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Mental Health and Well-Being of Canadian Armed Forces Members/Veterans during Military-Civilian Transition

Backgrounder for the Road to Civilian Life (R2CL) Program of Research

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Backgrounder for the Road to Civilian Life (R2CL) Program of Research into the Mental Health and Well-Being of Canadian Armed Forces Members/Veterans during Military-Civilian Transition

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Summary

Veterans Affairs Canada (VAC) received funding for a five-year program of research to close the knowledge gaps in understanding and supporting Canadian Armed Forces (CAF) members/Veterans[1] undergoing military-civilian transition (MCT). The program, called *Road To Civilian Life* (R2CL) will focus on the mental health of transitioning CAF members during the peri-release[2] MCT period from a few months prior to release from service to two years after. This resource paper summarizes anecdotal information and published research on the mental health and well-being of CAF Veterans during MCT to provide background information as the R2CL program stands up.

The well-being of military personnel in MCT has been reported in research literature since at least the Second World War. Military-civilian transition is a complex, highly individualized experience. There is concern that the MCT experience in the peri-release period could have lasting effects on the mental health of Veterans. There is anecdotal evidence and emerging consensus among researchers internationally that the short period immediately around release from service (peri-release) is particularly stressful and can have later life well-being consequences. There is lack of knowledge about factors influencing mental health and well-being in MCT, MCT life course trajectories, information about members' and Veterans' access to, use and effectiveness of resources intended to optimize their mental health.

Mental health problems are more prevalent in CAF Regular Force and deployed Reserve Force Veterans than in the general Canadian population, CAF Veterans of earlier eras and possibly serving personnel (Thompson et al. 2015). Reasons for the difference are multiple and remain unclear, but it is possible that mitigating the stress of MCT could have beneficial impacts on the mental health and well-being of CAF Veterans during later life after service.

[1] In this report "member" refers to serving CAF personnel and "Veteran" refers to released CAF members regardless of length or type of service.
[2] "Peri-release" means the period of MCT just before and after release from service.

There are three main knowledge gaps in understanding the mental health and well-being of CAF members currently in the peri-release MCT period:

1. A current overview of administrative processes, programs and services supporting CAF members and Veterans during the peri-release MCT period.
2. A current review of the published expert opinion and scientific literature on mental health and its determinants for military Veterans during the peri-release MCT period.
3. Systematic research evidence about the mental health experiences of CAF members and utilization and effectiveness of support programs and services by CAF members in the peri-release MCT period.

These gaps will be addressed in the R2CL program of research.

Introduction

Veterans Affairs Canada (VAC) received funding for a five-year program of research to close knowledge gaps in understanding and supporting CAF personnel undergoing military-civilian transition. The program, called *Road To Civilian Life* (R2CL) will focus on the mental health of transitioning CAF members during the peri-release MCT period from a few months prior to release from service to two years after, the "peri-release" period. This report is a resource compiled to inform standing up of the R2CL program. The objectives were to summarize anecdotal information and published research and to identify key knowledge gaps, with a focus on CAF members/Veterans.

What is "Military-Civilian Transition" (MCT)?

Military-civilian transition (MCT) broadly refers to the process of leaving military service and adjusting to civilian life. In addition to the life transitions common to civilians, such as marital status, parenthood, occupation changes and changes in health status, CAF personnel undergo additional transitions during their lives. These include enrolment, postings, deployments and rank and occupation changes. MCT is one of the most profound transitions in the life courses of CAF personnel and their families, but there is no broadly accepted definition for the term and there is little consensus on either definitions or the start and end of MCT.

There is anecdotal evidence and emerging consensus among researchers internationally that the peri-release period is particularly stressful and can have later life well-being consequences (Jolly 1996, Hatch et al. 2013, Castro and Kintzle 2014, Greenberg 2014). From a population perspective, MCT is a highly complex, individualized process with multiple dimensions that has considerable potential for impacting mental health. In his editorial summarizing reports of mental health in Veterans from Australia, Canada and the U.K., Greenberg (2014) noted that "*there seems to be a general consensus among researchers that the process of transition out of the military may contribute in some way to the development of mental health problems. The reasons for this are less obvious but clearly transition out of the military is not directly a deployment issue; indeed, transition is about leaving the liability to be sent to a hostile area behind and settling into the somewhat safer civilian world*."

There is broad consensus that the MCT process is easy for some but hard for other; see: Profile of CAF Veterans: Evidence from the Life After Service Studies (LASS). Anecdotally, some military personnel think everything will be fine after release, and then in the first few months reality sets in when unexpected challenges arise. Others experience considerable worry until

they finally settle into their new lives. Stressors encountered in MCT can bring on or exacerbate a range of mental health problems. Families play vital roles in helping other family members to deal with transitions like MCT, but family members can become distressed, resulting in family dysfunction.

The difference in language between military members on the one hand and administrators and researchers on the other reveals differences in world views of MCT. To military personnel, leaving the military is simply called "getting out," "leaving" or, in the U.S., "separating". To them, the experience is filled with the complexity of paperwork, disengaging, personal adjustments, relocation arrangements and anticipation. Members generally don't describe themselves as "going through military-civilian transition," and their experiences are uniquely defined by the contexts of their lives at the time. While administrators and researchers use more formal terms like "military-civilian transition" to describe the process, but there are no standard, widely accepted definitions for either MCT or outcomes of MCT (See: Conceptual Frameworks for Military-Civilian Transition).

Supports for CAF Members and Veterans in MCT

There are a large number and variety of sources of supports for CAF members and Veterans during the peri-release MCT period, including the public sector, private sector, communities and families, but we have not found a published overview.

The Department of National Defense (DND), Canadian Armed Forces (CAF) and VAC have a complex array of administrative processes, programs and services in place for MCT support during and after release. In general, DND and CAF provide supports prior to release and VAC provides them after release, however there is some overlap and all three collaborate in an effort to provide a more seamless experience for releasing members.

The serving CAF population has two main components: full-time Regular Force personnel and part-time Primary Reserve Force personnel who sometimes have periods of full-time service. Primary Reservists supplement Regular personnel in three types of service: classes A and B provide non-deployed service and class C provides voluntary deployment in support of operations. Regular personnel receive health care and rehabilitation services through the CAF health system (Zamorski and Boulos 2014). Reserve personnel primarily receive care from civilian providers through publically funded provincial health care plans but may access the CAF health system if their condition is service-related.

After release from service, Veterans receive mental health care from the publically funded provincial health care systems described by Arnett (2006). VAC pays for access to civilian health care and rehabilitation services for service-related health problems for eligible Veterans. Since 2000, in conjunction with CAF, VAC has been substantially increasing capacity for mental health care for eligible Veterans (**Table 1**). VAC provides case management for those with complex needs and, in 2002, VAC, CAF and DND began contracting a growing national network of Operational Stress Injury Clinics to provide specialized mental health care and establishing a national peer support program. The 2006 *Canadian Forces and Veterans Reestablishment and Compensation Act* (New Veterans Charter) added an array of health care, rehabilitation and financial supports tailored to meet the needs of transitioning contemporary CAF Veterans and established a cash award to compensate for permanent disability, shifting focus from chronic health maintenance to promotion of ability, well-being and independence.

Table 1. Main VAC mental health service enhancements for Veterans.

Year	Enhancement
2000	CAF, DND and VAC introduced the term “operational stress injury” (OSI) to de-stigmatize mental health problems.
2002	VAC established the first Operational Stress Injury Clinic specialized in the care of military Veterans.
2001	VAC and DND jointly established the Peer support Operational Stress Injury Social Support program (OSISS).
2001	VAC established a nation-wide telephone assistance service for counselling access.
2001	VAC, DND and CAF established infrastructure for ongoing harmonization of mental health supports during and after service.
2004	VAC established a national network of Operational Stress Injury Clinics.
2004	VAC and DND implemented pre-release transition interviews.
2005	VAC established the National Center for Operational Stress Injuries.
2006	New Veterans Charter (*Canadian Forces Members and Veterans Re-establishment and Compensation Act*) introduced programs to better support contemporary CAF personnel in transition to civilian life including rehabilitation, health care benefits, financial support, and disability award.
2006	VAC and DND jointly established an expanded national network of specialized mental health clinics.
2006	VAC established Case Managers and Regional Mental Health Officers for management of more complex cases.
2007	VAC began doubling the number of OSI clinics, introduced Clinical Care Managers for intensive case management and expanded the OSISS program to include Family Peer Coordinators.
2007	VAC contracted inpatient care at seven facilities for co-existing OSI and substance use.
2010	VAC opened the Residential Inpatient Program at Ste. Anne's Hospital (Ste-Anne-de-Bellevue, Québec).
2013	VAC implemented a Client-Reported Outcome Management System (CROMIS) in the OSI clinics.

Anecdotal Information: Consultations in VAC, CAF and DND

Findings from qualitative consultations with VAC, CAF and DND staff:

- Most who release seem to do well.
- MCT is a very busy and often stressful time for members and their families, including military exit paperwork and procedures; appeals to medical and involuntary release; finding civilian resources; arranging finances; moving and many others.
- Serving personnel generally have things looked after for them by the military system (“Cradle to Grave philosophy”), so can find it difficult to adjust to making their own way in civilian life, like finding a job, a place to live and health care providers.
- Loss of military “family” supports, camaraderie, identity, rank, language, job and possible finances, culture and formal structured world.

- Those who are released involuntarily (release owing to medical employment limitations and other administrative reasons) can be very unhappy about the loss of their military careers and experience a sense of loss and rejection/abandonment.
- There continues to be a stigma attached to mental health, so some releasing members opt not to disclose. As well, the military environment is described as “macho,” which can translate into a reluctance to seek help.
- Although there are established procedures for releasing members, procedures are not uniformly followed owing to complexity and competing tasks.
- Some who are being released are additionally stressed by trying to do a good job in their military occupation right up to the last day.
- MCT pathways are highly individualized.
- MCT is a rewarding time for many, sometimes even associated with a sense of relief at getting out.
- MCT is a very stressful time for others, associated with a sense of loss and characterized as worse than divorce by some. The stress can propel them along the mental health continuum toward more severe mental health problems.
- It is not uncommon to experience rising anxiety as release day approaches, particularly for those being released for health reasons. There is often a sense of rejection.
- Some plan well for the transition, others do not have much of a plan, and those without much of a plan are more likely to experience problems in MCT.
- Early leavers are at higher risks of adverse outcomes, though some do just fine.
- Those leaving with health problems who do not meet criteria for pensions and supports are at higher risk of MCT problems.
- Junior non-commissioned ranks experience the most problems.
- Many members leave the military due to family dynamics, such as the spouse no longer wanting to move or not wanting to leave a job. Family is a crucial factor in difficult or easy transitions and adjusting to civilian life.
- Many members might not be aware of MCT supports available to them and their families, even if they had been told about them in SCAN (Second Career Assistance Network) and Release seminars, transition interviews and other information sessions. Many face “information overload” during these sessions and have difficulty retaining information. It may not be so much about creating more “things,” but rather, about linkages to existing supports. Having a spouse present at interviews can be beneficial.
- Some individuals move to remote/rural areas where services are not available.
- Some avoid SCAN and Release seminars because it signals they are thinking of leaving which could impact their careers if they decide to stay.
- Some releasing members have already divorced or separated from a spouse.
- Some in MCT have new partners as well as divorced spouses, with children by multiple spouses.
- Many younger releasing members return to their parents’ home.
- Many have employment-related issues, such as difficulty translating military skills for a civilian resume and adapting to civilian language. Despite a plethora of employment programs, not many actually do job placement.
- Early intervention is key in achieving a seamless transition. There needs to be a smooth, behind-the-scenes, hand-off from DND to VAC.
- Some releasing members feel there is a public perception that most Veterans have mental health problems.
- Several told us that slants taken by news media can have a negative health effect and that media slants contribute to a public perception that Veterans are “broken”.

Literature Reviews

There is a considerable and recently growing body of MCT research literature. Exploratory narrative literature reviews have been published internally by VAC (Sweet and Thompson 2009) and DND (Watkins 2011) in recent years. The U.S. Institute of Medicine (IOM[3]) conducted a comprehensive literature review on readjustment needs of U.S. military personnel and their families following deployments to Iraq and Afghanistan (IOM 2013).

VAC Literature Review 2009

Sweet and Thompson (2009) reported on exploratory searches undertaken by the VAC Research Directorate in collaboration with librarians at Dalhousie University and the University of Prince Edward Island using PubMed, CINAHL, PsycINFO, EMBASE, Sociological Abstracts and WorldCat. Several hundred citations were found, but the majority were peripheral to the immediate MCT period. The review included international literature. The great majority of published studies were done in the U.S. Only abstracts were reviewed. They identified less than 100 relevant papers; the reader is referred to the data report for details. Some particularly relevant studies are summarized in Table 2. The review lists abstracts from studies with little synthesis.

The MCT literature dates back to at least the 1940s, was sparse until the 1970s in the wake of the Vietnam War, and then increased considerably since about 1990 (Table 2). Themes in the early literature were very similar to today's issues. Earlier researchers tended to use the word "retirement," but since most releasing military personnel enter the civilian workforce, the term "transition" is more common now. Researchers have consistently written of the challenge of predicting who would experience a difficult transition, the importance of planning for release, the relative advantages of officer ranks, and the stressful nature of MCT. Consistent themes included the heterogeneity of MCT experiences, civilian employment placement, finances, the importance of adjusting from military to civilian identities and roles, health status and the importance of families. The literature in the 1940s-70s tended to focus on civilian employment issues and recognized the emotional stresses of MCT. Later literature broadened to include mental health, but civilian employment has continued to be a dominant theme.

Researchers from the 1970s onward used a variety of theoretical frameworks to guide their MCT studies. Most studies employed qualitative methods, although some used quantitative survey methodology. In scanning this literature, it is apparent that while there are many similarities across eras, there are also important era differences, including changes in economic factors and changes in cultural factors such as the language used to describe release from the military, willingness to discuss mental health issues and changes in technology such as the Internet.

[3] The U.S. Institute of Medicine (IOM) name is changing to National Academy of Medicine (NAM) effective 01 July 2015.

Table 2. MCT studies selected from the review conducted by Sweet and Thompson (2009).
*See (Sweet and Thompson 2009) for citation details and complete abstracts.

Citation*	Nation	Study Description
Kubie 1944	Canada	Description of induction and discharge programs in the Canadian Army. The reception centers were also the discharging agency of the army. The work of psychologists and social workers is closely coordinated with that of the medical personnel under medical leadership. Cumulative records are maintained for all soldiers from induction to discharge. A 9 months' course in psychiatry is provided for internists who show aptitude and interest. The Pulhems system (a scale of efficiency in relation to specific army or civilian tasks, i.e., physique, upper part of trunk, lower part, hearing, eyes, mentality, and emotional stability) facilitates vocational assignment in the army and relocation of rejectees or dischargees.
Danzig 1946	US	Needs of releasing military personnel. Dimensions identified: employment, housing, health, social/recreational needs, social experiences allowing them to feel accepted and at a level of maturity consistent with having aged beyond their chronological years while in service.
McMahan et al. 1956	US	N=10,001 Army and Air Force officers who retired 1925-1948. Physical disability main reason for retirement. During and after WWII they began retiring with longer lengths of service and higher rank.
Reissman 1956	US	Analyzed employment in 1,006 Army generals who had retired. Favorable civilian employment outcomes owing to characteristics acquired in service, often in senior management positions.
Biderman 1959	US	Identified topics for research with respect to the expected retirement of large numbers of military personnel: 25% of the whole Armed Forces and 55% of officer corps in the next 10 years. General expectations: second careers marked by lower job prestige, improved economic status, residence close to bases, military friends, tight job outlook for military skills, 40% increase in number of competitors < age 20 entering the workforce, increasing influence of Veterans' associations, public stereotyping of the professional soldier. Planned research would shed light on retirement problems particularly with respect to age and physical condition.
McNeil and Giffen 1965	US	Anticipate 2 million military personnel retirements next 20 years, many in middle age; will need additional funds for their families usually from paid employment. Early retirement creates problems and places burden on the communities they settle in. Role of social worker will be important.
Giffen and McNeil 1967	US	MCT can be perceived as crisis by service members and family. The stress was viewed in framework of crisis theory. Suggested prevention and treatment services to ease the transition.
Berkey and Stoebner 1968	US	Officers facing retirement have more trouble adjusting below rank of full Colonel; retirement could signal failure, leads to depression, anxiety and somatization. Difficulty entering relationships, deny serious problem, lack of insight, compulsive personality.

Citation*	Nation	Study Description
Bellino 1969	US	Identified domains of risk for unremitting anxiety in MCT: employment, finances, changing social factors, residence, new household patterns, integration into civilian life and changing interpersonal relations. Some so stressed they present to physicians with somatic complaints. Brief counselling can bring relief. Treatment should involve the family, be focal with limited aims, and use medications if appropriate. 3 case histories for illustration.
Dunning and Biderman 1973	US	Examined unpublished government reports on supporting releasing personnel in MCT. Many do not plan for MCT so unemployment problems. Education, rank, skills, race, age, attitudes and aspirations related to good outcomes.
Keahey and Seaman 1974	US	Used Retirement Descriptive Index and Personal Orientation inventory to assess 261 male and female retirees including military. Self-actualizing concepts involved with successful transition to civilian life.
Borus 1975	US	N=749 Vietnam Veterans and non-Veterans: incidence of reported maladjustment first 6 months back in stateside military unit; interview of 64 veterans to understand what they are coping with and what differentiates those who are successful in coping, and what program interventions might help. Interviewed three groups: no adjustment problems, legal problems and emotional problems. Well-adjusting veterans characterized by realistic expectations, coping styles, success in finding education or job placement.
Fuller and Redfering 1976	US	Officers rarely move from military into high management commensurate with their military careers, but enlisted ranks do find commensurate jobs. Compared MCT adjustment outcomes of 372 enlisted ranks and 379 officers. No difference in factors except preretirement planning: those who planned well also adjusted well.
Faulkner and McGaw 1977	US	Returning Vietnam Veterans. Hypothesized three stages of reentry: moving from the war, moving back into civilian life ("the world") moving to social involvement. Interviewed 20 Veterans.
Kilpatrick and Kilpatrick 1979	US?	MCT recognized as a period of stress not well addressed in research literature. The stress and emotional upheavals are associated with physical and mental health issues.
Singh 1980	Canada	Dissertation. Military retiree's perceptions of MCT from Canadian Armed Forces, with implications for adult learning.
Pinch 1986	Canada	Dissertation. Mid-career transition and the military institution in Canada: I and II. Based on 3 Canadian Forces reports available in PDF describing MCT studies done in late 1970s. Lot of useful detail on factors hindering/facilitating MCT. Qualitative studies including longitudinal interviews across MCT of 102 and interviews of 322 who had already released. Majority did well but significant minority (35-40%) met with serious barriers transferring/translating military skills/experience to civilian employment, especially hard sea trades and combat arms. Not a lot of mention of health issues. Ex-members recommended more opportunity for early pre-retirement planning, more civilian counselling, better information dissemination, and training.
Wolpert 1991	US	N=360 US Air Force members who retired in 1988. Those who did not participate in Career Transition Program did better finding civilian job sooner, had higher income, met expectations, began job search earlier and had higher satisfaction with job and life. Unexpected findings, reasons discussed.

Citation*	Nation	Study Description
Hyska and Sugar 1992	Czechoslovakia	88 retired military professionals administered questionnaires. 50% left before age 35, most commonly for poor interpersonal relationships and workforce distribution issues. Most took civilian jobs with more job satisfaction but requiring lower education. Only those who received aid from the military in MCT had positive attitude in MCT.
Bruce and Scott 1994	US	Tested validity of Louis' 1980 typology of inter-role career transitions to assess MCT outcome across transition types. N=742 Navy aviation officers. Cluster analysis: 16 career events fell into 5 distinct transition types. Some transition outcomes included role ambiguity, adjustment difficulty, transition eagerness, perceived gains and losses in personal life and career.
Sharma et al. 1996	India	Measured family integration in 40 retired army officers and 40 other ranks who were married and not employed. Other ranks had lower psychological well-being and other ranks who were less well integrated with families had lower psychological well-being.
Brunson 1997	US	N = 500 alumni of US Naval Academy who graduated 1945-1965. Looked at those who retired before and after eligibility for benefits. Used a Retirement Descriptive Index that measured life satisfaction in several dimensions. ANOVA showed no significant difference. Also used regression modelling: abstract was cut off at this point.
DeRenzo 1990	US	Patterns of pre-retirement planning in wives of retired military officers.
Gowan et al. 2000	US	N=171 Army personnel in MCT to civilian jobs. Assessed personality traits and planning. Self-esteem, self-efficacy and career resilience were related to harm appraisals of MCT.
Bascetta 2002	US	Congressional GAO report. Examined MCT assistance programs offered by military and their effectiveness.
Brown 2001	US	Dissertation. Three Marine non-commissioned members on retirement. In-depth interview followed by telephone validation. Considered a number of theoretical constructs to model mid-life MCT: grieving stages, adult attachment theory, reattachment of family of origin, will to power vs will to meaning, positive anticipation of transition turning to negative experience followed by positive recollection of MCT.
Westwood et al. 2002	Canada	Description of their group-based life review and therapeutic counselling program to assist in adjustment post-release for stresses encountered in peacekeeping.
Shultz et al. 2003	US	Built on work of Beehr and Nelson (1995) to examine consistency of accounts in 672 military retirees over 4-5 year period. Results discussed in context of uniqueness and similarities of military retirement relative to civilian.
Speigel and Shultz 2003	US	Little prior research on satisfaction and adjustment in military populations. N = 672, longitudinal study of Naval officer retirees. Pre-retirement planning and transferability of KSA (Knowledge, Skills and Abilities) influenced retirement satisfaction and adjustment.
Mares et al. 2004	US	Cross-sectional survey of 631 homeless Veterans. Average lag to first homelessness 14 years. Less than a third reported that their military service increased their risk of homelessness somewhat (18%) or very much (13%), attributed to substance abuse arising in service, inadequate preparation for civilian employment, loss of structured lifestyle.

Citation*	Nation	Study Description
Jenrette 2004	US	Perceived career transition decision-making difficulties in personnel undergoing MCT at an Air Force Base. Age 50+ had more difficulties transitioning to civilian sector than younger, as did males relative to females.
Valentine 2005	US	Dissertation. N=25 Army National Guard. Questionnaire aimed at developing a retirement model. Difference in expectation between military leadership and service members. Leadership believed MCT planning was responsibility of members, but members believed it should be a service benefit. Developed a long-term planning model.
Iversen et al. 2005	UK	King's Military Cohort. Longitudinal followup of UK armed forces service-leavers before and after release. Population survey. n=8195. Majority did well. Those with poor mental health more likely to leave and had greater chance of being unemployed. Veterans with mental health problems in service at higher risk of social exclusion after release.
Schnurr and Patterson 2005	US	Effect on retirement of psychological and physical symptoms in 404 older male Veterans, longitudinal study. Hierarchical linear modelling of symptom trajectories from peri-retirement in those with PTSD or not. PTSD group had greater increases in both types of symptoms during MCT, not related to presence of physical conditions.
Yanos 2005	US	Perceptions of transition by Air Force officers. Most had retired and did not seek civilian employment. Transition complete usually in three years. Transition to a culture that is unfamiliar to them beginning as early as age 42. They developed a multidimensional model of adjustment to retirement addressing changes in four domains: *economic impact, social support, identity reconstruction*, and *physical and mental health*. They found that the biggest challenges were in identity reconstruction and mental health. Used several measures of mental health.
Hoge et al. 2005	US	Separation from military service for medical disability more common following hospitalization for primary mental disorders (45%) than physical (11%) or secondary mental disorders (27%). Occupational impact of mental disorders compared to physical disorders mediated by greater chronicity, behavioral problems like misconduct, and substance use problems.
Hoffeditz 2006	US	Used Heppner's 1991 Career Transitions Inventory to assess career transition readiness at a military installation, n=184 releasing members. Compared to civilians, military subjects scored higher on the Support scale and lower on the Independence scale. Strongest transition decision variations occurred between those with and without children. Readiness level increased as number of children decreased. Family was a primary influence on mental preparedness and a primary catalyst for release (abstract cut off).
Creamer et al. 2006	Australia	Measured mental disorders using CIDI over 1991-2001 in 2215 male Navy personnel. Onset of psychiatric disorder in service had 19% greater risk of separation and the majority of those released in the first year after symptom onset. Those who remained in service more than one year had no increased risk of separation.
Giger 2006	US	Dissertation. Literature review and detailed qualitative interviews (n = 3) of retired military members retired at least 2 years, two interviews. Developed a model of military retirement.

Citation*	Nation	Study Description
Graves 2006	US	Dissertation. Long-standing problem: inability to predict MCT adjustment difficulties. Administered the Retirement Descriptive Index to 122 military officers who left service early and 824 who retired with longer service. Early service-leavers had slightly lower measures of life satisfaction. Also collected qualitative data.
Taylor et al. 2007	US	Degree to which expectations of civilian work, financial and family aspects of civilian life were met was a significant predictor of satisfaction and adjustment after military retirement.
van Staden et al. 2007	UK	MCT via transition. Interviewed 1 week before release and followed for 6 months. Less than 100. 56% were disadvantaged after leaving.
Klassen 2008	US	Dissertation. Problem solving in recently retired military families. Six themes: intrafamily relations and teamwork, retirement continuity and stability, problem-solving tactics, military and civilian social networks, attitudes/emotions/experiences, external factors and resources.
Chaparro-Ramirez 2008	US	Outcomes of a program supporting former military personnel to train as teachers. Interviewed 18 individuals (Veterans and their school administrators). Interesting observations about how military life prepared them for teaching, noticed lack of structure in civilian school workplace compared to military, etc.
Clemens and Milson 2008	US	Complexity of MCT and number of one-term Army troops releasing: proposed use of cognitive information processing theory in career counselling.

DGMPRA Literature Review 2011

Watkins (2011) at DGMPRA (CAF Director General Military Personnel Research and Analysis) conducted a literature review on mental health and career difficulties in MCT and summarized approaches used by DND, CAF and VAC to mitigate MCT problems. Searches were conducted using PsycINFO, PsycARTICLES, Google Scholar and DND and VAC document databases. Studies were included if they measured Veterans' well-being and were generalizable to whole Veteran populations. The review considered international literature. The review did not focus specifically on the peri-release period of MCT.

The review found that most releasing members do not experience pervasive mental health problems after release from service. Many report benefitting from their military experiences in a variety of ways. However some former military personnel did have mental health problems, and mental health problems were associated with combat, personality traits such as decreased hardiness, low social support, poor family functioning and physical health problems. Obstacles to securing civilian employment included lack of civilian education/training and lack of skill transferability.

U.S. Institute of Medicine 2013 (IOM)

The US IOM[4] appointed a Committee of 29 experts to conduct a comprehensive assessment of the physical, psychological, social and economic effects of deployment and identification of gaps in care for members, former members (Veterans in the VAC sense), families and communities. The report is several hundred pages in length. They reviewed scientific studies in peer-reviewed literature, government reports, Congressional testimony, other IOM reports,

[4] Name changing to National Academy of Medicine in July 2015.

information supplied by DOD (Department of Defense) and VA (Veterans Administration), and presentations by DOD and VA researchers.

The Committee found that readjustment following deployment encompasses a complex set of health, economic and social issues. One study found that a third to about half of US Veterans of Iraq and Afghanistan had readjustment difficulties, family life strains, anger outbursts, symptoms of posttraumatic stress and occasional loss of interest in daily life.

The Committee's key findings are somewhat similar to issues that have been identified in Canadian studies:

- Many Veterans return from deployment relatively unscathed, but others have a multitude of complex health outcomes that present life-long challenges and hinder readjustment.
- Not all Veterans who need treatment receive it despite the offering of evidence-based treatments by the US VA and DOD health systems, because system-wide challenges exist.
- Military families often endure the adverse consequences of deployments, for example, health effects, family violence, and economic burdens.
- Numerous programs exist to respond to the needs of returning OEF and OIF (Iraq and Afghanistan operations) active-duty US personnel, Veterans, and family members, but there is little evidence regarding their effectiveness.
- Unemployment and underemployment are acute problems for military Veterans.
- Published data on the effects of deployment on military communities are sparse.
- DOD, VA, and other federal agencies must overcome barriers to facilitate sharing and linking of data.

Among its many recommendations, the Committee called for evaluation of the effectiveness of MCT programs to ensure they assist with education and employment, and measures to reduce barriers to effective health care and rehabilitation.

Need for Updated Literature Review

There is need for an updated literature review focused on the peri-release MCT period. The VAC review in 2009 did not synthesize the literature and demonstrated that the MCT literature has grown from a trickle after the Second World War to an accelerating rate in recent years. The DND review in 2011 is four years old now and was not specifically focused on the peri-release period. The US IOM review in 2013 was focused on the U.S. military experience however there are considerable differences culturally between the two nations which could be significant, and the review was not focused specifically on MCT. There is now a very large MCT research literature worldwide in government reports, reports of expert panels and journal papers.

Conceptual Frameworks for Military-Civilian Transition

MCT is widely recognized as a profoundly important turning point in the lives of military personnel and their families but there is no widely accepted conceptual framework that comprehensively captures all relevant dimensions. A conceptual framework is a theoretical construct for dealing with a complex issue like MCT. The MCT process has no standardized, commonly accepted definition. There are no commonly accepted definitions for the start or end of MCT. The following describes a few frameworks that have been discussed in professional publications. We found no modern publications describing a MCT conceptual framework for today's CAF population.

Jolly (1996)

Jolly conducted in-depth interviews during 1993-94 of 62 former U.K. military personnel (10 officers and 10 other ranks from each of the three services) and reviewed published literature. The results are explained in her book *Changing Step* (1996), where she described a framework for the MCT experience based on three stages in the process of change: *confrontation*, where the person acknowledges and confronts the change that might have been thrust upon them rather than by choice; *disengagement*, which is typically "muddled" and can be aided by reflection until ready to move in a productive new direction; and *resocialization*, the process of assuming a new identity. This framework guided the development of the questionnaire used in the study. Her book is a "deep dive" into 62 different MCT experiences, but she attempted to find some common threads. She found that many left service quietly without ceremony, which left wounds. The disengagement phase was an uncomfortable time owing to loss of the security of military life. Many did not take advantage of reflection during the disengagement step, and those who were successful did engage in this reflection. Short-term priorities were uppermost in the minds of many leavers, not long-term planning or even an awareness that they were going through a thing called "military-civilian transition". She concluded that, in spite of MCT support programs being available, the normal experience was to leave without a clear view of the road ahead. She found differences between the way people are socialized to deliver good military service and the thought processes required to deal with civilian life. Deconditioning was something that had to be actively sought out and experienced. She described the resocialization stage as an "apprenticeship" in civilian life that takes place during the first year or two. Luck seemed to play a role in good MCT outcomes, like finding the right civilian job. She devoted a whole chapter to "Family Complications".

In her comprehensive literature review of military service-leavers, Fear (2009) wrote this summary of Jolly's work: "*A major piece of qualitative work on the transition from military to civilian life was conducted by Jolly (1996), who conducted in-depth interviews with a cross-section of the ex-Service community (n=62). Jolly reported that regardless of what range of practical resettlement advice was made available at the time of transition some people still left 'without any clear view of the way ahead'. She viewed the transition to civilian life as a process that had to be worked at, suggesting that military personnel who are nearing the end of their service should be encouraged to develop a strong desire to fulfil an alternative ambition; that there should be some recognition that the period immediately after leaving will be difficult for some leavers; and that instead of rushing through this time, leavers should be encouraged to use it for reflection.*"

Adler et al. (2011)

Adler et al. (2011) wrote about the psychology of transitioning home from a deployment in serving personnel, noting that "*The process of making a psychological transition from a relatively dangerous and demanding environment to a relatively safe and comfortable environment requires service members to shift mentally.*" They borrowed from concepts of narrative psychology to observe that "*service members are faced with the task of creating a coherent narrative to their lives, and understanding the role that the deployment may have in shaping their identity.* " In their review of military transition literature, Adler et al. (2011) recalled a study by Faulkner and McGaw (1977) in which they proposed three major phases for World War II and Vietnam War Veterans: "*moving from the war, moving back to civilian life, and moving toward consolidating social involvement*". With respect to transition and mental health, they wrote, "*From the service member's perspective, transition problems and post-deployment mental health problems may feel similar in that both may cause distress. But from the mental*

health provider's perspective, it is essential to distinguish between a clinical condition that will benefit from specific therapy and a non-clinical one that service members can solve on their own or for which limited help is needed." Although these authors were writing about serving personnel transitioning to home from combat, MCT probably requires a similar psychological adjustment.

Sayer et al. (2011)

Sayer et al. (2011) developed and assessed a 16-item instrument measure of postdeployment community reintegration difficulty called the Military to Civilian Questionnaire (M2C-Q). They defined of postdeployment community reintegration as the "*postdeployment achievement of satisfactory levels of functioning at home, at work, in relationships and in the community*", an approach that would also apply to community reintegration following release from service. As they point out, the definition does not require assumptions about causation. The M2C-Q was tested in Iraq and Afghanistan Veterans seeking care at US VHA facilities. The 16 items ask about past-month functioning with 5 Likert responses each.

Brunger et al. (2013)

Brunger et al. (2013) conducted a qualitative study of 11 UK ex-servicemen. They identified three broad themes: characteristics of military life, loss experienced on return to civilian life, and attempts to bridge the gap between the two lives. These themes were transcended by the shift in identify from soldier to civilian that occurs in MCT. Their study uncovered similarities and heterogeneity in reasons for joining the military, military conditioning and MCT experiences. All participants described help-seeking as a weakness in military life which created a barrier in MCT. They admitted they were not good at seeking help. Substance abuse was a common coping strategy in the early phase of MCT, as was seeking continuity with previous military lifestyles. Those who had been out the longest noted that their mentalities had adjusted over time following a long and emotional period, and some felt they would always be a soldier.

Castro and Kintzle (2014)

Castro and Kintzle (2014) outlined a theory of MCT this way: "*Military[-civilian] transition theory describes the progression through which service members' transition out of the military. Military transition entails moving from the military culture to the civilian culture, producing changes in relationships, assumptions, work context, and personal and social identity. The theory postulates three interacting and overlapping phases describing individual, interpersonal, community, and military organizational factors that impact the military transition process. The first phase, approaching the military transition, outlines the personal, cultural, and transitional factors that create the base of the transition trajectory. The second phase, managing the transition, refers to individual, community, organizational, and transition factors impacting the individual progression from service member to civilian. The final phase, assessing the transition, describes outcomes associated with transition. The key outcomes include work, family, health, general well-being, and community. The military[-civilian] transition theory illustrates how certain factors may create susceptibility to negative outcomes.*"

Hatch et al. (2014)

Quoting other researchers in their study of social networks and mental health in U.K. military service-leavers, Hatch et al. (2014) wrote, "*Life transitions generally denote exit from one role and entry into another or a significant redefinition in an individual's role or status*." *"…the military*

remains a unique example of an institution that demands a higher level of social integration than other organisations as part of its purpose and excludes those who do not integrate at the training stage, but ensure that military personnel voluntarily or involuntarily break those ties after a finite number of years. Leaving the military breaks these social ties either partially or completely." "*This loss of social embeddedness and group cohesion is often difficult to bear and is said to impede the successful transition and re-integration into civilian life*". Their study found that participation in fewer social activities and smaller social networks was associated with depression, anxiety and PTSD in service-leavers, who as a group had less social participation and more social isolation than serving personnel.

Burkhart et al. (2015)

Burkhart et al. (2015) conducted a qualitative study of 20 female Veterans. Their abstract reads, "*Female veterans, the fastest growing segment in the military, have unique pre-military histories and military experiences that are associated with post-military physical and mental health service needs. Successful treatment is contingent on a clearer understanding of the processes underlying these experiences. Data from 20 female veterans who served post-Gulf War were analyzed to generate a substantive theory of the process of women who entered, served in, and transitioned out of the military. Coping with transitions emerged as the basic psychosocial process used by female veterans. The Coping with transitions process is comprised of seven categories: Choosing the Military, Adapting to the Military, Being in the Military, Being a Female in the Military, Departing the Military, Experiencing Stressors of Being a Civilian, and Making Meaning of Being a Veteran-Civilian. The results of this study provide a theoretical description of the process female veterans experience when transitioning from a civilian identity, through military life stressors and adaptations, toward gaining a dual identity of being a veteran-civilian*."

Profile of CAF Veterans: Evidence from the *Life After Service Studies* (LASS)

The 2010 and 2013 Life After Service Studies (LASS) of CAF Veterans have yielded a comprehensive picture of the demographics, socioeconomics, health, disability and well-being of CAF Veterans who released since 1998 (MacLean et al. 2010, Thompson et al. 2011, Thompson et al. 2014d). The findings have been described in more than 20 subsequent technical reports and journal publications. Although not focused specifically on the peri-release period, the studies paint a detailed picture of former CAF personnel up to 15 years later.

Ease of Adjustment to Civilian Life

In the LASS surveys, respondents were asked, "*In general, how has the adjustment to civilian life been since you were released from the Canadian Forces?*" and given five options: Very easy, moderately easy, neither difficult nor easy, moderately difficult and very difficult. In the following table for LASS 2013, "easy" and "difficult" each combined "moderate or very".

Table 3. Ease of adjustment to civilian life.

Characteristic or Indicator[5]	**Reserve Class A/B** Released 2003-2012	**Reserve Class C** Released 2003-2012	**Regular Force** Released 1998-2012
Adjustment to civilian life (CI)	74% (70-78%) easy 11% (8-14%) difficult	61% (58-64%) easy 24% (21-27%) difficult	56% (54-59%) easy 27% (25-29%) difficult

(Thompson et al. 2014d)

[5] See Appendix Table 1 for definitions.

- Thompson et al. (2015) found that the odds of having diagnosed mental health conditions at the time of the survey were much higher in those with difficult compared to easy adjustment: 8.4 times for deployed Reserve Veterans and 10.5 times for Regular Force Veterans.
- Hachey and Sudom (2013) found that life stress, health, satisfaction with support, mastery, and community belonging were strong predictors of ease of adjustment to civilian life.
- MacLean et al. (2014) used data available at the time of release and found that medical release had the strongest association with difficult adjustment followed by involuntary release compared to voluntary release. Non-commissioned member ranks also had elevated odds of difficult adjustment compared to officers, as did Army Veterans compared to Air Force and Navy, and those with interrupted careers (2-19 years of service) compared to those with long careers.

Demographics and Socioeconomics

The following table paints the demographic-socioeconomic picture. Note the young adult mean age, the predominance of men, and the varied range of marital status and education. Most entered the civilian workforce after release from service. Compared to the Canadian general population they had comparably low unemployment rates and fewer had incomes below the Statistics Canada Low Income Measure (Thompson et al. 2014d).

Table 4. Prevalence of demographic and socioeconomic characteristics.

Characteristic	**Reserve Class A/B** Released 2003-2012	**Reserve Class C** Released 2003-2012	**Regular Force** Released 1998-2012
Mean Age	31 years, Range 18-67	40 years, Range 20-67	44 years, Range 18-78
Women (CI)	19% (15-22%)	23% (21-26%)	13% (12-15%)
Marital status	56% married or common-law 39% single or never married F* for widowed, separated or divorced	72% married or common-law 22% single or never married 6% widowed, separated or divorced.	74% married or common-law 16% single or never married 10% widowed, separated or divorced.
Educational attainment	25% high school 39% post-secondary other than university degree 35% university degree.	26% high school 41% post-secondary other than university degree 30% university degree.	43% high school 36% post-secondary other than university degree 17% university degree.
Unemployment rate (CI)	6% (4-9%)	5% (4-7%)	7% (6-8%)
Labour force participation, 2013	84% employed 10% not in the workforce	80% employed 13% not in the workforce	71% employed 19% not in the workforce 4% unable to work
Main activity in the past year	77% working at a job or business 14% in school or training	77% working at a job or business 6% in school or training 5% disabled or on disability 6% retired	69% working at a job or business 5% in school or training 6% disabled or on disability 12% retired
Low income (CI)	12% (9-15%)	8% (6-10%)	8% (6-9%)

(Thompson et al. 2014d)
CI = 95% confidence interval, F = estimate unreliable owing to sample size < 30.

Military Characteristics at Release from Service:

Less than half of Regular Force Veterans had careers lasting 20 years or more and most were voluntarily released from service. About a fifth of Regular Force Veterans were released from

service with medical employment limitations making them unfit for military employment and deployment in the CAF (the common but imprecise term for this category is “medical release”). The process of release from CAF service can be very complex, particularly for those with medical employment limitations.

Table 5. Prevalence of military characteristics (Thompson et al. 2014d).

Characteristic	Reserve Class A/B Released 2003-2012	Reserve Class C Released 2003-2012	Regular Force Released 1998-2012
Release type (CI)	76% (72-80%) voluntary 16% (12-20%) involuntary[6] F* for other types, including medical release	65% (61-68%) voluntary 10% (8-12%) involuntary 13% (11-15%) medical release 8% (6-10%) service complete 5% (4-7%) retirement age	52% (50-55%) voluntary 7% (5-8%) involuntary 21% (19-23%) medical release 16% (14-17%) service complete 5% (4-5%) retirement age
Length of service	21% <2 years 66% 2-9 years 10% 10-19 years F* > 20 years	F* <2 years 41% 2-9 years 36% 10-19 years 22% > 20 years	21% <2 years 20% 2-9 years 12% 10-19 years 48% > 20 years
Rank at release	F* for senior officers and senior NCMs 7% junior officers 33% junior non-commissioned members (NCM) 14% privates 39% recruits.	17% officers 20% senior NCMs 58% junior NCMs F* for number of cadets, privates and recruits	15% officers 4% cadets 25% senior NCMs 30% junior NCMs 7% privates 18% recruits
Enrolment era	16% 1990s and 77% 2000s, suggesting a high turnover rate	Peak in the 1990s but spread across all eras from the 1960s	Broadly spread across all eras from the 1950s
Release year	Little variation, ranged 6-12% in the release period (2003-2012)	Slightly highest in 2011 (16%)	Ranged 4-10% by year across the release period 1998-2012, peak in 2008
Service Environment (Branch)	83% Army 13% Navy F* for Air Force	80% Army 13% Navy 7% Air Force	54% Army 16% Navy 30% Air Force
Last military occupation	59% combat arms 15% administration, logistics or security 10% maritime F* for the other 5 groups	44% combat arms 27% administration, logistics or security 11% communications, 8% maritime F* for the other 4 groups	26% combat arms 24% administration, logistics or security 8% communications 14% aviation 12% maritime 11% engineering/technical 5% medical

(Thompson et al. 2014d)
F = estimate unreliable owing to sample size < 30.

Health and Disability

Based on the 2010 and 2013 Life After Service Surveys, most recent CAF Veterans have good mental health after release from service and the great majority are satisfied with life, even though a majority had chronic physical health conditions and a significant number have diagnosed mental health conditions and/or poor self-rated mental health, psychological distress, symptom criteria for current PTSD or below average self-rated mental health (Table 6 and Thompson et al. 2014b, 2014d, 2015).

Prevalences of diagnosed mental health conditions in Regular and deployed Reserve Force

[6] "Involuntary Release" includes misconduct dismissal, misconduct service, illegally absent, fraudulent enrollment, unsatisfactory conduct, unsatisfactory performance, not advantageously employed, death and transfer out.

Veterans were more than double those in the Canadian general population after adjusting for age and sex differences, as were several chronic physical health conditions that can lead to mental health problems, particularly painful musculoskeletal conditions and migraine; and mental health problem prevalences appear to be larger than earlier-era Veterans and CAF serving personnel (**Figure 1** and Thompson et al. 2014b, 2014d, 2015).

More than 90% of Regular Force and deployed Reserve Force Veterans who had a diagnosed mental health condition also had a chronic physical health condition. However disability measured as activity limitations (not as role participation limitation) was more strongly associated with the comorbidity of physical and mental health conditions than either type alone, and activity limitations were considerably more prevalent in Regular Force and deployed Reserve Force Veterans than in the general Canadian population and (Thompson et al. 2014b).

Table 6. Prevalence of health and disability indicators.

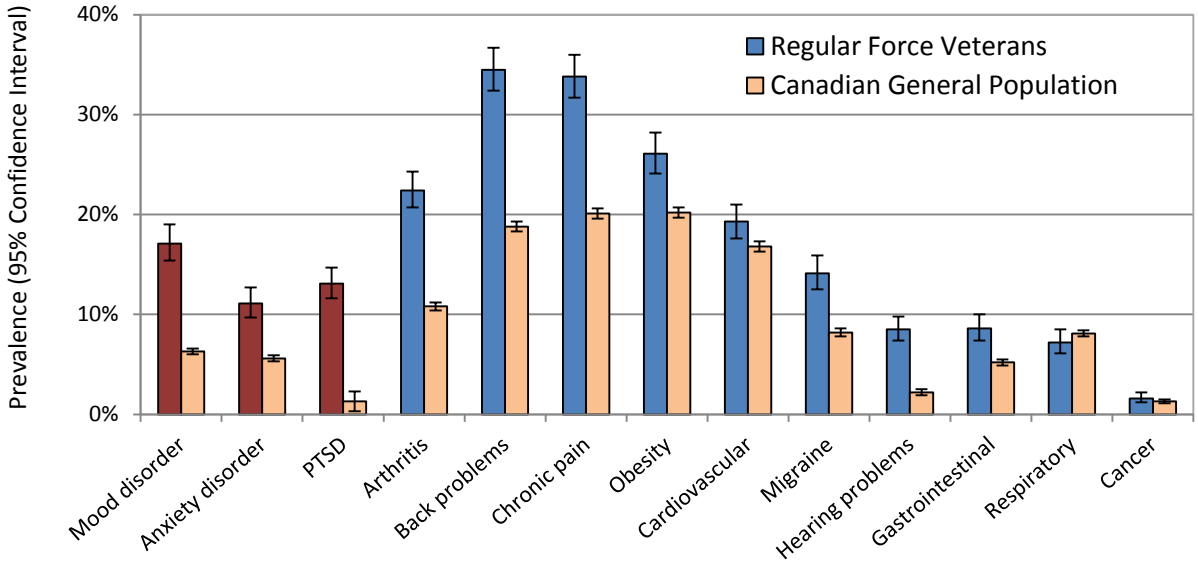
Indicator	**Reserve Class A/B** Released 2003-2012	**Reserve Class C** Released 2003-2012	**Regular Force** Released 1998-2012
Self-rated health (CI)	69% (65-73%) very good/excellent 7% (5-10%) fair/poor	61% (58-64%) very good/excellent 13% (11-15%) fair/poor	53% (50-55%) very good/excellent 18% (16-20%) fair/poor
Self-rated mental health (CI)	74% (70-77%) very good/excellent 6% (5-9%) fair/poor	67% (64-70%) very good/excellent 11% (9-13%) fair/poor	62% (59-64%) very good/excellent 16% (14-18%) fair/poor
1+ chronic physical health condition[7] (CI)	55% (50-60%)	68% (65-71%)	74% (72-76%)
1+ chronic mental health condition[8] (CI)	9% (7-12%)	17% (15-20%)	24% (22-26%)
Both physical and mental health condition	F*	16% (14-18%)	22% (20-24%)
Chronic physical health conditions (CI)	17% (14-21%) Back problems 6% (4-8%) Arthritis 7% (5-10%) Cardiovascular 7% (5-10%) Gastrointestinal 10% (7-13%) Migraine 18% (15-22%) Obesity 13% (10-16%) Chronic pain F* Others	32% (29-35%) Back problems 16% (14-19%) Arthritis 14% (12-17%) Cardiovascular 9% (7-11%) Gastrointestinal 7% (6-9%) Respiratory 11% (9-13%) Migraine 3% (2-4%) Traumatic brain injury (TBI) effects 5% Diabetes 24% (21-26%) Obesity 28% (25-31%) Chronic pain	35% (32-37%) Back problems 22% (21-24%) Arthritis 19% (18-21%) Cardiovascular 9% (7-10%) Gastrointestinal 7% (6-9%) Respiratory 14% (13-16%) Migraine 3% (2-4%) Traumatic brain injury (TBI) effects 6% Diabetes 26% (24-28%) Obesity 2% (1-2%) Cancer 3% Urinary incontinence 34% (32-36%) Chronic pain
Chronic mental health conditions	F*	12% (10-14%) Mood disorder 8% (6-10%) Anxiety disorder 8% (6-9%) Posttraumatic stress disorder (PTSD)	17% (15-19%) Mood disorder 11% (10-13%) Anxiety disorder 13% (12-15%) Posttraumatic stress disorder (PTSD)

[7] Physical health condition = any one of musculoskeletal condition (arthritis or back problem), cardiovascular condition (heart disease, effects of stroke or high blood pressure), gastrointestinal condition (ulcer or bowel disorder), respiratory condition (asthma or COPD chronic obstructive pulmonary disease), central nervous system condition (migraine, dementia or effects of traumatic brain injury), urinary incontinence, diabetes, cancer, obesity, hearing problem or chronic pain/discomfort.
[8] Mood disorder (including depression), anxiety disorder, posttraumatic stress disorder (PTSD).

Indicator	**Reserve Class A/B** Released 2003-2012	**Reserve Class C** Released 2003-2012	**Regular Force** Released 1998-2012
Likely mental disorders (K10) (CI)	7% (5-9%) mild F* moderate and severe	8% (6-10%) mild F* moderate 6% (5-8%) severe	9% (7-10%) mild 5% (4-6%) moderate 8% (6-9%) severe
Past-year suicidal ideation	F*	5% (4-7%)	7% (6-8%)
SF-12 Health-related quality of life (CI)	Physical 54.1 (53.5-54.8) Mental 52.6 (51.8-53.3)	Physical 50.8 (50.1-51.4) Mental 51.1 (50.4-51.8)	Physical 47.9 (47.4-48.5) Mental 51.3 (50.8-51.8)
Reduction of activity in a major life domain (CI)	23% (19-27%)	40% (37-43%)	49% (47-52%)
Satisfied with life (CI)	94% (91-96%)	89% (87-91%)	86% (84-87%)
Satisfaction with main activity	80% satisfied or very satisfied	75% satisfied or very satisfied	75% satisfied or very satisfied
Stress on most days	33% not at all/not very 17% quite a bit/extremely	29% not at all/not very 26% quite a bit/extremely	36% not at all/not very 23% quite a bit/extremely
Work stress past year	29% not at all/not very 18% quite a bit/extremely	26% not at all/not very 28% quite a bit/extremely	33% not at all/not very 22% quite a bit/extremely
Daily smoking	10%	13%	17%
Heavy drinking	32%	28%	25%
Health insurance	83% prescription drugs 75% dental insurance 68% eye glasses	88% prescription drugs 78% dental insurance 73% eye glasses	92% prescription drugs 87% dental insurance 84% eye glasses
Regular medical doctor (CI)	76% (71-79%)	78% (76-81%)	81% (79-83%)
Home care paid by government	F*	4% (3-5%)	7% (6-9%)
Home care not paid by government	F*	9% (7-11%)	8% (7-9%)
Unmet need for health care past year (CI)	12% (9-15%)	16% (14-18%)	16% (14-18%)

(Thompson et al. 2014d)
F = estimate unreliable owing to sample size < 30.

Figure 1. Prevalence of chronic conditions in Regular Force Veterans compared to the general Canadian population matched for age and sex (LASS 2013).



Correlates of Mental Health Conditions

Thompson et al. (2015) identified a number of univariate correlates of self-reported diagnosed mental health conditions in Veterans in the 2013 Life After Service Study. Unadjusted odds of having self-reported mental health conditions diagnosed by a health professional (mood disorders, anxiety disorders or PTSD) were much higher in Regular (8 times) and deployed Reserve Force (11 times) Veterans reporting difficult adjustment to civilian life than those reporting easy adjustments (Thompson et al. 2015). Unadjusted odds of mental health conditions were also elevated in Veterans with these characteristics:

- Ages 40-49;
- Women;
- Widowed/separated/divorced;
- Low income;
- Unemployed, not working and not looking for work, and particularly those who were unable to work;
- Non-commissioned members particularly corporals and equivalent naval ranks followed by senior NCMs;
- 10-19 years of service (interrupted careers);
- Released with medical employment limitations and particularly those released involuntarily for other reasons;
- Army;
- Several chronic physical conditions, particularly those with 3 or more comorbid physical conditions;
- Restricted activity in home, work, school and other domains of life, and those needing assistance with at least one activity of daily living;
- Daily smoking (but were not elevated in those with heavy drinking); or
- Adverse measure of stress, coping and satisfaction.

Mental Health by Types of Release from CAF Service

Table 7 lists types of release from service defined in Chapter 15 of *Queen's Regulations and Orders* (http://www.forces.gc.ca/en/about-policies-standards-queens-regulations-orders-vol-01/ch-15.page). Voluntary release is the most common type, followed by medical release and then other types (Table 5). Not surprisingly, those who medically release (release owing to health-related employment limitations) more often have chronic physical and mental health conditions and related disability (Thompson et al 2011, 2014).

Although the number varies annually, roughly 4-5,000 Regular Force personnel release annually, of who about a quarter are medically released. About as many Primary Reserve Force personnel release annually, most of who are Class A Reservists with very short service, many releasing as recruits.

Relative to those who released voluntarily, those who released medically or involuntarily had higher odds of reporting difficult adjustment to civilian life (MacLean et al. 2014). However, broad anecdotal evidence indicates that members who release *voluntarily* with health conditions and related impairments also can experience MCT difficulties. This association is confirmed in the LASS surveys where almost one in five Regular Force and deployed Reserve Force Veterans who voluntarily released had difficult adjustment (19% and 18%). Those who were voluntarily released also had significant prevalences of chronic physical health conditions (66% and 63%) and mental conditions (15% and 11%). Several had fair/poor self-rated mental health (8% and 6%) or moderate/severe levels of K10 psychological distress (7% and 5% had K10 score of 20^{+}).

Table 7. Types of release from the Canadian Armed Forces.

Item	Category	Reasons for Release
1	Misconduct	A – Sentenced to Dismissal; where convicted and sentenced. B – Service misconduct; where convicted. C – Illegally absent. D – Fraudulent statement on enrolment.
2	Unsatisfactory service	A – Unsatisfactory conduct; where convicted. B – Unsatisfactory performance; ability to improve but lacks application or effort.
3	Medical	A – On medical grounds, disabled and unfit to perform duties as a member of the Service. B – On medical grounds, disabled and unfit to perform duties in present trade or employment and not otherwise advantageously employable. The term "medical release" is a misnomer: health professionals assess medical employment limitations, and then administrators decide whether the member is to be released, and the category of release.
4	Voluntary	A – On request when entitled to an immediate annuity. See article 15.17 or 15.31 if less than retirement age; where service entitles to immediate annuity; includes statements about completed 20-year or 25-year term of employment (see *Canadian Forces Superannuation Regulations*). B – On completion of a fixed period of service other than completion of a 20-year or 25-year term of employment. C – On request, other causes than 4a or 4b.

Item	Category	Reasons for Release
5	Service completed	A – Retirement age, varies with rank and occupation. B – Reduction in strength, section 15 of the *National Defence Act*. C – Completed service for which required; complex category, see original article. D – Not advantageously employed; inherent lack of ability or aptitude, or unable to adapt to military life, or because of conditions beyond his control develops personal weaknesses or has domestic or other problems that seriously impair his usefulness or impose excessive administrative burden on the Canadian Forces. E – Irregular enrolment other than 1d. F – Unsuitable for further employment. Because of conditions beyond his control develops personal weaknesses or has domestic or other problems that seriously impair his usefulness or impose excessive administrative burden on the Canadian Forces.

Veteran Participation in VAC Programs

The Life After Service Studies in 2010 and 2013 yielded measures of the proportions of Veterans who released since 1998 who were participating in VAC programs (VAC clients). In 2013, 3% of non-deployed (Class A/B) and 17% of deployed (Class C) Reserve Veterans who released in 2003-2012 and 35% of Regular Force Veterans who released in 1998-2012 were VAC clients. Almost all CAF VAC clients (Veterans who served since the Korean War) have service-related disability benefits for chronic physical and/or mental health conditions (98%).

Profile in the First Two Years after Release

Table 8 shows characteristics of Regular Force and deployed Reserve Force Veterans less than 2 years, 2-4 years and 5 or more years since release from service (up to 9 years for Reservists and 15 years for Regulars) based on finding from the LASS 2013 survey. Comparisons across the three groups have to be made with caution since tests of statistical difference have not been done on these data, those surveyed within 2 years of release were younger and there was suggestion of an era effect in that they had more often deployed in support of the mission in Afghanistan.

The data suggest that most were doing well in the first two years after release: the majority were employed (59%), satisfied with their financial situation (69%), or satisfied or very satisfied with life (86%). The majority had very good or excellent health (51%) and mental health (63%). Compared to those who had been out longer, the unemployment rate was higher (16% versus 5%) and fewer were employed than those who had been out for five or more years (59% versus 73%), and more were in school or training (14% versus 2%).

A significant proportion of those surveyed in the first two years after release had chronic health problems. Slightly more had fair/poor self-rated health (21%) and diagnosed mental health conditions (20%) than those who had been out longer (16% and 15%). Most had chronic physical health conditions (75%) while a smaller but significant proportion had diagnosed mental health conditions (25%). A third (35%) had three or more comorbid physical conditions, 15% had comorbid mental health conditions and a quarter (24%) had both physical and a mental health condition. More than 90% with a mental condition also had a chronic physical condition. More than half had health-related activity restrictions in major life domains (58%) and a quarter (23%) needed assistance with an activity of daily living.

Table 8. Prevalence of characteristics in combined Regular Force and deployed Reserve Force Veterans by years since release from service.

Characteristic or Indicator	Time Since Release From Service, Proportion with the Characteristic or Indicator (Except where other quantities specified)		
	Less than 2 yrs	2-4 yrs	5 or more yrs
Sample size (number of respondents)	406	906	1,939
Difficult adjustment to civilian life	34%	27%	26%
VAC client	45%	33%	33%
Gender – percent female	13%	17%	13%
Mean age (years)	38 yrs	40 yrs	46 yrs
Married or common-law	65%	65%	79%
Unemployment rate	16%	8%	5%
Employed	59%	73%	74%
Worked at job or business past year	69%	79%	74%
Attended school or training	14%	9%	2%
Retired and not looking for work	11%	9%	13%
Skills transferrable to civilian work – agree/strongly agree	45%	44%	47%
Income below Low Income Measure	12%	11%	8%
Household income below $100,000	57%	63%	56%
Satisfied/very satisfied with financial situation	69%	73%	77%
Length of service less 20 years or more	42%	42%	48%
Medical release	30%	18%	20%
Officer	15%	16%	15%
Last Rank:			
Officer cadet	4%	3%	5%
Senior non-commissioned member	23%	22%	26%
Junior non-commissioned member above Private	36%	32%	31%
Private	4%	9%	7%
Recruit	19%	19%	16%
Deployed in support of Afghanistan	36%	21%	6%
Last MOC: Combat Arms	32%	31%	25%
Self-rated health very good/excellent	52%	58%	51%
Self-rated health fair/poor	21%	27%	16%
Self-rated mental health very good/excellent	60%	62%	63%
Self-rated mental health fair/poor	20%	16%	15%
Mean physical health-related quality of life (SF-12 PCS)*	47	50	48
Mean mental health-related quality of life (SF-12 MCS)*	50	51	52
Chronic physical health condition, one or more	75%	71%	74%
Chronic pain	39%	27%	35%
Chronic mental health condition, one or more	25%	21%	24%
Three or more comorbid physical health conditions	35%	28%	31%
Two or more comorbid mental health conditions	15%	12%	13%
Comorbid physical and mental health conditions	24%	22%	22%
Health-related activity restriction in major life domains	54%	44%	50%
Needs help with at least one activity of daily living	23%	16%	21%
Pain/discomfort limits a few, some or most activities	30%	24%	36%
Psychological distress limits activities a little, some or a lot	43%	40%	41%
Satisfied or very satisfied with life	85%	86%	86%
Weak sense of community belonging	45%	42%	42%
Extreme or quite a bit of stress in life	16%	22%	24%
Work stress at job or business in past year – quite a bit or extreme	14%	20%	25%
Satisfaction with main activity	69%	73%	77%
Has a regular medical doctor	67%	77%	84%

*Scores lower than 50 indicate health-related quality of life below the mean of the normative general population; difference of 5 points (half standard deviation) or more considered significant.

Mental Health in MCT

Mental Health during Military-Civilian Transition

There is increasing recognition by experts that more needs to be learned about mental health and the determinants and impacts of mental health in military Veteran populations during the potentially very stressful period immediately before and after release from service (Greenberg et al. 2014, Castro and Kintzle 2014). One of the key findings from the population surveys is that the prevalence of mental health problems appears to be higher in CAF Veterans who released since 1998 than in serving personnel and in Veterans of earlier eras. Prevalences of self-reported chronic mental health conditions diagnosed by a health professional were more than two times larger in Regular Force and deployed Reserve Force Veterans than in the general Canadian population, and one in four Regular Force Veterans had one or more of a mood disorder, anxiety disorder or PTSD (Thompson et al. 2014b, 2015). Prevalences of mental health problems also appear to be larger in recent Veterans than Veterans of earlier eras and possibility in serving personnel (Thompson et al. 2015, Zamorski et al. 2014). Direct comparisons between populations are difficult owing to differences in survey methodologies; however these observations raise the possibility that adverse experiences in MCT might play important roles in later life mental health and well-being.

The Language of Mental Health

- "**Mental health**" has been defined as "*the capacity of an individual to interact with other people and with the person's environment in ways that promote the person's sense of well-being, enhance their personal development and allow the person to achieve their life goals*" (Queensland Health).
- "**Mental illness**" occurs when "*thoughts, feelings and behaviour cause them or others distress, and are not in keeping with their cultural background*" (Queensland Health).
- "**Mental disorders**" are conditions meeting diagnostic criteria such as the DSM (Diagnostic and Statistical Manual).
- "**Serious mental disorders**" are usually defined as disorders accompanied by significant impact on functioning and quality of life (Goldman and Grob 2006).
- Mental health condition" is a vague term with different meanings for different contexts. Typically a physician might use it for judging "the condition of the patient" (as in critical condition, for example), but not in reference to a specific diagnosis. The term has to be defined for a specific context. The Canadian Community Health Surveys and Veteran Life After Service Surveys use self-report checklists of "chronic conditions" that have been diagnosed by a health professional, but it is not clear what respondents mean when they report they have conditions like "diabetes", "arthritis" or "mood disorder".
- "**Mental health problems**" broadly encompasses mental illness, disorders, conditions and symptom states that do not meet the criteria for mental disorders but are associated with distressful thoughts and emotions and functional difficulties that may warrant intervention (U.S. Department of Health and Human Services 1999).
- "**Operational Stress Injury (OSI)**" is a term that was adopted by CAF and VAC to aid in destigmatizing mental health problems. The formal definition is "any persistent psychological difficulty resulting from operational duties performed while serving in the Canadian Armed Forces or as a member of the Royal Canadian Mounted Police. It is used to describe a broad range of problems which include diagnosed psychiatric conditions such as anxiety disorders, depression, and post-traumatic stress disorder (PTSD) as well as other conditions that may be less severe, but still interfere with daily

functioning." In other words, OSIs are mental health problems attributable to operational service, but mental health problems in serving personnel and Veterans also include those attributable to other non-operational and non-military factors.

- The "**Mental health continuum**" ranges from healthy/adaptively coping (green), through mild and reversible distress or functional impairment (yellow), to more severe, persistent symptoms or impairment (orange), to clinical illnesses and disorders requiring more concentrated medical care (red) (http://www.forces.gc.ca/en/caf-community-health-services-r2mr-deployment/mental-health-continuum-model.page).

Determinants of Mental Health and Well-Being in MCT

It is unclear precisely what factors influence the mental health of CAF personnel during MCT. Anecdotally, there are a wide variety of life course trajectories, ranging from easy transition into good civilian jobs and happy families, to family breakdowns, unemployment and problems with mental and physical health, even for those who release voluntarily rather than owing to medical employment limitations or release for other involuntary reasons.

Anecdotally, transitioning military personnel go through a wide variety of life course trajectories in terms of mental health:

1. Some have flourishing mental health; experience transient, normal reactions to stress that they manage easily; and end up in good jobs or retirement from the workforce with well-functioning social lives.
2. Some who are free of diagnosed mental disorders experience periods of emotional and behavioral difficulty when their transitions do not go as expected and either recover when their situations improve, or end up requiring treatment.
3. Others who are already dealing with mental disorders or operational stress injuries might worsen in the stress of MCT, experiencing relapses with resultant impacts on their lives and families. There are many variations on these three broad themes, depending on individual circumstances.

The process of psychological adaptation is common to trajectories like MCT (Jolly 1996, Adler et al. 2011). Some adapt easily, others with difficulty. Psychological adaptation to MCT is affected by internal factors such as resilience, personality and the presence or absence of psychological pathology, and to external factors including supportive and adverse resources. Collectively these factors are described as the determinants of mental health. Interventions intended to optimize the mental health and well-being of Veterans in MCT address the determinants.

Based on retrospective, self-reported data from the LASS studies, which were surveys administered to CAF Veterans (former members) up to 15 years after release, most appear to do well. Respondents were asked "*In general, how has the adjustment to civilian life been since you were released from the Canadian Forces?*" and given five options: *Very Difficult, Moderately Difficult, Neither Difficult nor Easy, Moderately Easy, Very Easy*. MCT was very or moderately easy for the majority of Regular Force Veterans, but very or moderately difficult for about a quarter. Difficult adjustment was more prevalent in those with chronic mental or physical health problems or socioeconomic difficulties.

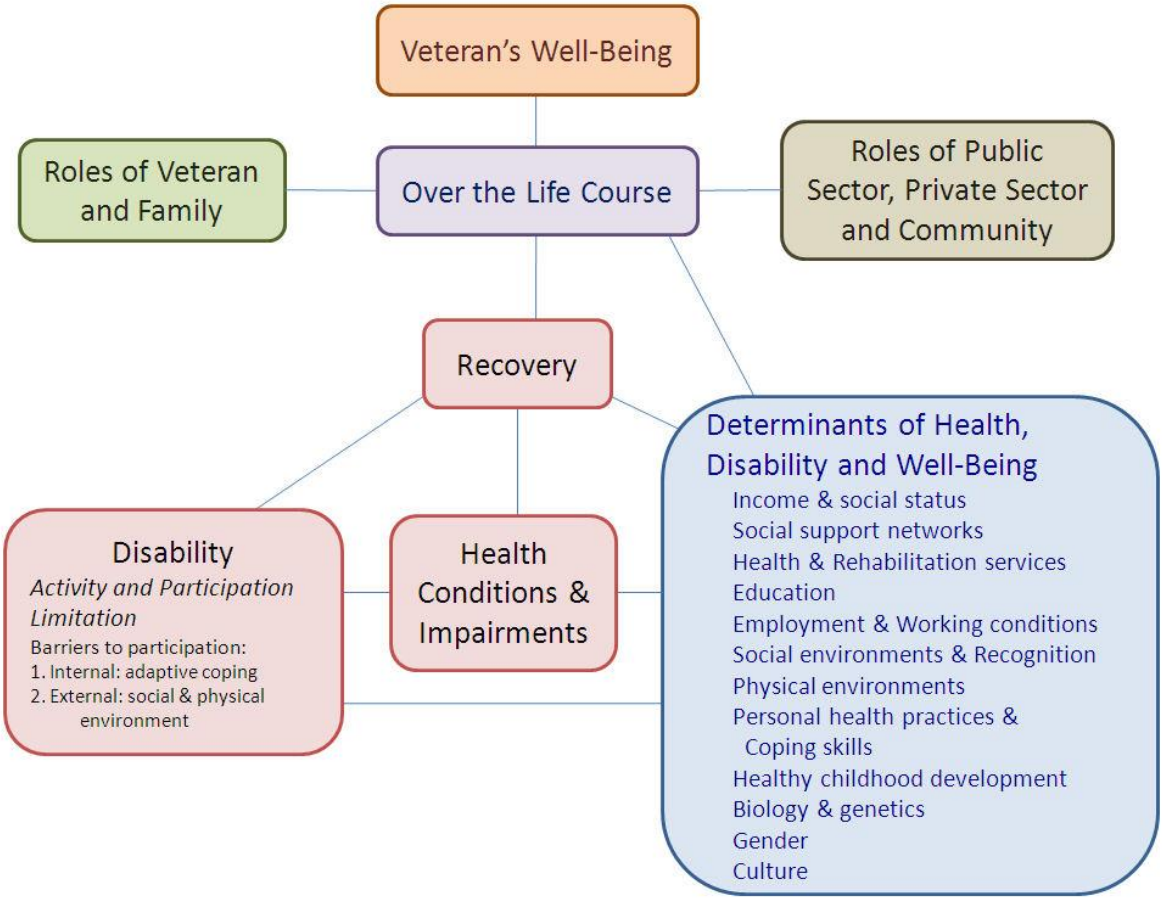
There is broad consensus among experts and an extensive research evidence base supporting the view that the determinants of mental health include experiences of parental generations, genetics, early life developmental influences, socioeconomic factors, physical health and

cultural, social and physical environments (Koenen et al. 2014). The Veterans' well-being conceptual framework (**Figure 2**, Thompson et al. 2012b) demonstrates general relationships between the determinants of health, physical and mental health, disability and other factors that impact well-being.

The determinants of mental and physical health can be grouped into three broad categories of significance to policy, programming and services:

- *The "social" determinants of health* include factors affected by social circumstances: income, education, employment, working conditions, social status, culture and social and physical environments. These are amenable to public policy and programming.
- *Health and rehabilitation services* are key determinants affecting health and mitigating disability by addressing health conditions, related impairments, personal health practices and coping skills. These determinants are also amenable to public policy and programming.
- *Other* determinants of health including biology, genetics and gender. These determinants are not as readily amenable to policy and programming.

Figure 2. Veterans' well-being conceptual framework.



Mental and physical health conditions have complex causal relationships with each other. Mental health conditions can be secondary to distressing chronic physical conditions, are increasingly implicated in the onset of some physical conditions, and can occur along with

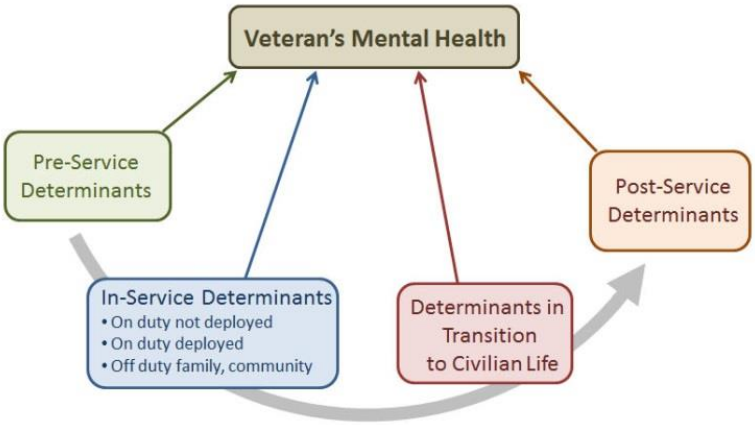
physical conditions owing to other causal factors. The associations between mental and physical health are particularly relevant in the CAF Veteran population, where over 90% of Regular and deployed Reserve Force Veterans with diagnosed mental conditions have chronic physical health conditions, and a significant proportion have 3 or more comorbid physical conditions (Thompson et al. 2015).

Mental Health across the Life Course

The life course approach recognizes that health, disability and well-being fluctuate over time as a result of current and prior exposure to determinants of health (Hertzman & Power 2003, Kuh et al 2003). These are examples of life course research terminology:

- *Transition* –Shifts in roles that occur over the life course.
- *Trajectory* – Well-being in and between a series of transitions such as education, work and retirement.
- *Turning point* –Change in a person's life course trajectory. Military/civilian transition is a turning point.
- *Critical period* – A time when modifying factors influencing a person's life course are most likely to have an impact on the person's life course trajectory.
- *Resilience, plasticity, vulnerability* – Tendency of a person to respond to modifying factors that may influence their life course trajectory.

Figure 3. Life course factors influencing the mental health of military Veterans.



MCT is generally recognized as a very important turning point in the life courses of military members and their families, as is civilian-military transition at recruitment.

Figure 3 summarizes the life course nature of determinants of Veterans' mental health. All the CAF serving and Veteran population surveys have been cross-sectional, meaning they only gave us "point in time snapshots," hampering the ability to draw conclusions about the life course causes of mental health problems in Veterans during life after service.

Pre-Service Determinants

It is well established that pre-service determinants such as adverse childhood experiences increase the odds of mental health problems later in life in both civilians and military personnel. Analysis of the CFMHS 2002 data showed that both adverse childhood experiences and deployment traumatic experiences together had higher odds of mental disorders in serving CAF personnel than either factor alone (Sareen et al. 2013). There is evidence from the U.S. Army STARRS recruit study that those with mental health problems prior to service were more likely to experience them again in service, possibly in response to the stresses encountered in the transition from civilian to military life (Rosellini et al. 2014). In the U.K., studies have found that mental health problems among those in service were associated with behavioural issues prior to service (Iversen et al. 2007).

In-Service Determinants

Military service is a unique high demand occupation (Greenberg 2014). In serving personnel, there is growing evidence that the determinants of mental health in serving military personnel are complex, highly individual and cannot be oversimplified to factors like “deployment” or “combat exposure”. Clearly exposure to combat is associated with mental health problems. While most CAF personnel who served in Afghanistan are in good mental health, 13.5% were diagnosed with a mental disorder related to the mission within four 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 eight years but was much lower in those deployed to low threat locations (8% at nine years in the United Arab Emirates) (Boulos and Zamorski 2013), similar to findings in other nations (Pietrzak et al. 2013).

Public perception often seems to be that mental health problems in Veterans are simply related to deployment or combat while in service, however the studies give a more complex life course picture involving pre-service predispositions, non-deployment occupational and non-military stressors, military-civilian transition and post-service stressors (Figure 3) (Iversen et al. 2005, 2007, Sareen et al. 2007, Fear et al. 2009, Harvey et al. 2012, Garber et al. 2012, Boulos and Zamorski 2013, Greenberg 2014, Castro and Kintzle 2014, Kessler et al. 2014, Kang et al. 2014). Public perception seems to be that Veterans are psychologically “damaged”, however most CAF personnel have good mental health following deployments, (Garber et al. 2012, Boulos and Zamorski 2013) consistent with other nations (Iversen et al. 2007, Fear et al. 2009, Pietrzak et al. 2012), and studies in other populations have shown that many with mental health problems subsequently recover or adapt (Demyttenaere et al. 2004, Pietrzak et al. 2012).

Post Service Determinants

Much has been learned from the Life After Service Studies about the socioeconomic, physical health and disability correlates of mental health problems and suicidality in Veterans up to 15 years after release (Thompson et al. 2012a, 2014b, 2014c, 2015). The likelihood of having a diagnosed mental health condition was highest in middle-aged versus younger and older Veterans; women; the widowed, separated and divorced; those with education other than post-secondary degree; those unemployed and not working/not looking; those with lower income; and those who felt they had a difficult adjustment to civilian life. In Regular Force Veterans, the odds of having diagnosed mental health conditions were significantly elevated and highest in junior followed by senior non-commissioned members, those with 10-19 years of service (interrupted careers), and involuntary followed by medical release. About half of Veterans with diagnosed mental conditions had two or more mental health conditions. Disability measured as activity limitations was more prevalent in Veterans with diagnosed mental health conditions than in those without. Mental health conditions were associated with low mastery, weak sense of community belonging, life stress, work stress, dissatisfaction and low social support. These findings are consistent with a well-established body of Canadian and worldwide civilian and military research.

There is evidence from studies in the U.K. that Veterans with mental health problems were more likely to have had mental health problems in service (Iversen et al. 2005). In LASS 2013, those with mental health problems identified in the pre-release transition interview were more likely to have had mental health disorders when they were surveyed up to 15 years after release (Thompson et al. 2015).

The role of the family in Veterans' mental health has not yet been well studied in Canada; however there is good evidence that family dynamics play important roles in the mental health of family members, and vice-versa.

Mental Health and Disability

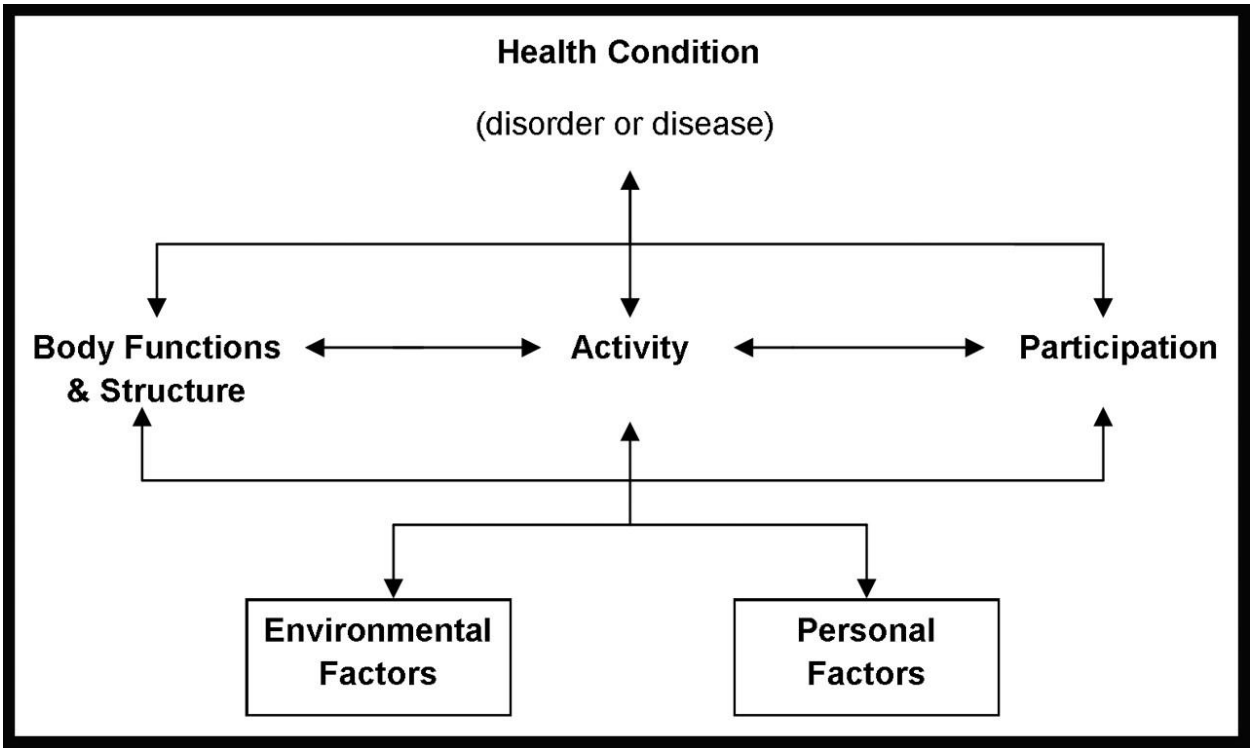
Mental health problems have a prominent and, relative to physical health, disproportionate impact on morbidity, disability, health services utilization, quality of life and well-being (Buckman et al. 2002, Ratnasingham et al. 2012, Whiteford et al. 2013, AFSHC 2013, Elmasry et al. 2014). In the World Mental Health Surveys, mental and substance use disorders along with musculoskeletal disorders were last place in mortality measured as years of life lost, but shared first place as causes of morbidity measured as years of life lived with disability (Whiteford et al. 2013.) In military personnel, mental disorders affect far fewer individuals than physical health conditions but are first in number of days of lost work followed by musculoskeletal disorders and injuries, second behind musculoskeletal disorders and injuries in health service utilization, and account for a significant and increasing proportion of premature releases and disability benefits in Canada and other nations (AFSHC 2013, Elmasry et al. 2014, Buckman et al. 2013). However both types of conditions (physical and mental health) together act synergistically to elevate the odds of disability well above the additive effect of either type alone (Thompson et al. 2014a).

As mentioned above in "The Language of Mental Health", functioning is a key element of the definitions of mental health and mental health problems. In the ecological view of the World Health Organization's ICF (International Classification of Health and Functioning, **Figure** 1), disability occurs in the interaction of a person with a health condition with their social and physical environments (Mc Geary et al. 2007, Altman and Berthelot 2013, WHO 2014).

There is confusion owing to use of two different meanings of the word "disability":

> (1) One meaning includes body functional and structural impairment related to a health condition. This sense of the word, while not inconsistent with the WHO umbrella definition, harkens to the biological model where disability was defined only in the sense of a person's state of physical or mental health, a view that dominated until the early-mid 20th century. In the biological view, the person is responsible for their disability and people are said to "have a disability" (meaning #1).
>
> (2) The other meaning – role participation restriction – is in keeping with the current ecological, biopsychosocial view of disability, where a person's role participation difficulties result from the interaction of their health-related impairments with (a) their adaptive coping ability and (b) barriers they encounter in their social and physical environments. In the biopsychosocial view, the person *and* their communities are both responsible and people are said to "experience disability" (meaning #2).

Figure 4. WHO ICF framework (World Health Organization, International Classification of Health and Functioning).



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