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*LIFE AFTER SERVICE STUDIES (LASS) SECONDARY ANALYSIS  
(RELEASE 16)*

# **Monitoring Rehabilitation Program Outcomes using the Life After Service Studies**

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## **Research Question (Request)**

Can the Life After Service Studies (LASS) program of research be used to monitor outcomes of Veterans Affairs Canada's (VAC) Rehabilitation program today and in the future?

## **Introduction**

The VAC Rehabilitation Program includes case management, assessments, case plans, vocational assessments and plans as well as reimbursement for rehabilitation services and benefits. The program logic model's immediate outcomes<sup>1</sup> relate to accessibility of the program for eligible Veterans and clients or, in other words, program reach. Intermediate outcomes include: 1. improved health and functional capacity; and 2. knowledge, skills and abilities to achieve an appropriate occupational goal (i.e., employability<sup>2</sup>). The ultimate outcomes are: 1. community integration; and 2. participation in the civilian workforce.

VAC's Re-establishment Survey instrument was designed to assist in measuring performance of the Career Transition Services and Rehabilitation Programs, components of the New Veterans Charter (NVC). The survey uses a before-after study design and measures the health status (measured by the SF-12®), employment, economic status, community integration and perceived recognition on entry to and completion of the program. The survey has had some challenges, including declining response rates and concerns about respondent burden and data collection and analysis workload. Program managers are currently seeking alternative means of monitoring the progress of Rehabilitation clients.

Similar to rehabilitation programs for Veterans in other countries, VAC's Rehabilitation Program has both employment goals as well as non-employment goals, such as improving sense of community belonging and quality of life not related to employment. VAC measures employability, rather than employment, as an intermediate program outcome. For example, the VAC 2012-13 Departmental Performance Report indicated that 69% of eligible Veterans with closure reports successfully completed one or more training programs included as part of their vocational rehabilitation plan. Both Australia and the United States measure the longer-term outcome of return to work, rather than employability, but neither measure non-employment outcomes (see Appendix A). Recent research in Australia, however, recommended the use of Goal Attainment Scaling and a Life Satisfaction Questionnaire as routine outcome measures for non-employment outcomes (Australian Centre for Posttraumatic Mental Health, 2009 and

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<sup>1</sup> Veterans Affairs Canada. Rehabilitation Services Evaluation, Audit and Evaluation Division, 2014.

<sup>2</sup> Refers to the individual's ability to successfully obtain and sustain a suitable/gainful civilian job and includes: a) knowing how to effectively prepare for, b) search for and c) obtain and sustain a suitable gainful job. Earnings capacity which is a person's ability to acquire a certain level of income when consideration is given to: a) health status, b) education level, c) skills and d) previous experience.

2011). Given the challenges associated with measuring Rehabilitation Program outcomes, this study examined the potential to use LASS data for this purpose.

## **Method**

The Survey on Transition to Civilian Life (STCL) (Thompson *et al*, 2011) and the Income Study (MacLean *et al*, 2011), both of which studied Veterans released from the Canadian Armed Forces (CAF) Regular Forces from 1998 to 2007, captured Rehabilitation clients. This capture allowed for a comparison of Rehabilitation clients and other Veterans (clients not in receipt of rehabilitation and non-clients) released over the same time period.

The STCL 2010 was a cross-sectional survey representing a population of 32,015 Veterans released from the CAF Regular Forces during 1998 to 2007. Veterans living in institutions and those residing in the northern Territories or out of Canada were excluded owing to small numbers and technical difficulty contacting them. 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 (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. A sample of 330 Rehabilitation clients (as of March 2009) responded to the survey.

The Income Study 2010 involved an administrative data record linkage. Statistics Canada linked DND records for 36,638 Regular Force Veterans released between January 1, 1998 and December 31, 2007, to the general family tax records from 1997 to 2007. Most (92%) of this population were record linked to tax files for the release year and income was followed for the year prior to release and up to nine years post release. Non-clients accounted for the majority (68%) of the Regular Force Veteran study population, followed by 25% for Disability Pension clients (not in receipt of NVC benefits) and 7% for NVC clients as of March 2009. Among 33,601 Veterans who had been matched to tax files in their release year, 1,249 (4%) were Rehabilitation clients as of March 2009.

## **Results**

### ***Survey on Transition to Civilian Life***

The survey showed many differences between Rehabilitation clients and other Veterans (other VAC clients and non-clients) released over the same time period. Rehabilitation clients were more likely than both other VAC clients and non-clients to be between the

age of 40 and 49 (59% vs. 47% and 27%), to have released as a junior NCMs (62% vs. 44% and 22%), to have been medically released (75% vs. 53% and 9%) and to have served in the Army (62% vs. 55% and 45%). Less than half of both Rehabilitation clients (43%) and non-clients (45%) served for 20 years or more compared to most (71%) of other VAC clients. Rehabilitation clients and other VAC clients were more likely to have deployed compared to non-clients (84% and 86% vs. 55%).

In terms of health and functioning, Rehabilitation clients were worse off in many areas. Rates of fair or poor self-perceived health (61% vs. 34% and 8%) and mental health (59% vs. 25% and 7%) were higher among Rehabilitation clients compared to other VAC clients and non-clients. Similarly, rates of having been diagnosed with at least one mental health condition (78% vs. 40% and 13%) and needing help with instrumental activities of daily living (65% vs. 38% and 5%) were much higher among Rehabilitation clients. Rates of having a physical health condition and participation and activity limitation were similar for Rehabilitation clients (98%) and other VAC clients (92%) but much lower among non-clients (38%).

For all three indicators of community integration, Rehabilitation clients were worse off than both other VAC clients and non-clients. The proportion of Rehabilitation clients who reported a weak sense of community belonging (73%) was much greater than for other VAC clients (45%) and non-clients (38%), rates of difficult adjustment to civilian life were more than twice that of other Veterans (78% vs. 37% and 17%) and rates of being dissatisfied with life were at least three times that of other Veterans (33% vs. 11% and 3%).

Rehabilitation clients were worse off for employment and income indicators but not much different in terms of education level compared to other Veterans. The employment rate among Rehabilitation clients (31%) was less than half other VAC clients and non-clients (68% and 79%). They had at least double the rate of other Veterans of not being in the labour force; i.e., not employed and not looking for work (44% vs. 22% and 14%) and being permanently unable to work (15% vs. 6% and 0%). Their rates of being unemployed; i.e., not employed but looking for work were only slightly higher than for other VAC clients and non-clients (10% vs. 4% and 7%). The proportion with post-secondary education was slightly lower among Rehabilitation clients compared to other Veterans (43% vs. 47% and 56%). The sample size for low income among Rehabilitation clients was too small to examine.

**Table 1: 2010 Survey on Transition to Civilian Life**

	<b>Rehabilitation Clients* (March 2009) n=330 N=1,298</b>	<b>Other VAC Clients (March 2009) n=1,465 N=9,470</b>	<b>Non-Clients (March 2009) n=1,359 N=21,247</b>
<b>Demographic and Service Characteristics</b>			
Age at time of survey			
20-29	x	2%	23%
30-39	22%	9%	23%
40-49	59%	47%	27%
50-59	13%	34%	21%
60-69	x	9%	8%
Male	85%	89%	88%
Married/common law	68%	82%	73%
One or more deployments of 30 days or more	84%	86%	55%
Length of service			
< 2 years	x	x	26%
2 to 9 years	21%	9%	20%
10 to 19 years	32%	19%	10%
≥ 20 years	43%	71%	45%
Medical release	75%	53%	9%
Junior non-commissioned members**	62%	44%	22%
Army	62%	55%	45%
<b>Health &amp; Disability</b>			
Perceived health, fair or poor	61%	34%	8%
Perceived mental health, fair or poor	59%	25%	7%
Mental health condition§	78%	40%	13%
PTSD	56%	25%	x
Physical health condition+	99%	99%	72%
Both Mental and Physical condition	77%	40%	11%
Participation and activity limitation, sometimes or often	98%	92%	38%
Needs help with at least one instrumental activity of daily living task	65%	38%	5%
<b>Community Integration</b>			
Sense of community belonging, very or somewhat weak	73%	45%	38%
Difficult adjustment to civilian life	78%	37%	17%
Satisfaction with life, dissatisfied or very dissatisfied	33%	11%	3%
<b>Employment, Income and Education</b>			
Employed	31%	68%	79%
Unemployed	10%	4%	7%
Not in labour force	44%	22%	14%
Permanently unable to work	15%	6%	0%
Low income (below LIM)	x	5%	6%
High school or less	57%	53%	44%

\* Source: Survey on Transition to Civilian Life 2010 record linked to VAC client data as of March 2009.

n = sample size, N = weighted population estimate

X small sample size <30 cases

\*\*Includes master corporal and corporal and master seaman for the Army and Air Force and leading seaman for the Navy. Privates and recruits were not included.

§Mental health conditions: mood disorder, depression/anxiety, anxiety disorder, PTSD.

+ Physical health conditions: hearing problem, arthritis, back problems, high blood pressure, heart disease, stroke, bowel disorder, ulcers, cancer, diabetes, asthma, COPD, obesity and pain (always present and recurring).

## Income Study

Compared to other Veterans who released in the same time period, Rehabilitation clients experienced a greater decline in income post release, were more likely to have received Employment Insurance (EI), experienced low income and relied more on the Veteran's income both pre and post release. Their pre-release income (\$65,700) was lower than that of other VAC clients (\$71,800) but higher than that of non-clients (\$57,900). However, they experienced a relatively large decline in income post release compared to other Veterans (42% vs. 19% and 4%). A greater proportion of Rehabilitation clients (41%) had received EI post release than the other Veterans (31% and 37%). Persistent receipt of EI, however, was slightly less common among Rehabilitation clients. A much greater proportion of Rehabilitation clients (27%) experienced low income at least one year post release than other Veterans (10% and 17%). Persistent low income was also more common among Rehabilitation clients, although the prevalence was low for all groups (<=2%). Family reliance on the Veteran's income both pre and post release was similar for Rehabilitation clients and other VAC clients but lower for non-clients.

**Table 2: 2010 Income Study**

	<b>Rehabilitation Clients (March 2009) N=1,249*</b>	<b>Other VAC Clients (March 2009) N=9,773*</b>	<b>Non-clients (March 2009) N=22,579*</b>
<i>Income Change</i>			
Pre-Release	\$65,700	\$71,800	\$57,900
Post-Release (3 Year Average)	\$38,400	\$58,100	\$55,400
% Change	-41.6%	-19.1%	-4.3%
<i>Receipt of EI</i>			
Ever	40.6%	30.7%	37.1%
Always	1.4%	2.0%	2.6%
<i>Low Income+</i>			
Ever	26.5%	9.9%	17.0%
Always	2.0%	0.8%	1.9%
<i>Veteran Share of Family Income</i>			
Pre-Release	76.0%	75.2%	68.2%
Post-Release (3 Year Average)	68.7%	68.4%	64.5%

\* Source: Income tax data record linked to VAC client data as of March 2009. N = linked population for the release year (total of 33,601).

\*\* Ever = at least once during up to nine years post-release. Always = in each year post-release.

+ Low income measure is before tax household income and adjusts for family size.

## Discussion

This study found that the sub-set of Rehabilitation clients captured in the STCL were more likely to be married or living common law, were younger and were more likely to have health conditions than the overall client population. Rehabilitation clients were worse off compared to other Veterans in many indicators of health, disability, community integration, employment and income. To examine program reach, further research could develop combining indicators of need for the Rehabilitation program

among Veterans not currently participating. The feasibility of using LASS 2013 and further cycles of LASS to monitor program outcomes will also need to be examined. While the 2013 survey, like the 2010 version, was cross-sectional, it was designed to be the first wave of a longitudinal study and also captured Veterans released from the Reserves.

The Income Study is longitudinal in nature, capturing pre- and post-release income. The 2013 Income Study includes income data for five years post NVC. Repeating this study will facilitate the monitoring of employment and income outcomes. Specifically, Income Study data could be used to examine the incomes and employment earnings of Rehabilitation clients before, during and after program participation in comparison to other groups of Veterans. MacLean and Campbell (2014) found in the literature that income adequacy is typically measured in terms of what is known as earnings replacement rate (employment earnings plus benefits). The authors suggested that the Department consider putting a greater focus on employment earnings as a means of improving income adequacy. In turn, this focus would improve program affordability and the overall well-being of Veterans. They suggested that the success of this strategy could be measured through examining the extent to which employment earnings are contributing to total income and replacing lost military earnings.

There are some limitations to this study. The rehabilitation clients captured in LASS may not be representative of the overall rehabilitation clients. Confidence intervals were not calculated; therefore, the differences between groups of Veterans in the survey data presented may not be significant. It is not possible to attribute outcomes to Rehabilitation Program participation for two reasons: the survey data and Rehabilitation clients were captured at one point in time and Rehabilitation clients differed from other Veterans in important demographic and service characteristics. Further study could control for these characteristic differences and follow Rehabilitation clients over time.

## **Conclusion**

LASS 2010 captured a sub-set of Rehabilitation clients (Regular Forces released from 1998 to 2007), captured Veterans not participating in Rehabilitation, and included a wide array of demographic and service characteristics as well as relevant health, disability, community integration, employment, income and education indicators. This inclusion suggests that LASS 2010 and 2013 (released July 3, 2014) as well as potential future cycles of LASS could contribute greatly to the ongoing monitoring of Rehabilitation program outcomes. The need for further research was discussed.

## **Requestor(s)/Acknowledgement**

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## Appendix A

### Rehabilitation Programs Outcomes for Veterans in Canada, the United States and Australia

- Rehabilitation programs for Veterans in Canada, the United States (US) and Australia are aimed at improving both employment and non-employment outcomes. The volumes of clients in Canada and Australia are fairly similar while volumes in the US are significantly greater.
- In Canada, as of March 2013, 22% of clients in VAC's Rehabilitation program were participating in vocational rehabilitation. In the US, 37% who started in 2002-03 were receiving employment services. In Australia, 40% who started in 2009-10 were in the return-to-work component of the program.
- In Canada, employment outcomes for Veterans are not measured. Instead, employability is measured in terms of completion of vocational training. The 2012-13 Departmental Performance Report indicated that 69% of eligible Veterans with closure reports successfully completed one or more training programs included as part of their vocational rehabilitation plan.
- Both the US and Australia publish employment outcomes based on Veterans obtaining employment as well as retaining employment.
  - The US has set a target (2012-13) that at the end of the program, 77% would be placed in a "suitable job." Suitable is defined as work consistent with the Veteran's abilities, aptitudes and interests and is employed for 60 days or self-employed for one year.
  - Australia measures return to work among closed cases under three different Acts<sup>3</sup>:
    - 63% under the Military Rehabilitation and Compensation Act, 2004 (81% of whom were still employed after six months)
    - 51% under Safety, Rehabilitation and Compensation Act, 1988
    - 45% under Veterans' Entitlements Act, 1986
- In both the US and Australia, the measurement period of employment retention is fairly short (3 months to 1 year for the US and 6 months for Australia). A recent evaluation in Australia recommended a longer follow-up period.
- Measuring "obtaining employment" does not indicate the extent of earnings recovery. For example, a Veteran could be employed but earning only a fraction of pre-release earnings. The LASS 2013 Income Study could examine the labour-market earnings of Rehabilitation Program clients after completing the program.

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1. Military Rehabilitation and Compensation Act 2004 (MRCA), the Safety, Rehabilitation and Compensation Act 1988 (SRCA) and the Veterans' Vocational Rehabilitation Scheme (VVRS), and the Veterans' Entitlements Act 1986 (VEA).

- Like Australia, Canada does not currently measure non-employment outcomes. Recent research in Australia (Australian Centre for Posttraumatic Mental Health, Australian Government Mental Health Lifecycle Package: Barriers to Rehabilitation Phase One: 2009 and Phase Two: 2011) recommended that the DVA adopt a Goal Attainment Scaling and a Life Satisfaction Questionnaire as routine outcome measures for non-employment outcomes.

	<b>Canada<sup>1</sup> Rehabilitation and Vocational Assistance Program</b>	<b>United States<sup>2</sup> Vocational Rehabilitation and Employment (VR&amp;E)</b>	<b>Australia<sup>3</sup> Military Rehabilitation and Compensation Commission (MRCC)</b>
Program Objective	Eligible Veterans and other program recipients are integrated into their communities and actively participate in the civilian workforce. Provides medical/psycho-social/vocational rehabilitation. Financial compensation tied to program participation.	Employable: 4 employment services tracks: <ul style="list-style-type: none"> <li>• self-employment</li> <li>• re-employment</li> <li>• rapid access to employment and</li> <li>• employment through long-term services</li> </ul> Not Employable: independent living track. Financial compensation is not tied to program participation.	To maximize the potential for a person with a service injury or disease to return to their previous physical and psychological state, with the same social and vocational status. Provides medical/psycho-social/vocational rehabilitation under the MRCA, 2004, the SRCA 1988 or the VEA, 1986. Financial compensation tied to program participation.
Participants	<ul style="list-style-type: none"> <li>• 8,208 participated from 2006-07 to 2012-13</li> <li>• 2,342 completed and 5,866 eligible clients as of March 2013</li> <li>• 1,892 applications received in 2012-13</li> </ul>	<ul style="list-style-type: none"> <li>• 45,520 veterans started in 2002-03</li> </ul>	<ul style="list-style-type: none"> <li>• 1,298 started in 2009-10 (773 non-return to work and 525 return to work)</li> <li>• 245 RTW cases started under the MRCA, 194 under SRCA and 86 under VEA</li> </ul>
% in Vocational Rehabilitation	<ul style="list-style-type: none"> <li>• 22% of eligible clients as of March 2013</li> </ul>	<ul style="list-style-type: none"> <li>• 37% who started in 2003</li> </ul>	<ul style="list-style-type: none"> <li>• 40% who started in 2009-10</li> </ul>
Employment Outcomes	<ul style="list-style-type: none"> <li>• 69% of eligible Veterans for whom a closure report was submitted who successfully completed one or more training programs included as part of their vocational rehabilitation plan</li> </ul>	<ul style="list-style-type: none"> <li>• Target 2012-13: 77% of veterans placed in “suitable job” (defined as work consistent with the veteran’s abilities, aptitudes, and interests and is employed for 60 days or 1 year of self-employment) of veterans placed and discontinued</li> </ul>	At case closed % return to work (RTW): <ul style="list-style-type: none"> <li>• 63% under the MRCA (81% still employed after six months)</li> <li>• 51% under SRCA</li> <li>• 45% under VEA</li> </ul>
Non-Employment Outcomes	<ul style="list-style-type: none"> <li>• Not reported</li> </ul>	<ul style="list-style-type: none"> <li>• Target for 2011-12: 94% rehabilitated</li> </ul>	<ul style="list-style-type: none"> <li>• Recently recommended that DVA adopt a Goal Attainment Scaling and a Life Satisfaction Questionnaire as routine outcome measures.</li> </ul>

1. Rehabilitation and Vocational Assistance Program Performance Snapshot and Client Profile Fiscal Year 2012-13.

2. VA Vocational Rehabilitation and Employment: Further Performance and Workload Management Improvements Are Needed, General Accountability Office (GAO), January, 2014.

3. Review of Military Compensation Arrangements Report, The report was released by the Minister for Veterans' Affairs on 18 March 2011.