevalence of any past-year mental disorder was 15% (Sareen *et al,* 2007) and past-year PTSD prevalence was 2%. Prevalences of most disorders were similar to those in the general Canadian population but there was a twofold higher prevalence of major depression in serving Regular Force personnel. The mental health of serving Reserve Force personnel was similar to that of civilians.

Analyses of the CFMHS 2002 data showed that deployment to peacekeeping operations was not associated with increased prevalence of mental disorders and perceived need for care, except when there was exposure to combat and witnessing of atrocities (Sareen *et al,* 2007). While PTSD was associated with exposure to combat, the majority of 'mental health outcomes' (mental disorders, perceived need and service use) were not attributable to combat or peacekeeping deployment, highlighting the roles of other determinants of mental health (Sareen *et al,* 2008, 2013).

Less than half of those with a past-year disorder had sought care, and the leading barrier appeared to be failure to recognise an unmet need for care. Median delay in help-seeking ranged from 3 to 26 years for various disorders (Fikretoglu *et al,* 2010). Delayed-onset PTSD was seen in 9% of those with lifetime PTSD, mostly related to childhood trauma (Fikretoglu & Liu, 2012).

The 2002 CFMHS was undertaken before the deployment of more than 40 000 personnel in support of the mission in Afghanistan and prior to the renewal of mental health services in DND/CAF. For this reason, the CAF undertook a second CFMHS in 2013. Many CAF personnel who served in Afghanistan are still in service and most are in good mental health. However, 13.5% were diagnosed with a mental disorder related to the mission within 4 years of their return (Boulos & Zamorski, 2013), 8.0% had PTSD and 5.5% had other mental health disorders. For personnel deployed to high-threat locations, the cumulative incidence of diagnosed deployment-related mental disorders approached 30% at 8 years. Analyses underway of data from the 2013 CFMHS will shed further light on the effects of both the Afghanistan missions and DND/CAF service renewal.

Population surveys of Canadian veterans after transition to civilian life

Since 2002, there have been three surveys of veterans living in the general population. The 2002–03 CCHS of self-identified veterans (MacLean *et al,* 2013) provided the first national picture of the size and health of the entire veteran population. The 2010 Survey on Transition to Civilian Life (Thompson *et al,* 2012) and the 2013 Life After Service Study (Thompson *et al,* 2014a) more comprehensively explored the health of CAF veterans who left the armed forces after 1998.

In all three surveys, most contemporary veterans were employed and doing well and the majority had very good or excellent self-rated mental health. In the 2002–03 CCHS, the prevalence of self-reported diagnosed chronic mental health conditions in CAF veterans did not differ from that in the general population. However, in the most recent surveys mental health conditions were present in 9% of class A/B Primary Reserve Force veterans (not deployed), 17% of class C (deployed) Primary Reserve Force veterans and 24% of Regular Force veterans (deployed and non-deployed) (Thompson *et al*, 2014a) and were associated with difficult adjustment to civilian life (MacLean *et al,* 2014). Mood and anxiety disorders

were considerably more prevalent in Regular Force and deployed Reserve Force veterans than in the age-matched general Canadian population. The prevalence of PTSD in serving personnel in the 2002 CFMHS was lower, at 2% (Sareen *et al*, 2007) than among Regular Force veterans (13%) and deployed Reserve Force veterans (7%) surveyed in 2013 (Thompson *et al*, 2014a).

Differences in prevalences between surveys are due in part to differences in survey instruments and the types of health conditions included in the questionnaires. The surveys of serving personnel assessed symptoms in personal interviews, while the veteran surveys used self-report of diagnosed conditions in telephone interviews.

Comorbidity of physical and mental health conditions is a marker of case complexity and is associated with poorer outcomes, such as disability, poorer quality of life and suicide. The great majority of Reserve and Regular Force veterans with mental health conditions also had chronic physical health conditions (73–95%) and more than half (67%) of Regular Force veterans with mental health conditions had a musculoskeletal condition and chronic pain. The surveys did not assess whether conditions were service related. Poor physical health contributed significantly to poorer health-related quality of life in those with mental health conditions and was associated with suicidal ideation after adjustment for mental health (Thompson *et al,* 2014b). More than half of respondents with suicidal ideation were veterans with at least one mental condition and three or more physical conditions.

Disability was two to three times more prevalent in Regular Force and deployed Reserve Force veterans compared with the general Canadian population. The odds of disability were elevated in those with mental health conditions and highest in those with both mental and physical health conditions (Thompson *et al,* 2014c).

Barriers to care continue to challenge service provision for serving personnel and veterans. Many do not perceive need and do not seek help for mental health problems. For example, about a third (35%) of Regular Force veterans did not seek help for suicidal ideation or suicide attempts. Factors affecting access to mental healthcare include not perceiving need for assistance, scepticism about treatment effectiveness, difficulty in accessing effective care, fear of stigma (discrimination and prejudice) and geographical barriers for the one in five Canadian veterans living in rural and remote communities.

Conclusions and priorities for further research

While the majority of veterans are doing well, the studies found that an important minority have mental health problems affecting functioning and successful transition to civilian life. Moreover, there was evidence of a higher prevalence of mental health problems in recent veterans compared with serving personnel, earlier contemporary veterans and the Canadian general population. These findings underline the need for strong mental health services for today's veterans.

Priorities for further research include:

- better understanding of the determinants and natural history of mental health conditions across the life course of Canadian military personnel
- clarification of relationships between mental health, physical health, (dis)ability and employment
- ways to address barriers to effective care
- development and dissemination of evidence-based treatment and rehabilitation practices for veterans with mental health problems
- assessment of the effectiveness of policies, programmes and services designed to enhance the mental health and well-being of Canadian veterans.

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