

## Postmilitary Adjustment to Civilian Life: Potential Risks and Protective Factors

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**Background.** Adjustment to civilian life in Canadian veterans after release from military service has not been well studied.

**Objectives.** The objectives of this study were: (1) to explore dimensions of postmilitary adjustment to civilian life and (2) to identify demographic and military service characteristics associated with difficult adjustment.

**Design.** Data were analyzed from a national sample of 3,154 veterans released from the regular Canadian Forces during 1998 to 2007 in a cross-sectional survey conducted in 2010 called the Survey on Transition to Civilian Life.

**Methods.** The prevalence of difficult adjustment to civilian life for selected characteristics was analyzed descriptively, and confidence intervals were calculated at the 95% level. Multivariable logistic regression analysis was used to identify characteristics available at the time of release that were associated with difficult adjustment.

**Results.** The prevalence of difficult adjustment to civilian life was 25%. Statistically significant differences were found across indicators of health, disability, and determinants of health. In multivariable regression, lower rank and medical, involuntary, mid-career, and Army release were associated with difficult adjustment, whereas sex, marital status, and number of deployments were not.

**Limitations.** Findings cannot be generalized to all veterans because many characteristics were self-reported, important characteristics may have been omitted, and causality and association among health, disability, and determinants of health characteristics could not be determined.

**Conclusions.** Postmilitary adjustment to civilian life appears to be multidimensional, suggesting the need for multidisciplinary collaboration between physical therapists and other service providers to mitigate difficult transition. Potential risk and protective factors were identified that can inform interventions, outreach strategies, and screening activities, as well as further research.



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There are an estimated 600,000 veterans of the Canadian Armed Forces (regular and reserve) who served since the Korean War (1953) and are living in Canada today.<sup>1</sup> Veterans Affairs Canada (VAC), the Department of National Defence (DND), and the Canadian Armed Forces have long supported veterans in their transition to civilian life. Over the last decade, efforts in this area resulted in the implementation of new rehabilitation and reintegration programs to help veterans successfully make the transition to civilian life.

To help address gaps in research on postmilitary transition, the Life After Service Studies (LASS) program of research was initiated in 2010.<sup>2</sup> First, there was surprisingly little research into the experiences of former military personnel and how best to mitigate problems.<sup>3</sup> Second, the literature provides no consistent, measurable definition of successful military to civilian transition.<sup>4</sup> Third, previous research examined only subsets of veterans, and little was known about veterans living in the general population who were not participating in VAC programs, as well as those who were.<sup>4</sup>

Some studies of postmilitary adjustment (eg, of US naval officers<sup>5</sup> and UK armed forces<sup>6</sup>) have focused

mainly on civilian employment. Recently, the Institute of Medicine outlined the limitations of post-deployment adjustment research, including the assessment of a narrow set of risk and protective factors.<sup>7</sup> Although other studies have examined multiple dimensions of adjustment, they have done so only for subsets of veterans such as former officers,<sup>8,9</sup> injured veterans,<sup>10-12</sup> or veterans of specific deployments.<sup>10,12</sup> Studies of injured Operation Iraqi Freedom and Operation Enduring Freedom veterans have found unemployment, posttraumatic stress disorder, substance abuse, and mental health problems to be related to postdeployment reintegration difficulties.<sup>10,11</sup> A study of US Marines returning to civilian life who screened positive for mental health problems showed risk factors for functional impairment to include combat experience, stress, and pain and protective factors to include pre-separation resilience and perceived social support.<sup>12</sup> In Canada, both positive and negative experiences have been found to follow deployment, and 3 main themes related to postdeployment adjustment (work, family, and personal) were identified.<sup>13</sup> Although there is no common measurement of successful postmilitary adjustment for a broad population of veterans,<sup>3</sup> many studies have recognized that it involves multiple dimensions, including employment, income, health, social support, and stress, suggesting the need for collaboration among resource providers.<sup>8-13</sup>

The objectives of this study were to explore dimensions of postmilitary adjustment to civilian life and to identify potential risk and protective factors associated with difficult adjustment in a broad population of veterans (regular Canadian Armed Forces veterans released from service during 1998 to 2007).

## Method

### Survey Design, Sample, and Instrument

The Survey on Transition to Civilian Life was a cross-sectional survey representing a population of 32,015 veterans released from the regular Canadian Armed Forces during 1998 to 2007. Veterans living in institutions and the northern territories or out of Canada were excluded due to small numbers and technical difficulty contacting veterans in those contexts.<sup>14</sup> The survey was conducted by Statistics Canada using computer-assisted telephone interviewing and was about 30 minutes in length. The design was a stratified random sampling allowing for oversampling veterans participating in VAC programs. The response rate was 71%, with 94% of these veterans (n=3,154) agreeing to share their responses with VAC and DND. The survey instrument collected self-reported information on health, disability, and determinants of health using questions largely derived from national Canadian population health surveys.<sup>4</sup>

### Measure of Adjustment to Civilian Life

The adjustment to civilian life question was adapted from a study of retirement in US naval officers: "In general, how has the adjustment to civilian life been since you were released from the Canadian Armed Forces?"<sup>5</sup> This single question had a 5-point Likert scale with the following response categories: "very difficult," "moderately difficult," "neither difficult nor easy," "moderately easy," and "very easy." The dependent variable for this analysis, difficult adjustment, was defined as very difficult or moderately difficult. The question was placed at the beginning of the survey to avoid potential biasing of the responses with answers to health questions. The question did not assume that adjustment to civilian life was complete. In focus group



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testing, many respondents felt that adjustment encompasses civilian employment, access to health care, and an overall mind-set change; that the length of time to adjust was individual, ranging from a few years to never fully adjusting; and that it is sometimes interconnected with transition to retired life.<sup>15</sup>

### Demographic and Military Service Characteristics

Service and demographic characteristics at the time of release were mainly derived from DND administrative data that were record linked to the survey data, including age, sex, marital status, rank, service branch (Army, Navy, Air Force), length of service, years since release, and release type (eg, medical, voluntary, involuntary). Number of deployments outside Canada was obtained by self-report on the survey. Education at release was captured in the DND administrative data but was excluded from the analysis due to inconsistent and missing data. However, level of education at the time of the survey was captured.

### Indicators of Health, Disability, and Determinants of Health

The prevalence rate of difficult adjustment was examined for various well-being indicators. These indicators were drawn mainly from a set developed for the general Canadian population<sup>16</sup> and covered the core concepts of health, disability, and determinants of health adopted by Veterans Affairs Canada for veteran health research.<sup>1,17</sup>

Indicators of self-perceived health, self-perceived mental health, and satisfaction with life and diagnosed chronic physical and mental health conditions were derived from Canadian population health surveys. Physical health conditions included hearing problems, arthritis, back problems, bowel disorder, high blood pressure, heart disease, stroke,

ulcers, cancer, diabetes, asthma, and chronic obstructive pulmonary disease. Mental health conditions included mood disorders (mania, dysthymia, bipolar), anxiety disorder, depression or anxiety, and post-traumatic stress disorder. These conditions were grouped into 4 categories: no conditions, physical health conditions, mental health conditions, and both mental and physical health conditions. Suicidal ideation was included as an indicator of health, as a recent study found that the suicide rate among male veterans was higher than that of the general population.<sup>18</sup> Disability was measured by participation and activity limitation, derived from a series of questions related to limitations at home, school, work, and other activities due to a physical condition, mental condition, or health problem that has lasted or is expected to last 6 months or longer.

The determinants of health were grouped into 5 categories: health behaviors (smoking and drinking), employment, education, income and wealth, and health care access (regular medical doctor). Because the majority of veterans were found to have worked after release, both employment status (employed, unemployed, not in the labor force, unable to work) and satisfaction with job or main activity were included under employment. Income and wealth included 2 indicators: low income and satisfaction with financial situation. Although low income is an important determinant of health, a recent study indicated that satisfaction with financial situation also may be important to adjustment to civilian life.<sup>19</sup>

Stress and coping indicators included some commonly used indicators in Canada, such as sense of community belonging and life stress, and others thought to be important in the context of veteran health

research, such as social support and mastery. As many veterans may lose support from fellow military members after transition, when they are no longer a part of the military community, a social support indicator was included. Mastery, which measures the extent to which individuals believe that life events and circumstances are under their own control, has been of great interest to military health researchers because it has been found that higher mastery can reduce the adverse impacts of stress<sup>20,21</sup> and has been associated with better health outcomes.<sup>22</sup> Mastery also can be bolstered by social support.<sup>23</sup>

### Data Analysis

Prevalence of difficult adjustment (moderately or very difficult) overall and for selected demographic, service, health, disability, and determinants of health characteristics was calculated using population weights provided by Statistics Canada.<sup>14</sup> Confidence intervals (CI) at the 95% level were calculated using Stata version 11.1 (StataCorp LP, College Station, Texas), which accounted for population weights and the stratified nature of the sample. Comparisons were made between overall prevalence of difficult adjustment (25%, 95% CI=23.8%–26.9%) and prevalence for subpopulations across selected characteristics using these CI values.

Binary logistic regression analysis was used to explore the association between demographic and service characteristics at the time of release and the dependent variable of difficult adjustment. Indicators describing characteristics at the time of the survey were not included in this analysis. Cases with missing values were removed, and independent variables were tested for correlation among variables. Independent variables included in the initial model were sex, marital status, length of

service, release reason, rank, branch, and number of deployments. After selecting independent variables and removing cases with missing characteristics such as unknown marital status and service branch, the sample size was 2,586. Reference groups for each variable were chosen based on the category with the lowest rate of difficult adjustment. Backward stepwise regression was used to identify variables associated with difficult adjustment. Independent variables with *P* values less than .05 were removed from the model.

## Results

### Population Characteristics

The study population was mostly (88%) male, the majority (64%) were married, and the vast majority (96%) ranged in age from 20 to 59 years at the time of release. These veterans had enrolled from the 1960s to the 2000s and had been out of the military from 2 to 12 years at the time of the survey. Many (40%) had never deployed outside Canada; more than half were released as noncommissioned members, and the remainder were released as recruits, privates, and officers. One third served for less than 10 years, and almost one quarter were released for medical reasons (Tab. 1).

### Ease of Adjustment

Most veterans had done well: 62% reported easy or moderately easy adjustment to civilian life. The overall prevalence of difficult adjustment to civilian life was 25% and varied from 6% to 50% for demographic and military service characteristics and from 11% to 85% for health, disability, and determinants of health characteristics.

### Demographic and Military Service Characteristics

Prevalence rates of difficult adjustment were statistically different from the overall prevalence rate for many demographic and service character-

istics with the exception of sex, marital status, and years since release. Prevalence rates did not differ between male and female veterans; among married, separated, widowed, divorced, and single veterans; or for years since release (Tab. 1).

Compared with the overall prevalence of difficult adjustment, significantly lower prevalence rates were found among veterans who were younger or older at release, those who served for a shorter period of time (less than 2 years), those who were released voluntarily or due to having reached retirement age, those who were of higher rank (officer) and lower rank (recruits) at release, those released from the Air Force, and those who had never deployed. On the other hand, prevalence rates were higher than that of the overall population for veterans who were released mid-career (in their 30s or with 2–19 years of service), medically released veterans, those released from the Army, veterans who deployed multiple times during their career, and junior noncommissioned members.

### Health and Disability

Prevalence rates of difficult adjustment were statistically different from that of the overall population for all health and disability indicators (Tab. 2). Significantly lower prevalence of difficult adjustment was found among veterans who reported positive health and mental health (very good or excellent), those satisfied with life, those without chronic conditions, and those with no activity limitation. Significantly higher prevalence was found among those reporting negative perceived health and mental health (fair or poor), those reporting good mental health, those not satisfied as well as those neither satisfied nor dissatisfied with life, those who reported at least one physical or mental condition, and particularly those with both mental

and physical conditions and those who reported suicidal ideation over the previous 12 months.

### Determinants of Health

Prevalence rates were statistically different from those of the overall population for many determinants of health indicators, with the exception of drinking, education, and health care access (Tab. 2). A significantly lower prevalence of difficult adjustment was found among veterans who were employed, those who were satisfied with their finances, those satisfied with their job or main activity, and those with a high sense of mastery, a strong sense of community belonging, low life stress, and moderate to high social support. A significantly higher prevalence was found among veterans who were daily smokers; those who were unemployed, not in the labor force, or unable to work; those who were not satisfied with their job or main activity; those experiencing low income; those who were not satisfied with their finances; and those with a low sense of mastery, a weak sense of community belonging, low social support, and quite a bit of life stress.

### Regression Analysis: Demographic and Military Characteristics

Age and length of service were highly correlated, and the latter was used in the model. The adjusted odds ratios for sex, marital status, and number of deployments were not significant, so they were removed sequentially. In the final model (Tab. 3), adjusted odds ratios for difficult adjustment were significantly elevated for all ranks other than officers, veterans released from the Army compared with the Air Force reference group, veterans released medically or involuntarily compared with those released due to having reached retirement age, and veterans who served 2 to 9 years or 10 to 19

**Table 1.**  
Demographic and Military Service Characteristics: Prevalence of Difficult Adjustment<sup>a</sup>

Dimension	Indicator	Characteristic	Population (%)	Prevalence of Difficult Adjustment	
				%	95% CI
Overall Population			100.0	25.3	23.8–26.9
Demographic	Age (y) at release	≤19	3.9	5.8*	2.2–14.5
		20–29	24.8	23.9	20.3–28.0
		30–39	21.9	34.5*	30.9–38.2
		40–49	35.3	27.2	24.9–29.7
		50–59	13.9	14.3*	11.5–17.7
		60–69	0.3	19.9	5.7–50.5
	Sex	Male	88.1	25.1	23.4–26.8
		Female	11.9	27.3	22.9–32.2
	Marital status at release	Married/common law	63.8	25.7	23.9–27.6
		Separated/widowed/divorced	26.7	28.9	22.9–35.8
Single, never married		6.1	25.1	21.7–28.8	
Unknown		3.3	14.8	8.1–25.6	
Service	Years since release	2–4	28.6	23.6	20.8–26.6
		5–7	29.2	28.9	26.0–32.0
		8–10	26.3	24.8	21.7–28.1
		11–12	15.9	22.8	19.2–27.0
	Length of service (y)	<2	17.5	12.5*	9.4–16.5
		2–9	16.6	32.6*	27.8–37.7
		10–19	13.2	43.3*	38.6–48.1
		≥20	52.8	22.8	21.0–24.8
	Release type <sup>b</sup>	Involuntary	4.6	32.4	23.8–42.4
		Medical	24.4	49.6*	46.4–52.8
		Voluntary	56.9	16.4*	14.5–18.5
		Retirement age	7.0	12.1*	8.3–17.2
		Service complete	7.1	21.6	16.3–28.0
	Rank <sup>c</sup>	Officers	20.4	12.2*	9.6–15.2
		Senior NCM	28.3	24.7	22.1–27.4
		Junior NCM	30.2	37.9*	34.9–41.1
		Privates	6.5	28.8	21.4–37.5
		Recruits	14.7	17.7*	13.6–22.6
	Service branch	Air Force	31.1	20.0*	17.5–22.6
		Army	48.8	30.9*	28.5–33.4
Navy		15.7	21.9	18.2–26.1	
Unknown		4.4	14.2*	8.7–22.2*	
Deployments outside of Canada (30 days or more)	0	40.2	17.1*	14.8–19.6	
	1	14.7	29.5	25.1–34.2	
	2	11.9	34.0*	29.3–39.0	
	3 or more	33.2	29.8*	27.2–32.5	

<sup>a</sup> 95% CI=95% confidence interval, NCM=noncommissioned member. \*Significantly different from the overall prevalence of difficult adjustment (25.3%) ( $P<.05$ ).  
<sup>b</sup> Involuntary: misconduct, illegally absent, fraudulent enrollment, unsatisfactory conduct, unsatisfactory performance, not advantageously employed, transfer out. Medical: disabled member, disabled military occupational code. Voluntary: immediate annuity, fixed service. Service complete: completed a fixed period of service (but not reached retirement age).

<sup>c</sup> Officers (Senior, Junior, and Cadets): Senior Officer: Major to General (Army, Air Force), Lieutenant-Commander to Admiral (Navy); Junior Officer: Second Lieutenant to Captain (Army, Air Force), Acting Sub-Lieutenant to Lieutenant (Navy); Cadet: Officer Cadet (Army, Air Force), or Naval Cadet (Navy); Senior NCM: Sergeant to Chief Warrant Officer (Army, Air Force), Petty Officer 2nd Class to Chief Petty Officer 1st Class (Navy); Junior NCM: Corporal to Master Corporal (Army, Air Force), Leading Seaman to Master Seaman (Navy); Private: Private (Army, Air Force), Able Seaman (Navy); Recruit: Private Recruit or training (Army, Air Force), Ordinary Seaman, Ordinary Seaman-Recruit (Navy).

**Table 2.** Indicators of Health, Disability, and Determinants of Health: Prevalence of Difficult Adjustment<sup>a</sup>

Dimension		Indicator	Category	Population (%)	Prevalence of Difficult Adjustment	
					%	95% CI
Overall Population				100.0	25.3	23.8–26.9
Health	General health	Perceived health	Very good or excellent	55.7	14.5*	12.6–16.6
			Good	26.7	27.5	24.5–30.7
			Fair or poor	17.6	56.3*	52.3–60.2
		Perceived mental health	Very good or excellent	66.5	12.6*	11.1–14.3
			Good	19.3	35.9*	32.0–40.1
			Fair or poor	14.2	70.1*	65.6–74.2
		Satisfaction with life	Satisfied or very satisfied	84.9	18.3*	16.8–19.9
			Neither satisfied nor dissatisfied	8.2	53.8*	47.3–60.3
			Dissatisfied or very dissatisfied	7.0	76.8*	70.5–82.2
		Suicidal ideation	Ideation in previous 12 months	5.8	63.7*	56.0–70.7
	No ideation in previous 12 months		94.2	22.7	21.1–24.3	
	Chronic conditions <sup>b</sup>	No conditions	30.6	11.7*	9.4–14.5	
		At least one physical condition	66.3	30.9*	29.0–32.9	
		At least one mental condition	23.6	56.4*	52.8–59.9	
Both physical and mental conditions		20.6	58.5*	54.8–62.1		
Disability		Participation and activity limitation	Sometimes or often	56.1	35.4*	33.3–37.6
			Never	43.9	12.2*	10.1–14.5
Determinants of Health	Health behaviors	Smoking	Smoking cigarettes every day	19.0	36.4*	32.3–40.7
			Occasional smoker	5.3	28.1	21.2–36.1
			Nonsmoker	75.7	22.4	20.7–24.2
		Drinking <sup>c</sup>	Heavy drinker	25.6	26.6	23.4–30.0
			Not a heavy drinker	74.4	24.9	23.1–26.7
	Employment	Status	Employed	73.9	21.2*	19.4–23.1
			Unemployed	6.1	38.4*	30.9–46.6
			Not in the labor force	17.6	31.2*	27.7–35.0
			Unable to work	2.5	75.3*	66.1–82.7
		Satisfaction with job or main activity	Satisfied or very satisfied	77.8	17.4*	15.9–19.1
Neither satisfied nor dissatisfied	10.5		38.5*	33.2–44.1		
Dissatisfied or very dissatisfied	11.7		64.4*	58.9–69.5		

(Continued)

**Table 2.**  
Continued

Dimension	Indicator	Category	Population (%)	Prevalence of Difficult Adjustment		
				%	95% CI	
Determinants of Health	Income and wealth	Low income	Below low income measure	6.3	37.4*	29.6–46.0
			Above low income measure	93.7	23.7	22.1–25.5
		Satisfaction with finances	Satisfied or very satisfied	73.2	17.4*	15.9–19.1
			Neither satisfied nor dissatisfied	11.5	36.3*	31.1–41.9
			Dissatisfied or very dissatisfied	15.2	54.8*	49.8–59.7
	Education		Less than high school	6.8	30.8	24.8–37.5
			High school	40.7	26.2	23.7–28.7
			Postsecondary	52.5	24.1	21.9–26.3
	Stress and coping	Mastery	Low (score ≤7 out of 28)	2.1	85.0*	74.8–91.6
			Moderate (8–22)	67.5	28.8	26.9–30.8
			High (≥23)	30.4	13.1*	10.9–15.8
		Sense of community belonging	Very or somewhat strong	58.9	17.0*	15.3–18.9
			Very or somewhat weak	41.1	37.0*	34.3–39.8
		Social support	Low (score ≤74 out of 19–95)	32.8	42.5*	39.3–45.7
			Moderate to high (19–73)	67.2	16.5*	14.8–18.3
		Life stress	Not at all or not very stressful	36.8	11.3*	9.4–13.5
			A bit stressful	42.0	26.2	23.8–28.8
			Extremely or quite a bit stressful	21.2	47.9*	43.9–51.9
	Health care access		Regular medical doctor	82.0	25.1	23.5–26.8
			No regular medical doctor	18.0	26.4	22.3–30.9

<sup>a</sup> 95% CI=95% confidence interval. \*Significantly different from the overall prevalence of difficult adjustment (25.3%) ( $P<.05$ ).

<sup>b</sup> Physical conditions: hearing problems, arthritis, back problems, high blood pressure, heart disease, stroke, bowel disorder, ulcers, cancer, diabetes, asthma, chronic obstructive pulmonary disease. Mental conditions: mood disorders (mania, dysthymia, bipolar), anxiety disorder, depression or anxiety, posttraumatic stress disorder.

<sup>c</sup> Heavy drinking is defined as 5 or more drinks on one occasion, 12 or more times a year.

years compared with veterans with less than 2 years of service.

## Discussion

This study showed that prevalence of difficult adjustment to civilian life was significantly different from the overall population across multiple dimensions of health, disability, and determinants of health characteristics. Several potential risk and protective factors were identified in the descriptive analysis. Some characteristics available at the time of release from service were found to be associated with difficult transition. These findings may allow agencies to identify veterans who are more likely to be at risk of difficult adjustment.

Multivariable regression showed that lower rank and medical, involuntary, mid-career, and Army release were associated with difficult adjustment, whereas sex, marital status, and number of deployments were not. The findings related to lower rank and medical, involuntary, and mid-career release were consistent with findings of other studies related to the health and determinants of health associated with these characteristics. Veterans at lower rank at

years compared with veterans with less than 2 years of service.

**Table 3.**  
Adjusted Odds Ratios of Difficult Adjustment<sup>a</sup>

Independent Variable	Adjusted Odds Ratio	95% CI	P
Length of service (y)			
<2 (reference group)	1.00		
2–9	3.23*	1.87–5.58	.00
10–19	2.23*	1.12–4.43	.02
≥20	1.47	0.75–2.90	.27
Reason for release			
Retirement age (reference group)	1.00		
Involuntary	2.13*	1.05–4.31	.04
Medical	3.54*	2.09–6.00	.00
Voluntary	0.71	0.42–1.21	.20
Service complete	0.91	0.50–1.67	.77
Rank			
Officer (reference group)	1.00		
Senior NCM	2.74*	1.82–4.10	.00
Junior NCM	3.20*	2.16–4.75	.00
Privates	3.05*	1.56–5.97	.00
Recruits	2.10*	1.11–3.97	.02
Branch			
Air Force (reference group)	1.00		
Army	1.47*	1.17–1.87	.00
Navy	0.98	0.72–1.35	.91

<sup>a</sup> 95% CI=95% confidence interval, NCM=noncommissioned member. \*Significant at  $P<.05$ .

release and those who were released at mid-career have been found to have poorer health.<sup>24</sup> Veterans of lower rank, medical or involuntary release, and less than 10 years of service have all been found to have higher odds of suicide.<sup>18</sup> In addition, previous research suggests adverse implications for income and perceived financial security among medically released veterans<sup>19,25,26</sup> and higher odds of persistent low income among involuntary released veterans.<sup>27</sup> Marital status was measured at the time of survey and was found not to be associated with difficult adjustment. However, change in marital status, in particular divorce or separation, which was not measured, may be the more appropriate risk factor. Number of deployments overseas was not found to be

associated with difficult adjustment; however, the question does not capture differences in the nature of deployments such as exposure to combat, which has been found to be related to adjustment problems in veterans.<sup>12</sup> On the other hand, both positive and negative experiences have been related to postdeployment reintegration among Canadian soldiers.<sup>13</sup> Employment status was found to be an important dimension of difficult adjustment, which is consistent with other studies.<sup>5,6,10,11</sup> Higher levels of social support and mastery were found to be potential protective factors, consistent with findings from a study of US Marines that showed perceived social support and pre-separation resilience were protective factors for postmilitary functional impairment.<sup>12</sup>

The main strengths of this study are that it addresses a knowledge gap in the scholarly literature on postmilitary adjustment to civilian life and is timely for public and private sector agencies, health care providers, and rehabilitation professionals working with veterans in transition to civilian life. The survey was comprehensive, examining the health, disability, and determinants of health for Canadian veterans living in the general population; it included a large representative sample of veterans released over a 10-year period; and veteran status was identified through record linkage, not self-report. Limitations include: the findings cannot be generalized to all veterans (they represent regular Canadian Armed Force veterans released from 1998 to 2007), many of the characteristics included in this study were self-reported, and some important risk or protective factors may have been omitted. Because of the cross-sectional design, conclusions cannot be drawn regarding causality, and temporality cannot be accounted for in potential relationships among veterans' health, disability, and determinants of health characteristics and adjustment to civilian life. Conclusions regarding the effectiveness of many new initiatives in health promotion, health care, and the management of disability that were put in place by the Canadian Armed Forces, DND, and VAC<sup>28,29</sup> cannot be drawn due to both the cross-sectional design of the study and the fact that most of the study population were released prior to the implementation of these new initiatives.

The findings of this study will be of interest to physical therapists and other health care providers assisting veterans having difficulty in transition to civilian life. Prevalence of difficult adjustment was significantly elevated for veterans experiencing disability and those with diagnosed comorbid and chronic physical and

mental health conditions, which were prevalent in this population. Higher prevalence of difficult adjustment among a variety of indicators suggests the importance of a biopsychosocial approach and multidisciplinary collaboration between physical therapists and other service providers to support veterans during transition. In a pilot study of injured US veterans experiencing disability, a number of challenges were identified, including learning and applying knowledge, dealing with demands, activities of daily living, and community, social, and civic life.<sup>30</sup> Higher rates of difficult adjustment among veterans who were unemployed or reported being unable to work suggest that rehabilitation planning needs to consider barriers to employment that might be unique to military veterans.<sup>31</sup>

Although this study adds to existing evidence that postmilitary adjustment to civilian life is multidimensional and identified some characteristics at release associated with difficult adjustment, further research should consider collecting data at release for characteristics such as health, disability, social support, measures of stress, and coping. Qualitative studies are needed to better understand both the negative and positive experiences of transition and to identify appropriate indicators for further quantitative analysis, and longitudinal quantitative studies would identify types of transition trajectories and assess causality.

### Conclusion

In a national sample of veterans who released from the regular Canadian Armed Forces from 1998 to 2007, the overall prevalence of difficult adjustment to civilian life was 25%, with variation from 11% to 85% for health, disability, and determinants of health characteristics. Postmilitary adjustment to civilian life appears to be multidimensional, suggesting the

need for multidisciplinary collaboration between physical therapists and other service providers to improve the transition from military to civilian life. Potential risk and protective factors were identified that can inform interventions, outreach strategies and screening activities, and further research.

Ms MacLean, Dr Van Til, Dr Thompson, and Dr Sudom provided concept/idea/research design and writing. Ms MacLean, Dr Van Til, Dr Thompson, Ms Sweet, and Mr Poirier provided data analysis. Ms MacLean provided project management. Dr Pedlar provided consultation (including review of manuscript before submission).

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