Pre- and Post-Release Income of Regular Force Veterans: Life After Service Studies 2019

Veterans Affairs Canada, Research Directorate
    Alain Poirier, Senior Statistics Officer
    Mary Beth MacLean, MA, Health Economist (Principal Investigator)
    Teresa Pound, Manager, Data and Analytics
    Linda VanTil, DVM MSc, Senior Epidemiologist

May 01, 2021

Research Directorate Technical Report

Canada

Income Study Working Group Members

Mary Beth MacLean, Research Directorate, VAC, Principal Investigator

Linda VanTil, Research Directorate, VAC

Alain Poirier, Research Directorate, VAC

Teresa Pound, Research Directorate, VAC

Nathan Svenson, Director Research Directorate, VAC

Dominique Pinard, Income Statistics Division, Statistics Canada

François Pagé, Income Statistics Division, Statistics Canada

Table of Contents

Pre- and Post-Release Income: Life After Service Studies 2019

Executive Summary

Objective
This study of Veterans income is part of the Life After Service Studies program of research aimed at understanding the military to civilian life transition. This report describes income trends pre- and post- release, for Veterans and their families.

Methods
Statistics Canada linked records of 82,967 Veterans released from 1998 to 2017 with Canadian tax files, to describe Veteran income (pre-tax) for the pre-release year, the 3-year period after release, and up to 19 years post-release. Statistics Canada produced aggregate tables for the cohort (n=59,915) with at least 5 years of follow-up from the year prior to release. Before-tax income did not include the amount of VAC disability benefits.

Findings
Post-release, the largest source of income was earnings, followed by pensions and government transfers. Average income declined between the pre-release year and the first year post-release [$71K (2017 constant dollars) to $68K], with post-release income reaching pre-release income levels 3 years after release. Those aged 60 to 64 (19%), females (19%), and those medically released (16%) experienced the largest declines in income. There were large variations in labour-market earnings across industries; for most industries, females earned less than their male counterparts.

Five years after completing the VAC Rehabilitation program, three-quarters of participants had their pre-release earnings recovered. Veterans, 40 years of age or less, with VAC disability benefits had much lower labour-market earnings replacement than their counterparts without these benefits. Earnings recovery was quite polarized as many with low disability assessments had poor earnings recovery (< 50%) and many with high disability assessments had high earnings recovery (> 100%).

The rate of low income peaked at 6% in the first year post-release before gradually leveling off at 3% a few years after release. Fifteen percent of Veterans, mostly non-VAC clients, experienced low income at least once post-release. The highest rates of post-release low income were experienced by Veterans who released as recruits (38%), involuntarily released (37%), or who had served less than 2 years (37%). Females had higher rates of low income at least one year post-release than males (21% vs 17%).

Families rely on the Veteran's income with Veteran income accounting for about 70% of total family income. Average spousal income rose from $39K in the year prior to the Veterans' release to almost $42K during the first three years post-release.

Conclusion
In general, post-release, Veterans experienced little decline in income and few experienced low income. There were several groups of Veterans, such as younger Veterans, females, medically released Veterans, and Rehabilitation program participants, who warrant further research and policy consideration.

Revenu avant et après la libération : Études sur la vie après le service militaire 2019

Sommaire

Objectif
Cette étude sur le revenu des vétérans est une composante du programme de recherche Études sur la vie après le service militaire qui vise à comprendre la transition de la vie militaire à la vie civile. Le présent rapport décrit les tendances du revenu, avant et après la libération, pour les vétérans et leur famille.

Méthodes
Statistique Canada a procédé au recoupement de 82 967 dossiers de vétérans libérés entre 1998 et 2017 et des dossiers fiscaux canadiens afin de dresser un portrait du revenu des vétérans (avant impôt) pour l'année précédant la libération, la période de 3 ans après la libération et jusqu'à 19 ans après la libération. Il a produit des tableaux agrégés de la cohorte (n = 59 915) pour la période allant de l'année précédant la libération jusqu'au moins 5 ans après la libération. Le montant des prestations d'invalidité d'ACC n'était pas inclus dans le revenu avant impôt.

Résultats
Les gains d'après la libération étaient la principale source de revenus, suivis des pensions et des transferts du gouvernement. Le revenu moyen a diminué de l'année précédant la libération à la première année suivant la libération [de 71 000 $ (en dollars constants de 2017) à 68 000 $]; le revenu d'après la libération rejoignait le revenu d'avant la libération trois ans après celle-ci. Les vétérans âgés de 60 à 64 ans (19 %), les femmes vétérans (19 %) et les militaires libérés pour des raisons médicales (16 %) ont connu les baisses de revenu les plus marquées. On a constaté de grandes variations au chapitre des revenus d'emploi dans l'ensemble des industries; pour la plupart des industries, les femmes gagnaient moins que leurs homologues masculins.

Cinq ans après l'achèvement du Programme de réadaptation d'ACC, trois quarts des participants avaient recouvré leurs revenus d'avant la libération. Le taux de remplacement des revenus d'emploi des vétérans âgés de 40 ans ou moins et recevant des prestations d'invalidité d'ACC était beaucoup moins élevé que celui de leurs homologues qui ne touchaient pas ces prestations. La récupération des revenus était assez polarisée : de nombreux vétérans dont l'évaluation indiquait une invalidité légère connaissaient un faible taux de récupération des revenus d'emploi (moins de 50 %) alors que bon nombre de ceux dont l'évaluation indiquait une invalidité grave connaissaient un taux élevé de récupération des revenus (supérieur à 100 %).

Le taux de faible revenu atteignait un point culminant (6 %) durant la première année suivant la libération, avant de redescendre graduellement à 3 % quelques années après la libération. Quinze pour cent de vétérans, la majorité n'étant pas des clients d'ACC, ont connu une situation de faible revenu à au moins une occasion après la libération. Les vétérans ayant été libérés à titre de recrues (38 %), pour des raisons involontaires (37 %) ou ayant servi pendant moins de deux ans (37 %) sont ceux qui ont connu les taux les plus élevés de faible revenu après leur libération. Les femmes avaient des taux plus élevés de faible revenu au moins une année après la libération que les hommes (21 % contre 17 %).

Les familles des vétérans misent sur le revenu à titre de vétéran, ce revenu comptant pour 70 % du revenu familial total. Le revenu moyen du conjoint est passé de 39 000 $ au cours de l'année précédant la libération du vétéran à près de 42 000 $ au cours des trois premières années suivant la libération.

Conclusion

En général, le revenu des vétérans d'après la libération n'a presque pas diminué, et bien peu d'entre eux ont connu une baisse de revenus après la libération. La situation de plusieurs groupes de vétérans justifie des recherches plus poussées et un examen plus approfondi, notamment celle des jeunes vétérans, des femmes vétérans, des vétérans libérés pour des raisons médicales et des vétérans qui ont participé au Programme de réadaptation.

1. Introduction

Income is an important determinant of health (PHAC, 2011) and Veterans' experiencing low income were more likely to report difficulty in adjusting to civilian life (MacLean et al, 2014). The Life After Service Studies (LASS) is a program of research which includes an income study. LASS is a partnership between VAC, the Department of National Defence and Statistics Canada. The overall goal of LASS is to understand the transition from military to civilian life and ultimately improve the health of Veterans in Canada. This is the fourth cycle of LASS. This report focuses on Regular Force Veterans and includes new content not examined in previous cycles including the main industries in which Veterans are working, continuity of employer, families and differences between male and female Veterans.

The primary objective of this study is to describe income trends pre and post release, for Regular Force Veterans released since 1998, including:
- change in total income, sources of income, rates of receipt of Employment Insurance or Social Assistance/Guaranteed Income Supplement, and rates of low income;
- income trends according to demographic and service characteristics and VAC client status;
- distribution of Veterans and labour-market earnings by industry;
- employer continuity by demographic and service characteristics and industry;
- income pre and post participation in VAC's Rehabilitation Program;
- earnings recovery by disability rating and age;
- family income and family status changes; and
- comparison of female and male Veterans by sources of income, low income, and industry.

2. Method

2.1 Study Population

As of December 2019, there were an estimated 600,300 Canadian Armed Forces (CAF) Veterans (released since 1953) living in Canada and about 16% were in receipt of benefits from VAC. The vast majority of VAC's CAF clients were disability benefit clients (those in receipt of a disability award under the New Veterans Charter [CFMVRCA] and/or a disability pension paid under the *Pension Act*). The population covered in this report includes Regular Force Veterans released from 1998 to 2017.

Data on releases were extracted from the DND Human Resources Management System to create the study population. DND implemented a national system in 1998 for the Regular Force. DND's release data was linked by Statistics Canada with income data from tax files available up to 2017. Statistics Canada derived aggregate tables from this data for Regular Force released from January 1, 1998 to December 31, 2017 (N=90,583) using income data for the 1997 to 2017 tax years (See Appendix A).

The analysis used a cohort of Veterans who were linked to tax files in the pre-release year and in all of the first three years post-release. This cohort includes 59,915 records, and allows comparison of pre-release and post-release income.

Client status was studied by linking VAC administrative data to the tax data. Clients include those in receipt of Disability Pensions and/or any programs under the New Veterans Charter as of March 2019 (25,060 or 42% of the cohort). The New Veterans Charter programs include Disability Awards, Rehabilitation, Earnings Loss, Career Transition Services and Canadian Forces Income Support. The numbers of VAC clients linked are shown in Figure 1.

Figure 1: LASS 2019 Income Study Population


```
        ┌─────────────────────────────────┐
        │  Canadian Armed Force Veterans  │
        │      Released 1954 to 2017      │
        │           600,300*              │
        └─────────────────────────────────┘
            ↙                     ↘
┌──────────────────────────┐   ┌──────────────────────────┐
│ Primary Reserve Force    │   │  Regular Force Veterans  │
│       Veterans           │   │         318,100*         │
│       282,200*           │   └──────────────────────────┘
└──────────────────────────┘              ↓
                    ┌──────────────────────────────────┐
                    │ Regular Force, Released 1998 to   │
                    │             2017                  │
                    │           N=90,583                │
                    └──────────────────────────────────┘
                                    ↓
                    ┌──────────────────────────────────┐
                    │        DND-VAC-T1FF File          │
                    │      Linked to Release Year       │
                    │   N=82,967 (91.6% linkage rate)   │
                    └──────────────────────────────────┘
                                    ↓
                    ┌──────────────────────────────────┐
                    │             Cohort                │
                    │ Linkage to pre-release yr & 3 yrs │
                    │         post-release              │
                    │           N= 59,915               │
                    └──────────────────────────────────┘
                                    ↓
                         ┌──────────────────────┐
                         │     VAC Clients      │
                         │    25,060 (42%)      │
                         └──────────────────────┘
```
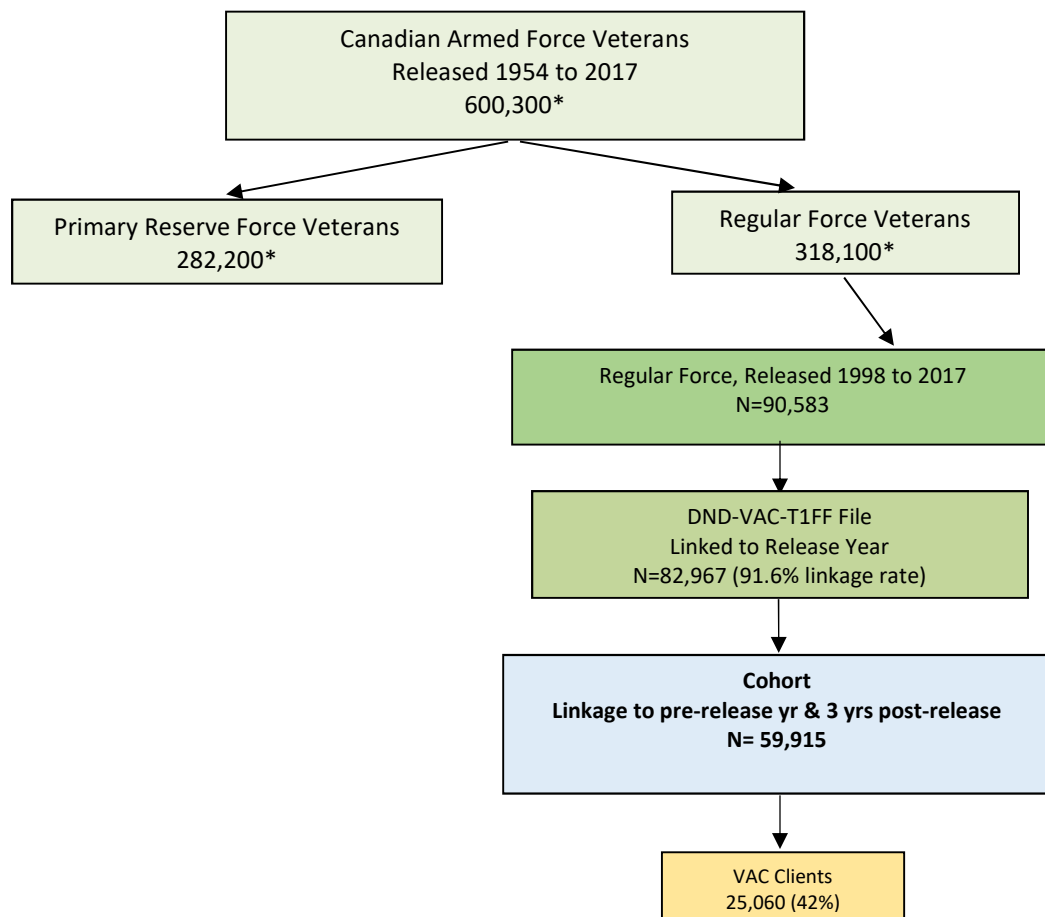
*Source: VAC Facts & Figures, March 2017

2.2 Time Frame and Linkage

The Income Study required the links to be done longitudinally, so as to have Veteran income information for the year prior to their release (t-1), the year of release (t0), and all available post-release years for Regular Force (t1 to t19), as per Table 1 below. The overall linkage rate was 91.6%. Details can be found in Appendix A.

A cohort who linked to the tax file in the pre-release year and all of the first three years post-release was followed (n= 59,915). Detailed analysis was generally restricted to a comparison of the pre-release year and the average of the first three years post release. This was done as counts become smaller with each year post-release limiting analysis by demographic and service characteristics. For example, the 19 years post-release category (t19) includes only those who were released in 1998.

For this cohort, total income, sources of income, the percentage who received EI, SA/GIS and the percentage with incomes below the before-tax LIM were calculated for the year prior to release, the release year and the up to 19 years post-release for Regular Force Veterans. Receipt of EI, SA/GIS or low income at least one year or every year post-release was also calculated for the cohort.

Table 1: Study Time Frame

Prior to Release (t-1)	Release Year (t0)	Cohort	Post Release								
			1 yr (t1)	2 yrs (t2)	3 yrs (t3)	4 yrs (t4)	5 yrs (t5)	6 yrs (t6)	7 yrs (t7)	8yrs (t8)	…19yrs (t19)
1997	1998		1999	2000	2001	2002	2003	2004	2005	2006	…2017
1998	1999		2000	2001	2002	2003	2004	2005	2006	2007	
1999	2000		2001	2002	2003	2004	2005	2006	2007	2008	
2000	2001		2002	2003	2004	2005	2006	2007	2008	2009	
2001	2002		2003	2004	2005	2006	2007	2008	2009	2010	
2002	2003	Pre release, release year & first 3 yrs post release	2004	2005	2006	2007	2008	2009	2010	2011	
2003	2004		2005	2006	2007	2008	2009	2010	2011	2012	
2004	2005		2006	2007	2008	2009	2010	2011	2012	2013	
2005	2006		2007	2008	2009	2010	2011	2012	2013	2014	
2006	2007		2008	2009	2010	2011	2012	2013	2014	2015	
2007	2008		2009	2010	2011	2012	2013	2014	2015	2016	
2008	2009		2010	2011	2012	2013	2014	2015	2016	2017	
2009	2010		2011	2012	2013	2014	2015	2016	2017		
2010	2011		2012	2013	2014	2015	2016	2017			
2011	2012		2013	2014	2015	2016	2017				
2012	2013		2014	2015	2016	2017					
2013	2014		2015	2016	2017						
2014	2015		2016	2017							
2015	2016		2017								
2016	2017										

Another time frame for this study included the time frame around participation in VAC's Rehabilitation Program. Veterans are eligible to enter the Rehabilitation Program at any time after release; therefore, not all started the program in the year of release. An analysis of earnings recovery and low income before, during and after the Rehabilitation program followed Veteran clients who completed the program which includes those who

successfully completed the program, those who became eligible for the program but were later found to not require rehabilitation, as well as those with diminished earnings capacity (DEC)[1]. The time-frame for following these rehabilitation clients included the year prior to release (pre-release); the year prior to entry into the rehabilitation program (pre-program) (for those who entered rehab in the year after release, this is the same as the pre-release year); the average over the year or years while in program (during program) (includes year of entry and year in which they left the program) and each year post program (one to nine years).

2.3 Demographic and Service Variables

The following variables were derived from the DND Human Resources Management System data (See Appendix B for more detail):
- Age at release, derived from date of birth;
- Sex;
- Length of service, derived from enrollment year and release dates;
- Release type (involuntary, medical, voluntary, retirement age and service complete);
- Release year;
- Rank at release (officers, senior NCM, junior NCM, entry);
- Branch at release (Army, Navy, Air Force); and

Release types and ranks were grouped for ease of analysis and to avoid cells with small numbers of observations. The tax data provided province of residence at release as well as industry codes as of December 31, 2017[2].

2.4 Income, Family and Labour-Market Variables

The study population data were records linked to the T1 family file (T1FF) tax records data from 1997 to 2017 using the social insurance numbers (SIN) contained on both datasets. The T1FF data cover all persons who completed a T1 tax return for the year of reference or who received Canada Child Tax Benefits (CCTB), their non-filing spouses (including wage and salary information from the T4 file), their non-filing children identified from three sources (the CCTB file, the births files, and an historical file) and filing children who reported the same address as their parent and don't have their own spouse and/or children. Development of the small area family data is based on the census family concept. The census family includes a married couple (with or without children), a common-law couple (with or without children) or a lone parent family. Details of the service variables used in the record linkage are included in Appendix B.

---

[1] DEC means that the Veteran is incapacitated by a permanent physical and/or mental health problem that prevents them from performing any occupation that would be considered "suitable gainful employment." "Suitable gainful employment" is defined as employment for which the Veteran is reasonably qualified by reason of education, training or experience and that provides a rate of pay equal to at least 66 2/3% of the gross pre-release military salary.
[2] http://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=118464

The following income, family and labour-market indicators were included in this report (see Appendix C, D and E for details):

- Veteran average total income and earnings expressed in 2017 constant dollars before tax;
- Veteran sources of income include: earnings, pensions, investment and government transfers (excluding VAC Disability Benefits)[3] expressed in 2017 constant dollars;
- Average incomes by source for those with specific sources of income (ex: Labour Market Earnings and Pension) expressed in 2017 constant dollars;
- Veteran rates of receipt of Employment Insurance (EI) and Social Assistance (SA) or Guaranteed Income Supplement (GIS);
- Veteran income replacement rates both before and after VAC Rehabilitation program participation;
- Veteran income replacement rates by VAC disability rating and age;
- Distribution of Veterans by industry;
- Veteran labour-market earnings of Veterans by industry expressed in 2017 constant dollars;
- Employer continuity defined as the proportion of the population with labour-market earnings who remained with the same employer during the first three years post-release.
- Rates of family low income using the Statistics Canada before-tax LIM (CFLIM-BT) that establishes a threshold income each year by census family size;
- Veteran's share of total family income;
- Spousal income and sources of income expressed in 2017 constant dollars and;
- Changes in family structure (divorces, marriages and children) during the first three years post-release.

Low Income

Low-Income Measures (LIMs) are relative measures of low family income. LIMs are a fixed percentage (50%) of adjusted median family income where *adjusted* indicates that economies of scales have been taken into account. A census family is considered to be low-income when their income is below the Low-Income Measure (LIM) for their family size. As the thresholds are adjusted each year no inflation adjustment is required (see Appendix E for threshold amounts).

Income Replacement Rates of Rehabilitation Program Clients

Income replacement rates were previously examined for Veterans who participated in the Rehabilitation program using data from LASS 2013 (MacLean, Van Til and Poirier, 2016a). This analysis was updated. As Veterans are eligible to enter the Rehabilitation Program at any time after release, this study follows Veteran clients who completed the program including those who successfully completed the program, those who became eligible for the program but were later found to not require rehabilitation, as well as

---

[3] Transfers received from the VAC Disability Benefits Program were not included in the T1FF data as both disability pensions and awards including related special awards such as attendance allowance are non-taxable and need not be reported to the Canada Revenue Agency. However, Earnings Loss benefits and Permanent Impairment Allowances paid by VAC are taxable and were included as earnings.

those deemed to have diminished earnings capacity and continued to receive earnings loss payment but were no longer participating in the program.

Income Replacement Rates by Disability Rating and Age
The income replacement rates of clients in receipt of disability benefits and Veterans not in receipt of disability benefits were compared in a previous study using LASS 2013 data (MacLean, Van Til and Poirier, 2016b). Clients in receipt of benefits included those receiving monthly pensions under the *Pension Act* and/or lump-sum awards under the New Veterans Charter. Income was examined for six groups, including five categories of disability benefit clients grouped by disability level (less than 5%, 5 to 17%, 18 to 27%, 28 to 47% and 48% plus) and one group not in receipt of disability benefits. Income replacement rates were calculated by comparing incomes (total and labour-market earnings) at each year post release to that in the pre-release year. Labour-market earnings are a portion of total earnings that includes wage earnings and self-employed income, but excludes wage loss replacement. Income replacement rates measure on average, the degree to which each group was able to replace their pre-release income. The income replacement rates by age group at release for the sixth year post-release were examined. To examine the extent of reliance on labour-market earnings, the share of labour-market earnings to total income was also examined by disability rating and age. In order to determine the distribution of replacement rates across the disability rating groups, the proportion of the population with less than a 50% replacement rate and more than 100% replacement of their pre-release income was calculated for the sixth year post-release.

3. Results

3.1 Cohort Characteristics

The study cohort includes 59,915 records that were linked to tax files for Regular Force Veterans in the pre-release year and in all of the first three years post release (Table 2). This group is called the Regular Force cohort. The majority (58%) of this cohort were not clients of VAC and 42% were VAC clients.

Among this cohort the majority (63%) were aged 35 or older and were males. More than half of the cohort released with 20 or more years of service and released voluntarily. With respect to rank, junior and senior NCMs accounted for 70% of the cohort. About half of the cohort released from the Army, followed by the Air Force (32%) and Navy (17%). As of 2017, half of recently released Regular Force members were living in either Quebec or Ontario. Taken together, less than 20% lived in the Atlantic Provinces.

This study also compared clients and non-clients by service and demographic characteristics. Clients were more likely than non-clients to be older, to have served for longer periods of time and to have medically released. The vast majority (83%) of clients were age 35 and older, compared to about half of non-clients. Sixty nine percent of clients had 20 years of service or more compared to 41% for non-clients. Almost half of clients were medically-released, compared to only 7% of non-clients. There were some areas were clients and non-clients were similar, including the proportion of females, environment, and province of residence.

**Table 2:** Regular Force Cohort* Characteristics by Client Status

		Clients 42%		Non-Clients 58%		Total 100%	
		n	%	n	%	n	%
Total		25,015	100%	34,675	100%	59,690	100%
Age at release	25 & under	830	3.3%	9,130	26.3%	9,960	16.7%
	25-29	1,575	6.3%	5,235	15.1%	6,815	11.4%
	30-34	1,900	7.6%	3,450	9.9%	5,345	9.0%
	35-39	3,755	15.0%	3,570	10.3%	7,325	12.3%
	40-44	6,520	26.1%	5,200	15.0%	11,720	19.6%
	45-49	5,080	20.3%	3,725	10.7%	8,800	14.7%
	50-54	3,710	14.8%	3,070	8.9%	6,785	11.4%
	55-59	1,495	6.0%	1,160	3.3%	2,655	4.4%
	60-64	145	0.6%	135	0.4%	280	0.5%
	65 plus	X	X	X	X	X	X
Sex	Males	21,750	86.9%	29,760	85.8%	51,515	86.3%
	Females	3,260	13.0%	4,915	14.2%	8,175	13.7%
Years of service	Less than 2	335	1.3%	9,265	26.7%	9,600	16.1%
	2 to 9	3,095	12.4%	7,915	22.8%	11,010	18.4%
	10 to 19	4,360	17.4%	3,250	9.4%	7,605	12.7%
	20 plus	17,220	68.8%	14,245	41.1%	31,465	52.7%
Release type	Involuntary	400	1.6%	2,340	6.7%	2,740	4.6%
	Medical	11,695	46.8%	2,360	6.8%	14,055	23.5%
	Voluntary	10,075	40.3%	25,945	74.8%	36,020	60.3%
	Retirement Age	1,830	7.3%	2,420	7.0%	4,250	7.1%
	Service Complete	1,015	4.1%	1,610	4.6%	2,625	4.4%
	Unknown	X	X	X	X	X	X
Rank at release	Officers	3,525	14.1%	6,010	17.3%	9,530	16.0%
	Senior NCM	9,920	39.7%	7,220	20.8%	17,140	28.7%
	Junior NCM	10,960	43.8%	13,605	39.2%	24,570	41.2%
	Entry	605	2.4%	7,840	22.6%	8,450	14.2%
Environment at release	Army	13,595	54.3%	17,390	50.2%	30,985	51.9%
	Navy	3,455	13.8%	6,415	18.5%	9,870	16.5%
	Air Force	7,960	31.8%	10,875	31.4%	18,835	31.6%
Province in 2017	Newfoundland	685	2.7%	805	2.3%	1,490	2.5%
	Prince Edward Island	210	0.8%	205	0.6%	415	0.7%
	Nova Scotia	2,960	11.8%	3,115	9.0%	6,075	10.2%
	New Brunswick	1,665	6.7%	1,455	4.2%	3,120	5.2%
	Quebec	5,190	20.7%	7,490	21.6%	12,680	21.2%
	Ontario	7,105	28.4%	10,010	28.9%	17,115	28.7%
	Manitoba	770	3.1%	925	2.7%	1,695	2.8%
	Saskatchewan	305	1.2%	650	1.9%	955	1.6%
	Alberta	2,920	11.7%	3,930	11.3%	6,850	11.5%
	British Columbia	2,290	9.2%	3,345	9.6%	5,635	9.4%
	Yukon	15	0.1%	45	0.1%	60	0.1%
	Northwest Territories	35	0.1%	70	0.2%	105	0.2%
	Nunavut	X	X	20	X	20	X
	Other	850	3.4%	2,615	7.5%	3,465	5.8%

* Population linked to tax records in the pre-release year and the first three years post-release.
May not add due to rounding to nearest 5 or 10.

3.2 Income Trends and Sources

Total income in the year prior to release was $70,720 in 2017 constant dollars (Figure 2). In the release year, total income rose to $91,730, and then declined to $68,370 in the first year post release. Total income then increased fairly steadily for 10 years after release. Post-release income eventually reached pre-release income after three years post release. The spike in income in the release year is largely due to other income, related to severance pay. The largest source of income in each year post release was earnings, followed by pensions and government transfers. Earnings was lowest ($40,180) in the first year after release and while earnings rose after that, Veterans did not recover their pre-release level of earnings. Government transfers, including employment insurance and social assistance, rose steadily from $770 in the pre-release year to $5,580 in the 19th year post release.

**Figure 2:** Total Income by Source
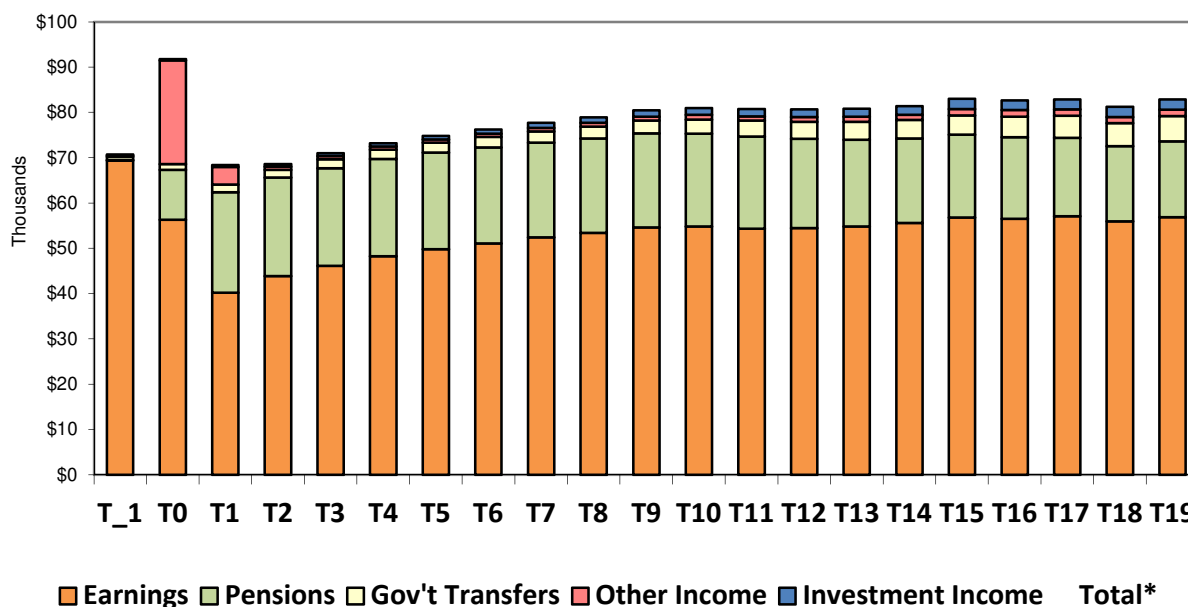
Note: Total income is the before tax income of the Veteran expressed in 2017 constant dollars. Includes income from taxable income (including VAC Earnings Loss Benefits) and government transfers but does not include non-taxable VAC Disability Benefits.
*May not add exactly due to rounding.

The highest rates for receipt of Employment Insurance (EI) and low income were in the first year after release (Figure 3). Rates for receipt of EI were 5% in the pre-release year and rose to 11% in the release year, and peaked at 16% in the first year post-release. The rate of receipt of SA or GIS remained at 1% throughout the entire pre- and post-release period. The rate of low income was 4% in the pre-release year and the release year and rose to 7% in the first year post-release and then gradually declining to level off at 3% starting in year thirteen post release.

Figure 3: Receipt of EI or SA/GIS and Rate of Low Income
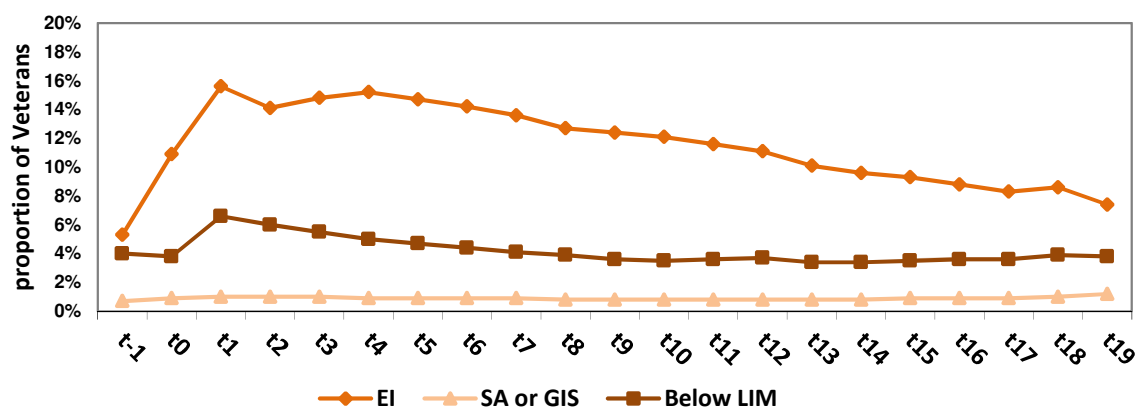
Note: Low income measure is before tax. EI in the year prior to release would include mainly those in receipt of maternity or paternity benefits.

Receipt of EI or social assistance and the rate of low income post release were fairly temporary while 42% received EI at least one year post release. The rate of receiving SA or GIS at least one year post release was 4%. Seventeen percent (17%) were in a low income situation at least one year since they released (Figure 4).

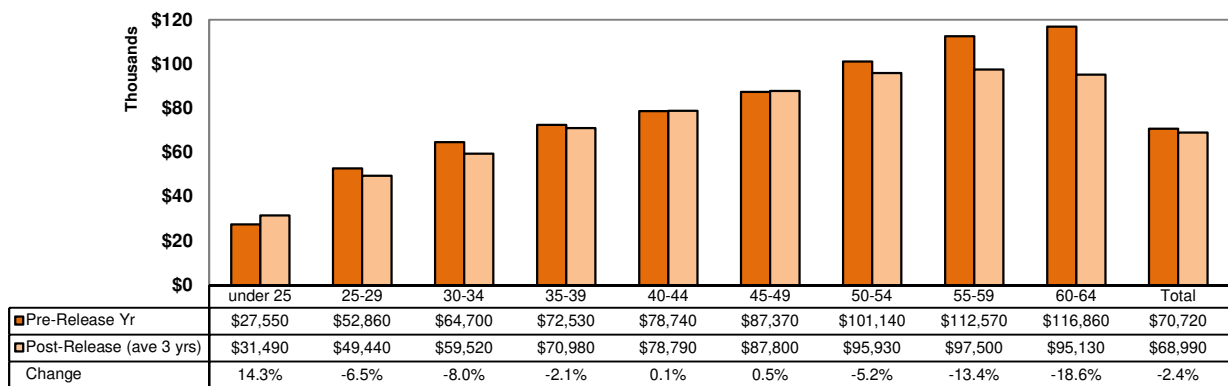**Figure 4:** Receipt of EI, SA/GIS, Low Income Post Release
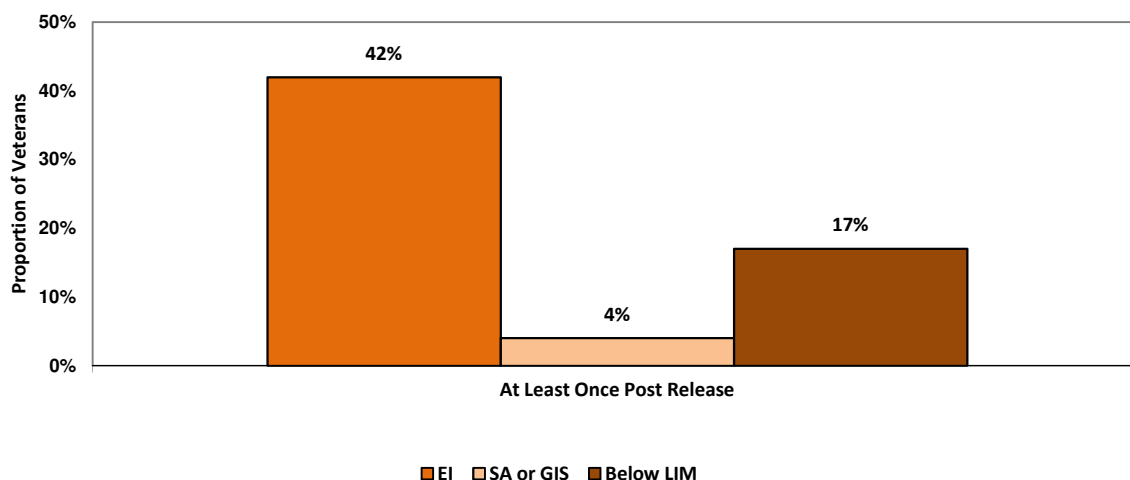
3.3 Total Income by Cohort Characteristics

The decline in income from the pre-release year to the average of the first three years post release was 2% for the Regular Force cohort. This section examines this change in income by a variety of service and demographic characteristics.
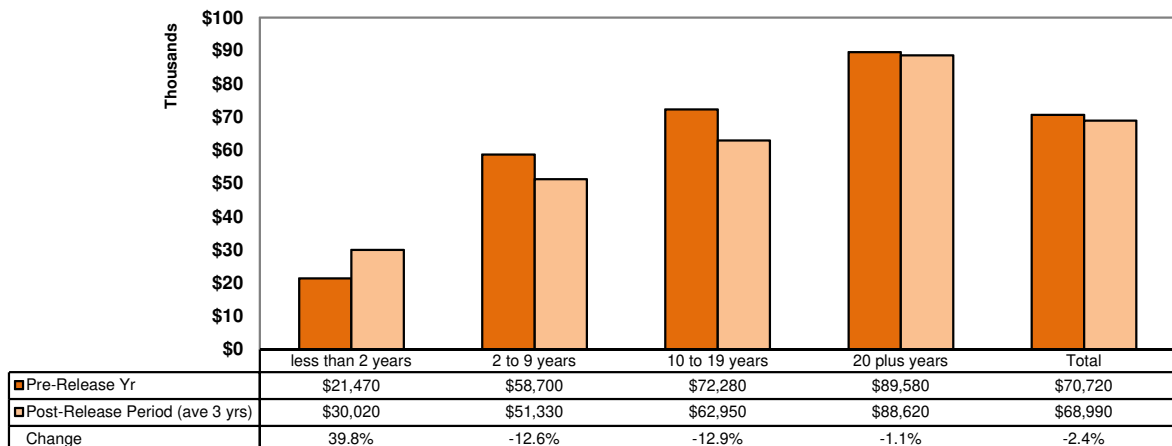
Income increased with age in the pre-release year, from $27,550 for those under the age of 25 years to $116,860 for those 60-64 years of age. Income declined post release for each age group, except for those under 25 and those 40 to 49 whose incomes increased. Those aged 60-64, while having the highest post-release income, experienced the largest decline in income of 19%, followed by those aged 55-59 with a 13% decline (Figure 5).

Figure 5: Total Income Change by Age at Release

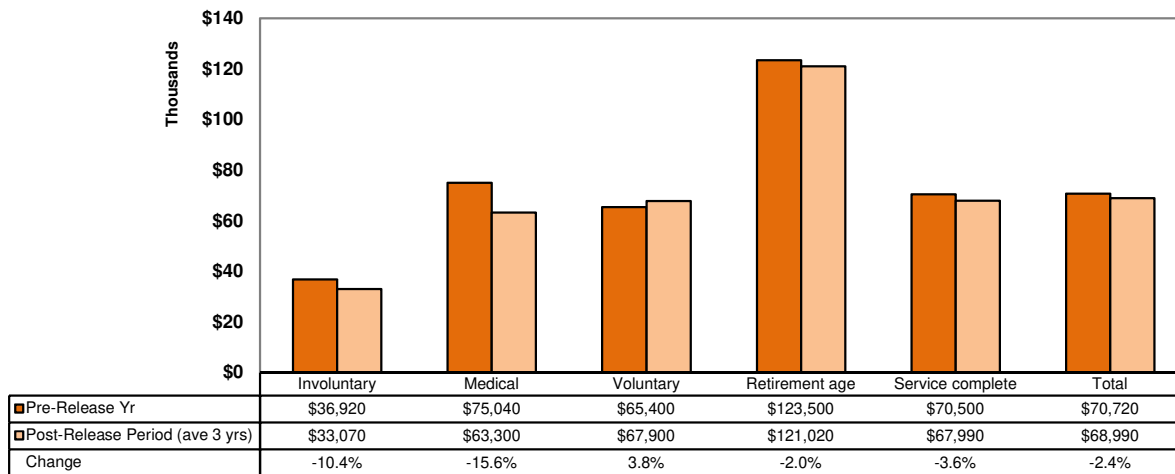|	under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	Total
Pre-Release Yr	$27,550	$52,860	$64,700	$72,530	$78,740	$87,370	$101,140	$112,570	$116,860	$70,720
Post-Release (ave 3 yrs)	$31,490	$49,440	$59,520	$70,980	$78,790	$87,800	$95,930	$97,500	$95,130	$68,990
Change	14.3%	-6.5%	-8.0%	-2.1%	0.1%	0.5%	-5.2%	-13.4%	-18.6%	-2.4%

Both pre- and post-release total income increased substantially with length of service. Regular Force Veterans who served for 20 years or more had a total pre-release income of $89,580, compared to $21,470 for those with less than two years of service. Similarly, post-release income varied greatly between those two groups, at $88,620 and $30,020 respectively. Those who experienced the greatest declines in income post release had served between 2 and 19 years (13%) (Figure 6).

Figure 6: Total Income Change by Length of Service

	less than 2 years	2 to 9 years	10 to 19 years	20 plus years	Total
Pre-Release Yr	$21,470	$58,700	$72,280	$89,580	$70,720
Post-Release Period (ave 3 yrs)	$30,020	$51,330	$62,950	$88,620	$68,990
Change	39.8%	-12.6%	-12.9%	-1.1%	-2.4%

Total income varied considerably by type of release (release types described in Appendix B). Those releasing due to retirement had a pre-release income of $123,500. At the other end of the spectrum, the pre-release income for involuntary releases was $36,920. There was a similar pattern with respect to post-release income, with the highest at $121,020 for those at retirement age and the lowest at $33,070 for involuntary releases. Medical releases saw the greatest declines in income at 16%, from $75,040 to $63,300 (Figure 7).
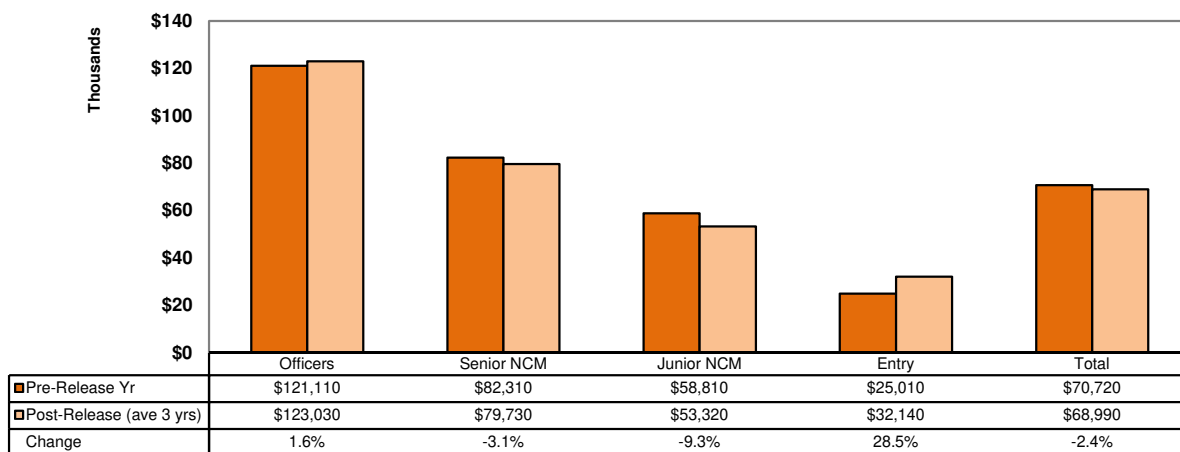
Figure 7: Total Income Change by Release Type

	Involuntary	Medical	Voluntary	Retirement age	Service complete	Total
Pre-Release Yr	$36,920	$75,040	$65,400	$123,500	$70,500	$70,720
Post-Release Period (ave 3 yrs)	$33,070	$63,300	$67,900	$121,020	$67,990	$68,990
Change	-10.4%	-15.6%	3.8%	-2.0%	-3.6%	-2.4%

* see Appendix B for details on these categories

Not surprisingly, officers had the highest income both pre and post release, while entry rank had the lowest income in both timeframes. Post-release incomes were higher than pre-release incomes for officers and entry ranks and lower for all other ranks. Entry rank had the greatest increase in income post release (29%) while junior NCMs had the greatest decrease (9%) (Figure 8).
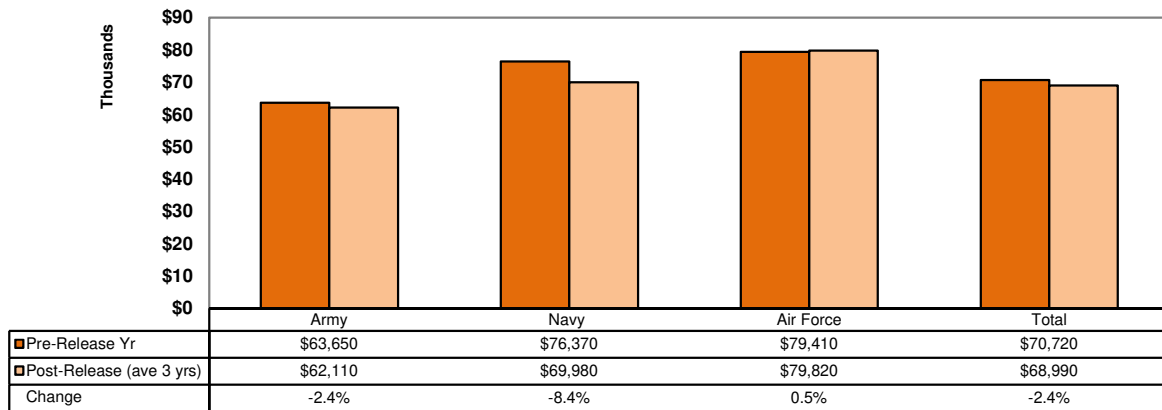
Figure 8: Total Income Change by Rank

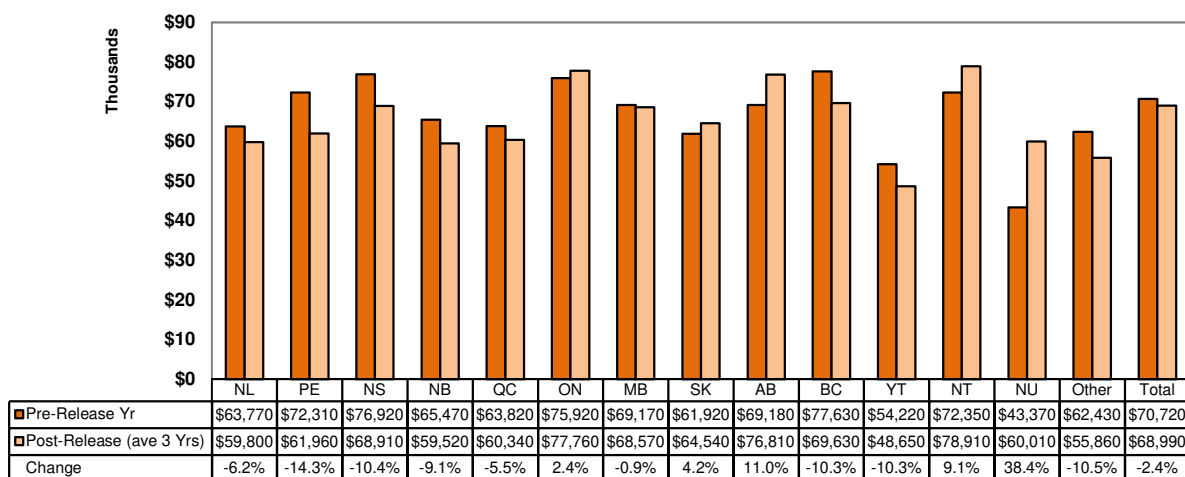|	Officers	Senior NCM	Junior NCM	Entry	Total
Pre-Release Yr	$121,110	$82,310	$58,810	$25,010	$70,720
Post-Release (ave 3 yrs)	$123,030	$79,730	$53,320	$32,140	$68,990
Change	1.6%	-3.1%	-9.3%	28.5%	-2.4%

* see Appendix B for details on these categories

.

Post-release income for the Regular Force cohort ranged from $62,110 for Army Veterans to $79,820 for Air Force Veterans. Air Force Veterans also had the highest pre-release income. The greatest decline in income (8%) was for those who released from the Navy (Figure 9).

Figure 9: Total Income Change by Service Environment

	Army	Navy	Air Force	Total
Pre-Release Yr	$63,650	$76,370	$79,410	$70,720
Post-Release (ave 3 yrs)	$62,110	$69,980	$79,820	$68,990
Change	-2.4%	-8.4%	0.5%	-2.4%

Those who lived in the Yukon had the lowest post-release incomes at $48,650, followed by those who lived outside Canada ($55,860) and New Brunswick ($59,520). Veterans who lived in Northwest Territories had the highest post-release income at $78,910. Veterans who lived in Ontario (2%), Saskatchewan (4%), Alberta (11%), Northwest Territories (9%) and Nunavut (38%) all experienced an increase in income after release. The largest decline was among those who lived in Prince Edward Island (14%), higher than the average overall decline of 2%. Large declines in income were also experienced among those who lived in the Atlantic provinces as well as British Columbia, Yukon and outside Canada (Figure 10).

Figure 10: Total Income Change by Province of Residence in 2017

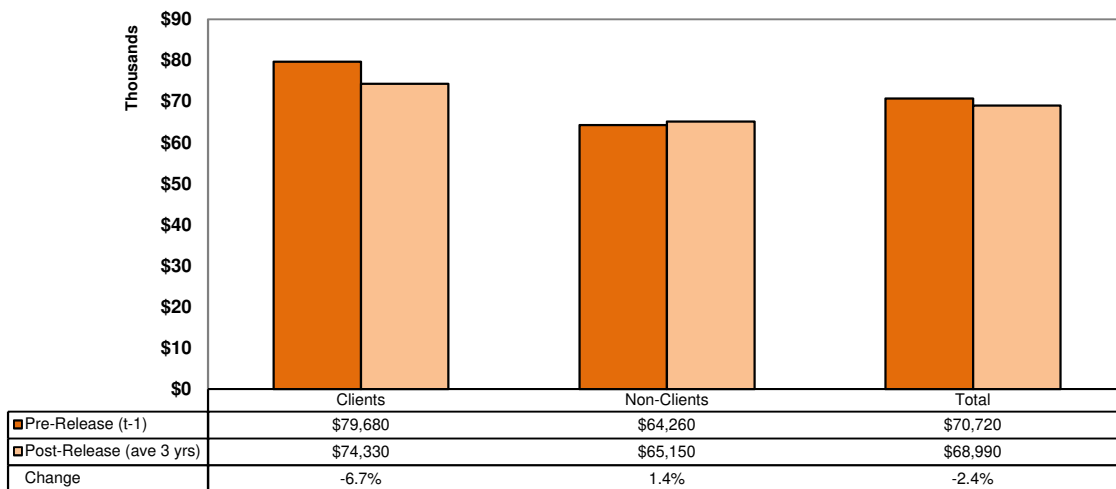|	NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU	Other	Total
Pre-Release Yr	$63,770	$72,310	$76,920	$65,470	$63,820	$75,920	$69,170	$61,920	$69,180	$77,630	$54,220	$72,350	$43,370	$62,430	$70,720
Post-Release (ave 3 Yrs)	$59,800	$61,960	$68,910	$59,520	$60,340	$77,760	$68,570	$64,540	$76,810	$69,630	$48,650	$78,910	$60,010	$55,860	$68,990
Change	-6.2%	-14.3%	-10.4%	-9.1%	-5.5%	2.4%	-0.9%	4.2%	11.0%	-10.3%	-10.3%	9.1%	38.4%	-10.5%	-2.4%

3.4 VAC Clients and Non-Clients

Forty two percent (42%) of the Regular Force cohort were clients while 58% were non-clients. This section compares total income, earnings, pension income and low income between clients and non-clients.
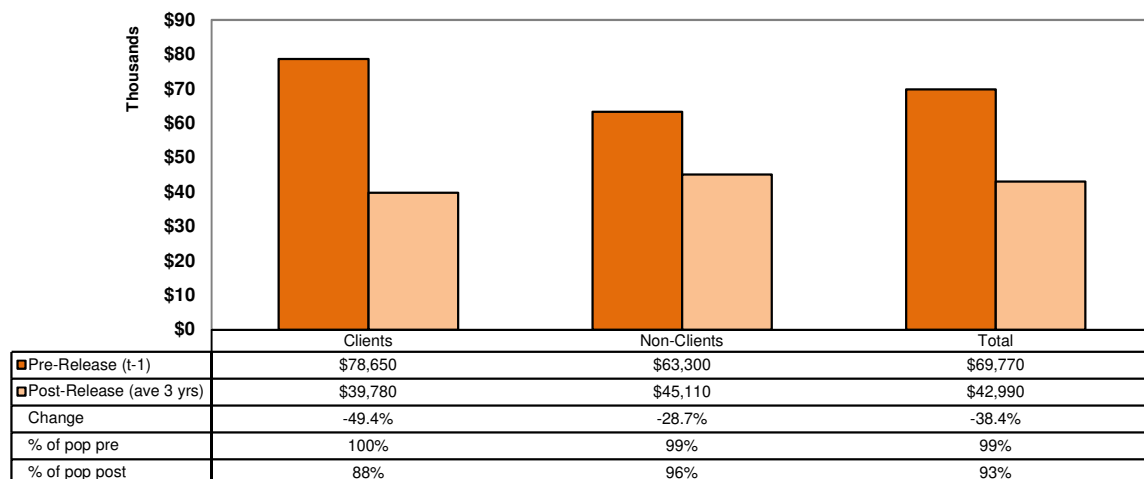
Total pre-release income for clients was $79,680 compared to post-release income of $74,330, a decline of 7%. There was an increase (1%) in income for non-clients, from $64,260 to $65,150 (Figure 11).

Figure 11: Total Income Change by Client Status

	Clients	Non-Clients	Total
Pre-Release (t-1)	$79,680	$64,260	$70,720
Post-Release (ave 3 yrs)	$74,330	$65,150	$68,990
Change	-6.7%	1.4%	-2.4%

Pre-release earnings were greater for clients ($78,650) than non-clients ($63,300) while post-release earnings were lesser for clients ($39,780) than non-clients ($45,110). Client earnings decreased by 50% while non-client earnings decreased by 29% (Figure 12).
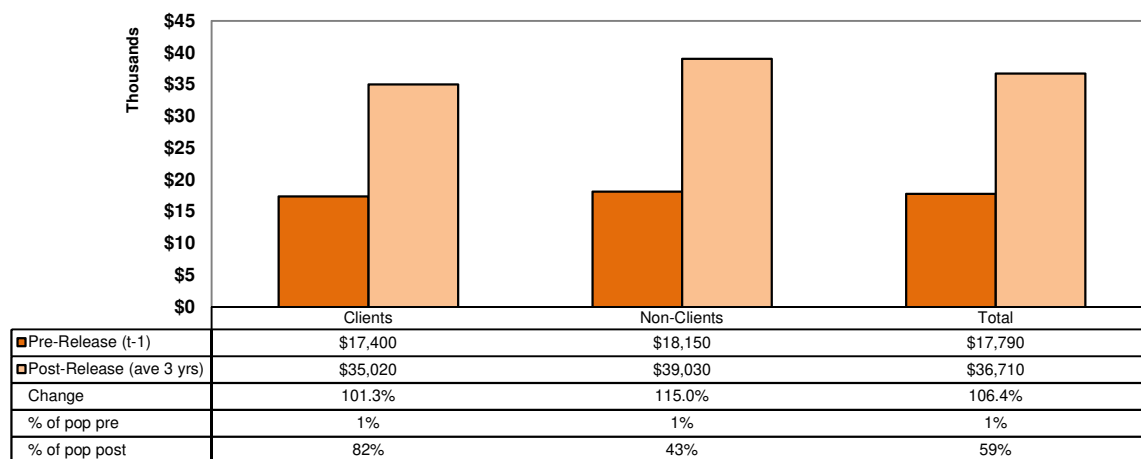
Figure 12: Average* Earnings Change by Client Status

	Clients	Non-Clients	Total
Pre-Release (t-1)	$78,650	$63,300	$69,770
Post-Release (ave 3 yrs)	$39,780	$45,110	$42,990
Change	-49.4%	-28.7%	-38.4%
% of pop pre	100%	99%	99%
% of pop post	88%	96%	93%

* Among those with earnings

Pre-release pension income was low; $17,400 for clients and $18,150 for non-clients. Post-release pension income increased to $35,020 for clients and $39,030 for non-clients. Overall, the post-release pension income was $36,710 (Figure 13).

Figure 13: Average* Pension Income Change by Client Status

	Clients	Non-Clients	Total
Pre-Release (t-1)	$17,400	$18,150	$17,790
Post-Release (ave 3 yrs)	$35,020	$39,030	$36,710
Change	101.3%	115.0%	106.4%
% of pop pre	1%	1%	1%
% of pop post	82%	43%	59%

* Among those with a pension

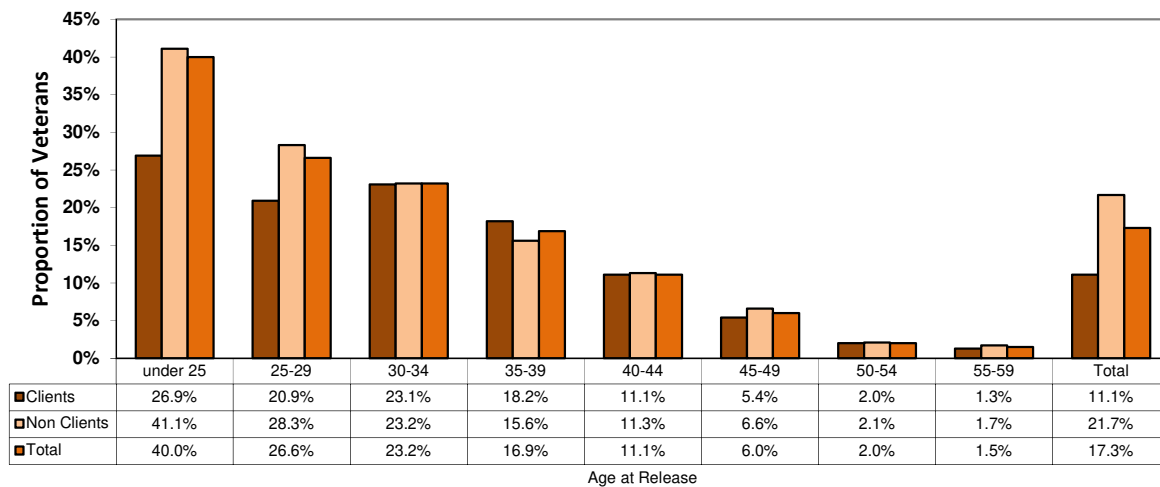## 3.5 Changes in Income, Low Income and VAC Clients

Veterans who served less than two years (40%), Nunavut residents (38%) and those at entry level ranks (29%) had the largest increases in income after release (Table 3). With respect to decreases in income, those aged 60 to 64 (19%), females (19%), and those medically released (16%) saw the largest declines, compared to an overall decline of 2%. Females, who accounted for only 14% of the cohort, were less likely to be clients (40%) than the cohort overall (42%). However, the majority (83%) of Veterans who were medically released were VAC clients, and accounted for 24% of the cohort. Veterans aged 60 to 64 (56%) were more likely to be clients than the average and accounted for 4% of the cohort (Table 3).

Table 3: Total Income Change by Characteristic

	Change Pre-Release Yr to Ave First 3 Yrs Post-Release	% Clients (n=25,015)	% of Cohort (n= 59,690)
Total	-2.4%	42%	100%
Largest Increases			
Served less than 2 years	+40%	4%	16%
Nunavut resident	+38%	x	x
Entry	+29%	7%	14%
Largest Decreases			
Age 60 - 64	-19%	56%	4%
Females	-19%	40%	14%
Medical releases	-16%	83%	24%

Overall, 17% of Veteran families experienced low income at least one year post-release. Non-clients were more likely than clients to have experienced low income in at least one year post release, at 22% and 11% respectively. The majority (73%) of those who experienced low income were non-clients. The higher rate of low income among non-clients was mainly due to their younger age. Younger Veterans had higher rates of low income (Figure 14).

Figure 14: Low Income at Least One Year Post Release by Age and Client Status

	under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	Total
Clients	26.9%	20.9%	23.1%	18.2%	11.1%	5.4%	2.0%	1.3%	11.1%
Non Clients	41.1%	28.3%	23.2%	15.6%	11.3%	6.6%	2.1%	1.7%	21.7%
Total	40.0%	26.6%	23.2%	16.9%	11.1%	6.0%	2.0%	1.5%	17.3%

Age at Release

Notes: Low income measure is before tax.

Veterans who were aged 55 to 59 at release (2%), released at retirement age (2%), and officers (6%) had the lowest rates of experiencing low income at least one year post release. Veterans who involuntary released (45%), released with less than 2 years of service (43%) or released at entry level rank (41%) had the highest rates of experiencing low income. In all three of these sub-populations, less than 15% were clients of VAC, compared to 42% of the population. Involuntary release accounted for 5% of the population, while those who served for less than 2 years or released at entry level rank accounted for 16% and 14% of the population (Table 4).

Table 4: Regular Force Low Income at Least One Year Post Release by Characteristic

	Low Income Rate	% Clients (n=25,015)	% of Population (n=59,690)
Total	17%	42%	100%
Lowest Rates			
Age 55 to 59	2%	56%	4%
Retirement age	2%	43%	7%
Officers	6%	37%	16%
Highest Rates			
Involuntary releases	45%	15%	5%
Less than 2 years of service	43%	4%	16%
Entry	41%	7%	14%

3.6 Labour-Market Earnings by Industry and Employer Continuity

The single largest employer of Veterans was public administration (federal, provincial, municipal and regional), accounting for over one-third of Veterans who were working in the year after release (Figure 16). This was followed by administrative services (8%), manufacturing (7%), retail trade (5%), construction (4%) and transportation/ warehousing (4%). The top six industries accounted for almost two thirds of all employed Veterans. For details see Appendix D.

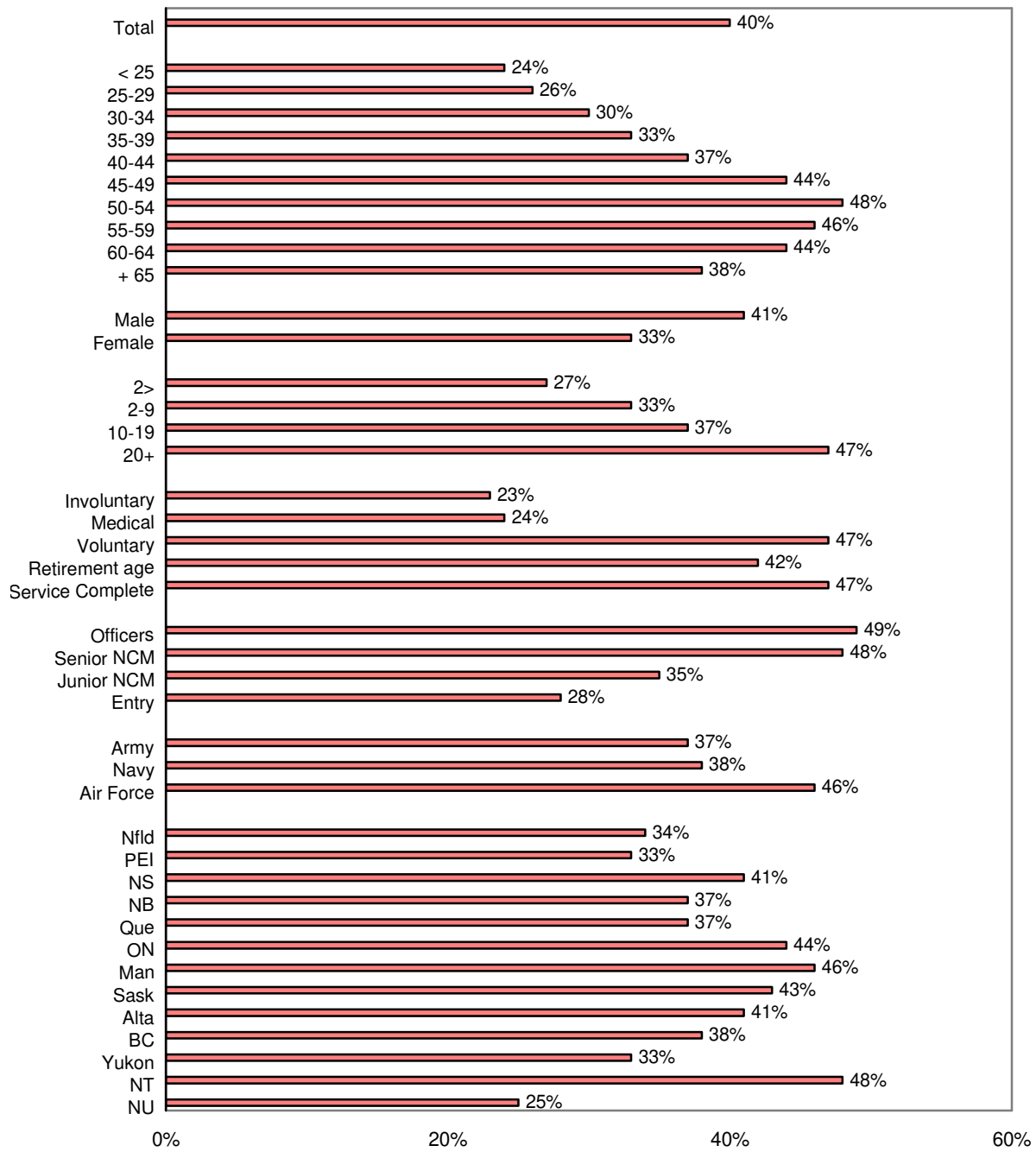**Figure 16:** Veterans by Main Industry in the Year After Release
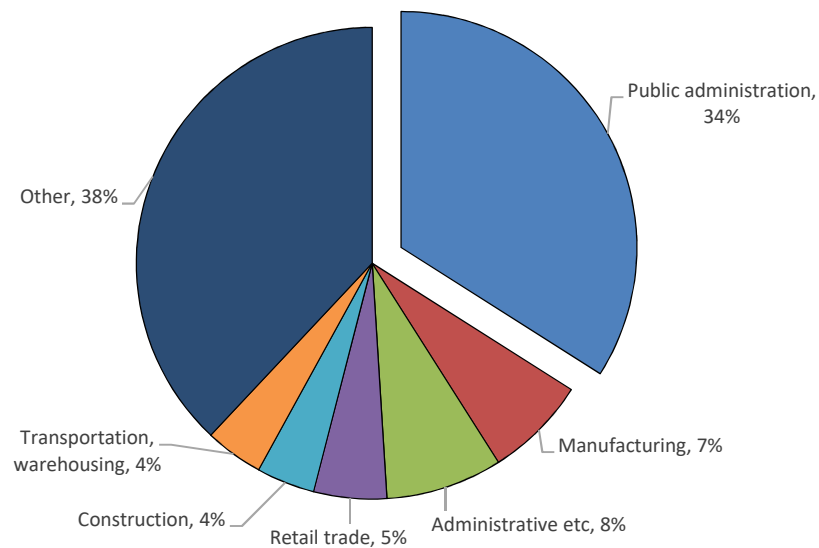
There were large variations in labour-market earnings across industries in which Veterans were employed. The earnings for public administration employees ($48,650) were slightly above the average earnings of $40,040 (Figure 17). Earnings were highest for those who were working in mining etc. (includes oil and gas), utilities and professional services industries in which Veterans earned over $65,000 per year. Earnings were lowest in accommodations/food services, retail trade and agriculture with earnings of less than $26,000 per year.

Figure 17: Labour-Market Earnings by Main Industry in the Year After Release
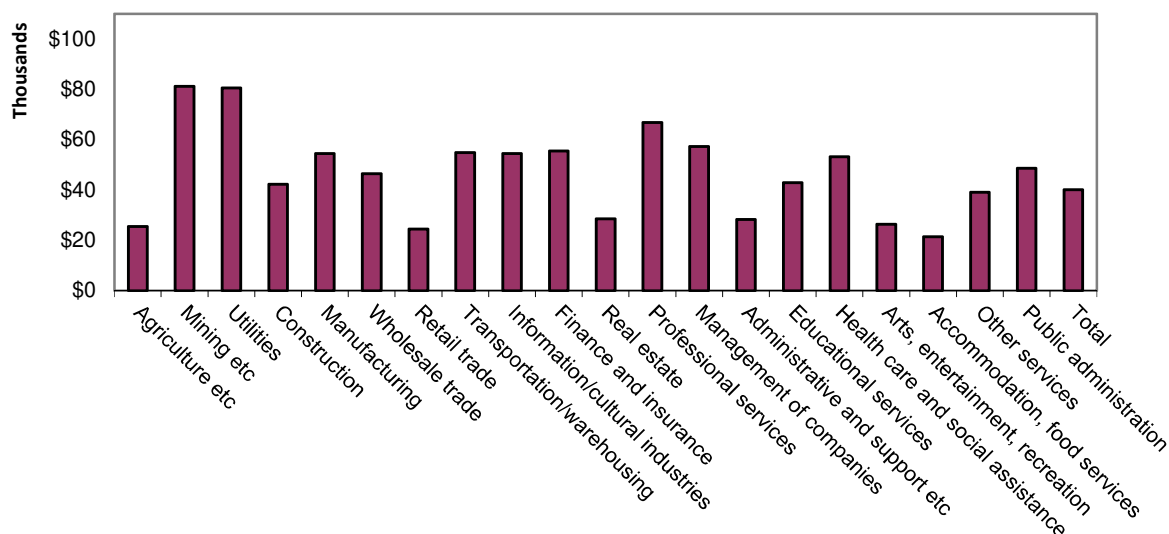

Many Veterans who had labour-market earnings post-release had remained with the same employer after release from the military (Figure 18). More than half (60%) of Veterans changed employers and 40% stayed with the same employer during the first three years post-release (employment continuity). Veterans who had released as officers were the most likely to have employment continuity (49%) in the year following release, followed by those aged 50-54, senior NCM's and those who lived in the North West Territories at 48%. Those with the lowest employment continuity were involuntarily released Veterans (23%), followed by those medically released or less than age 25, both at 24%.

Figure 18: Veterans with Employment Continuity by Demographic and Service Characteristics

Category	Value
Total	40%
< 25	24%
25-29	26%
30-34	30%
35-39	33%
40-44	37%
45-49	44%
50-54	48%
55-59	46%
60-64	44%
+ 65	38%
Male	41%
Female	33%
2>	27%
2-9	33%
10-19	37%
20+	47%
Involuntary	23%
Medical	24%
Voluntary	47%
Retirement age	42%
Service Complete	47%
Officers	49%
Senior NCM	48%
Junior NCM	35%
Entry	28%
Army	37%
Navy	38%
Air Force	46%
Nfld	34%
PEI	33%
NS	41%
NB	37%
Que	37%
ON	44%
Man	46%
Sask	43%
Alta	41%
BC	38%
Yukon	33%
NT	48%
NU	25%

Continuity of employment (Figure 19) was highest among those working in the utilities (69%), followed by the public service 62%. Continuity was lowest in accommodations and food services industries (22%), followed by real estate (23%).
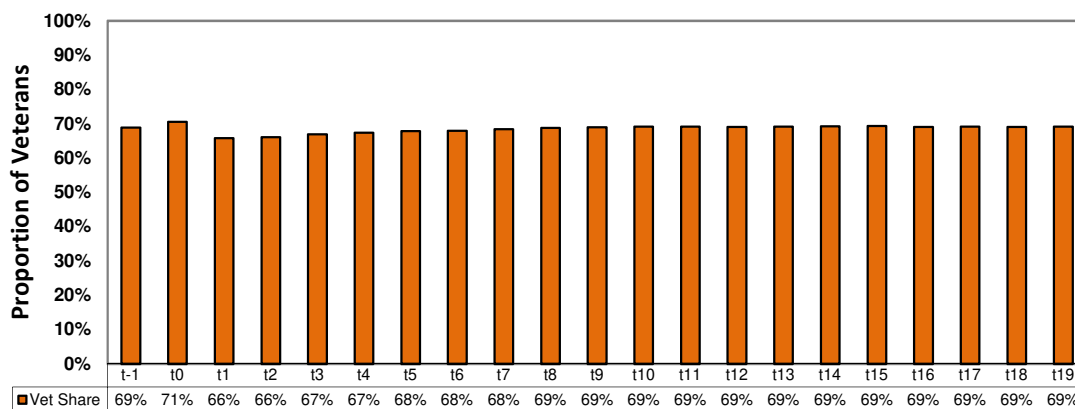
Figure 19: Veterans with the Employment continuity by Industry in Year After Release
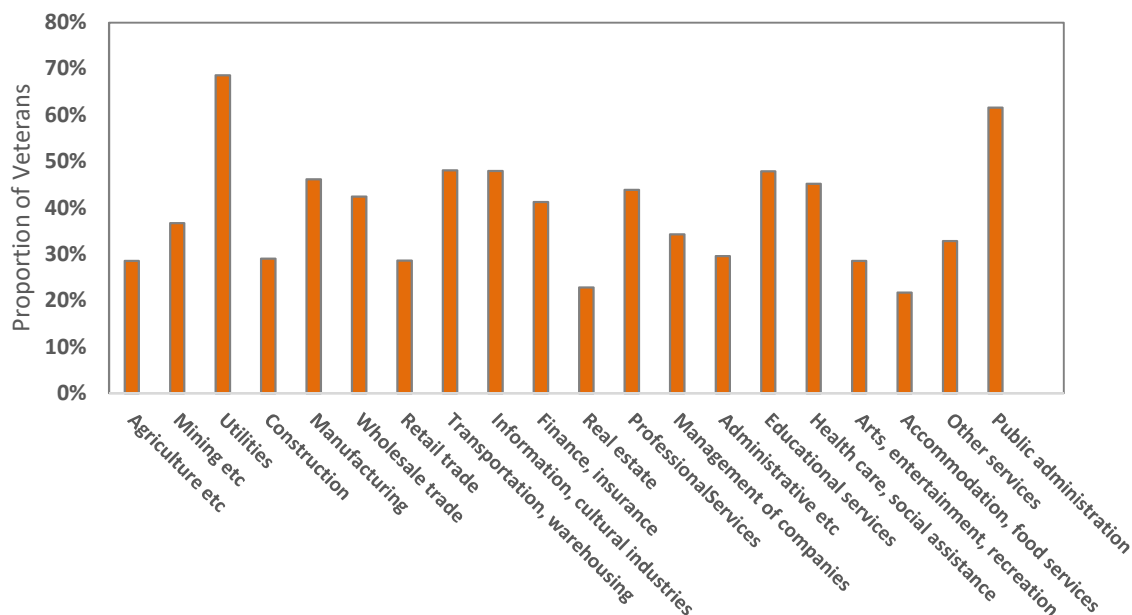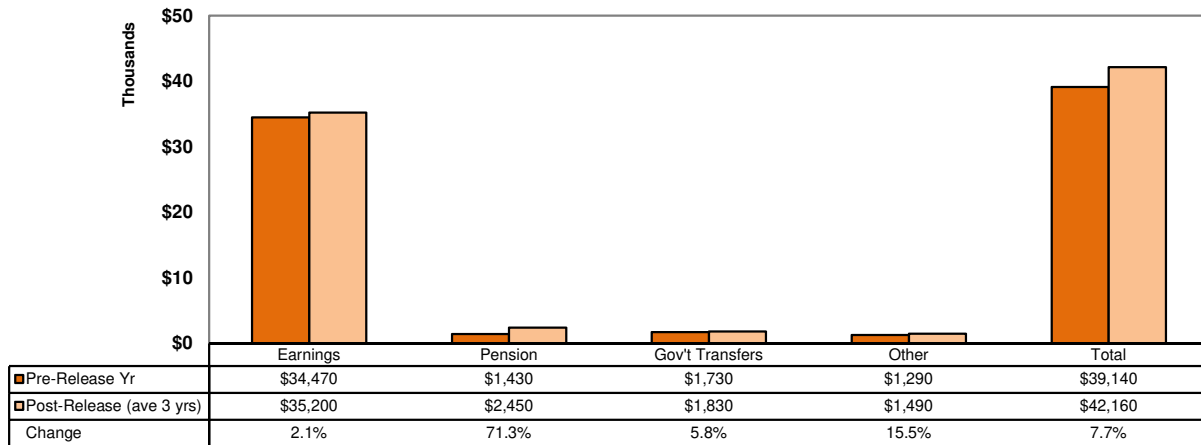

3.7 Families

Families of Regular Force Veterans rely quite heavily on the Veteran's income both pre- and post-release. In the year prior to release, Veterans' incomes accounted for 69% of the total family income. This percentage increased to 71% in the release year before dropping to 66% in the year after release and then gradually rose to 69% by the eighth year post-release (Figure 20).

Figure 20: Veteran Share of Total Family Income

	t-1	t0	t1	t2	t3	t4	t5	t6	t7	t8	t9	t10	t11	t12	t13	t14	t15	t16	t17	t18	t19
Vet Share	69%	71%	66%	66%	67%	67%	68%	68%	68%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%

Spouses had on average a total income of $39,140 in the year prior to the Veterans' release (Figure 21). This rose by 8% to $42,160 during the first three years after release. Earnings accounted for the vast majority of total spousal income both pre- and post-release and rose by 2% post-release. Other sources of income, though quite small, also increased post-release.

Figure 21: Spousal Income by Source

	Earnings	Pension	Gov't Transfers	Other	Total
■ Pre-Release Yr	$34,470	$1,430	$1,730	$1,290	$39,140
□ Post-Release (ave 3 yrs)	$35,200	$2,450	$1,830	$1,490	$42,160
Change	2.1%	71.3%	5.8%	15.5%	7.7%

Many Veterans had a change in family status after transitioning to civilian life. Six percent got divorced during the first three years post-release and one in ten got married (Table 6). The highest rates of divorce were among Veterans aged 30 to 34 at release and Veterans who had 10 to 19 years of service, both at 10%. This was followed by Veterans who were medically released and junior NCM, both with divorce rates of 8%. Twelve percent of Veterans had no children prior to release but had at least one child during the first three years post-release.
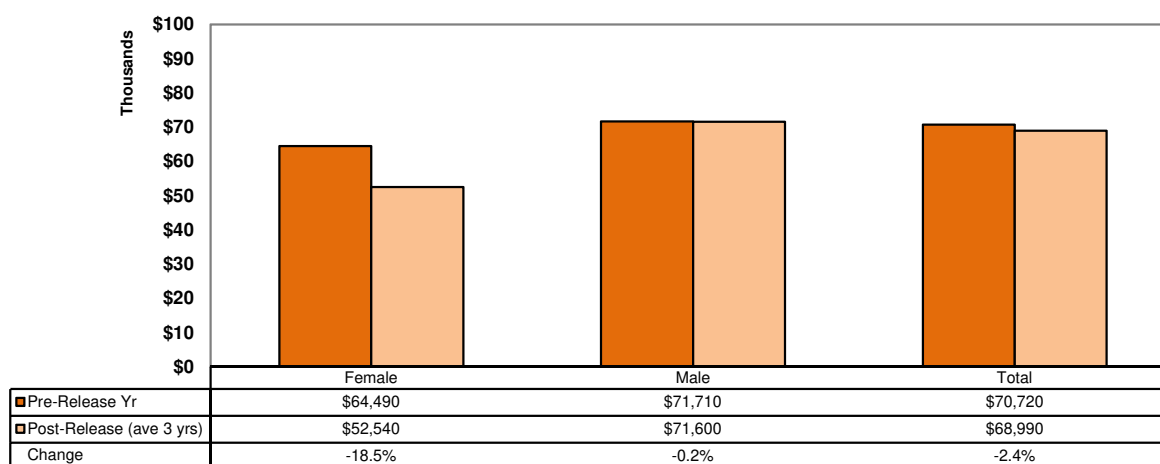
Table 6: Change in Family Status Pre- and Post-Release

	Population	% of Cohort (n= 59,915)
Divorced (married to single)	3,855	6%
Highest Divorced rates		
Aged 30-34 at release	540	10%
10-19 years of service	745	10%
Medical release	1,130	8%
Junior NCM	1,965	8%
Married (single to married)	7,385	12%
Had Children (none to at least one)	7,335	12%

3.8 Female and Male Veterans

Female Veterans had lower incomes than males both pre- and post-release. On average, the pre-release income of females was $64,490, compared to $71,710 for males; this difference is explained at least in part by the shorter average lengths of service for females. Post release, the total income of females declined by 19% compared to a small decrease for males of 0.2% (Figure 22).
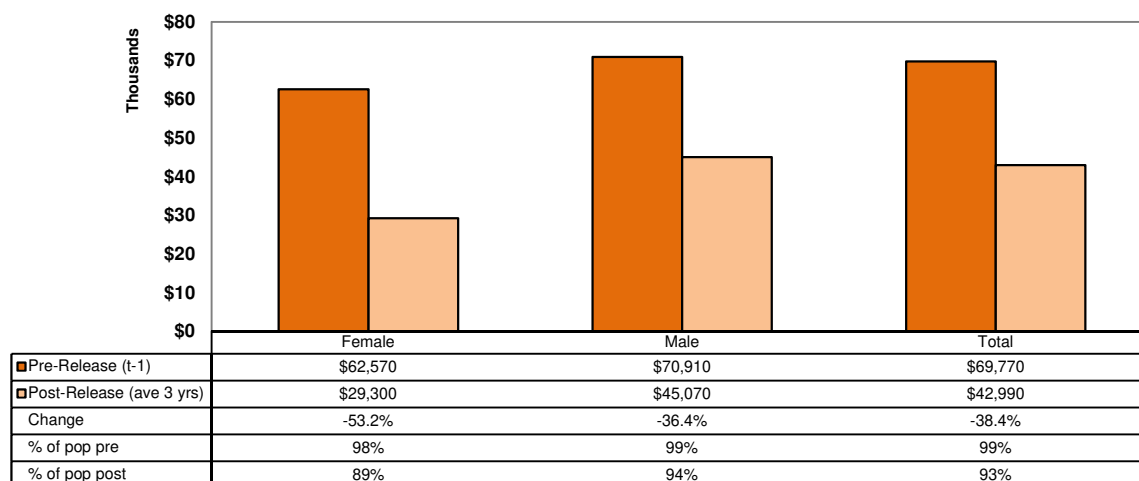
Figure 22: Total Income by Sex

	Female	Male	Total
■Pre-Release Yr	$64,490	$71,710	$70,720
□Post-Release (ave 3 yrs)	$52,540	$71,600	$68,990
Change	-18.5%	-0.2%	-2.4%

Note: Total income is the before tax income of the Veteran expressed in 2017 constant dollars.

Female Veterans had lower labour-market earnings than males both pre- and post-release. On average, the pre-release labour-market earning of females was $62,570 compared to $70,910 for males. Post release, the labour-market earnings of females declined by 53% compared to a 36% decrease for males (Figure 23).
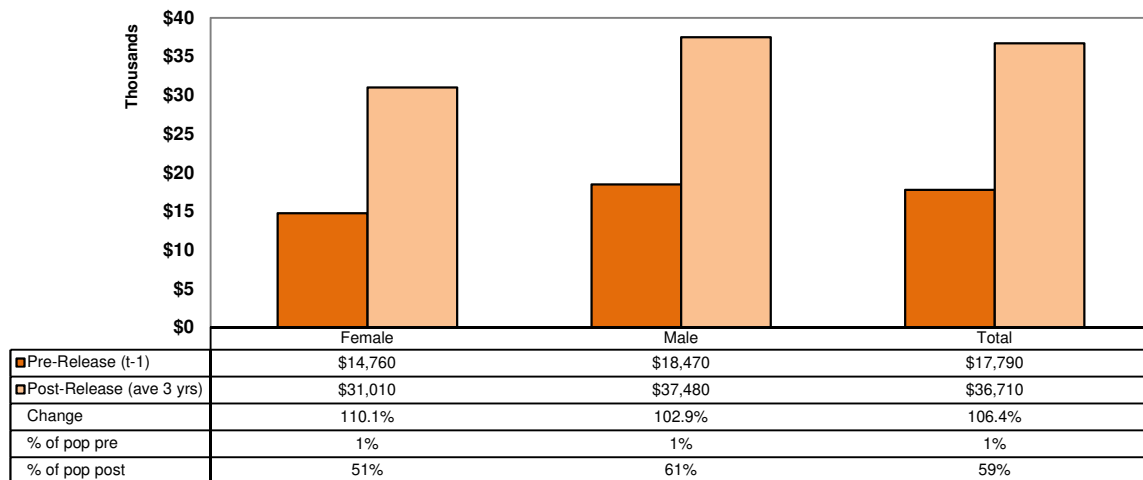
Figure 23: Average* Labour Market Earnings by Sex

	Female	Male	Total
■Pre-Release (t-1)	$62,570	$70,910	$69,770
□Post-Release (ave 3 yrs)	$29,300	$45,070	$42,990
Change	-53.2%	-36.4%	-38.4%
% of pop pre	98%	99%	99%
% of pop post	89%	94%	93%

* Among those with earnings

Pre-release pension income was $14,760 for females and $18,470 for males. Post-release pension income increased to $31,010 for females and to $37,480 for males. Overall, the average post-release pension income was $36,710 (Figure 24).

Figure 24: Average* Pension Income by Sex

	Female	Male	Total
■Pre-Release (t-1)	$14,760	$18,470	$17,790
■Post-Release (ave 3 yrs)	$31,010	$37,480	$36,710
Change	110.1%	102.9%	106.4%
% of pop pre	1%	1%	1%
% of pop post	51%	61%	59%

* Among those with a pension

Female Veterans had higher rates of low income at least one year post-release than male Veterans, 21% compared to 17% (Figure 25).

Figure 25: Low Income by Sex

	Female	Male
□Below LIM	21%	17%
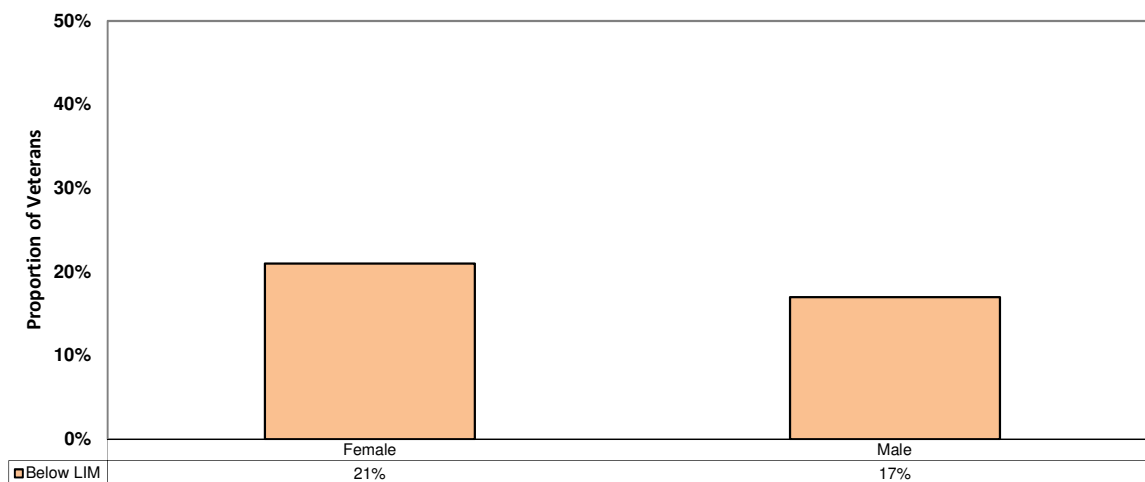
Note: Low income measure is before tax.

The largest employer of both female and male Veterans was the public administration (federal, provincial, municipal and regional), accounting for almost 40% of female Veterans and one-third of male Veterans (Figure 26). For females, this was followed by administrative services (7%), health care and retail trade (both at 6%). For males, after public administration, the most common industries were administrative service and manufacturing (both at 8%). Females were much more likely to work in health care while males were more likely to work in manufacturing and construction.

Figure 26: Main Industry in Year After Release by Sex
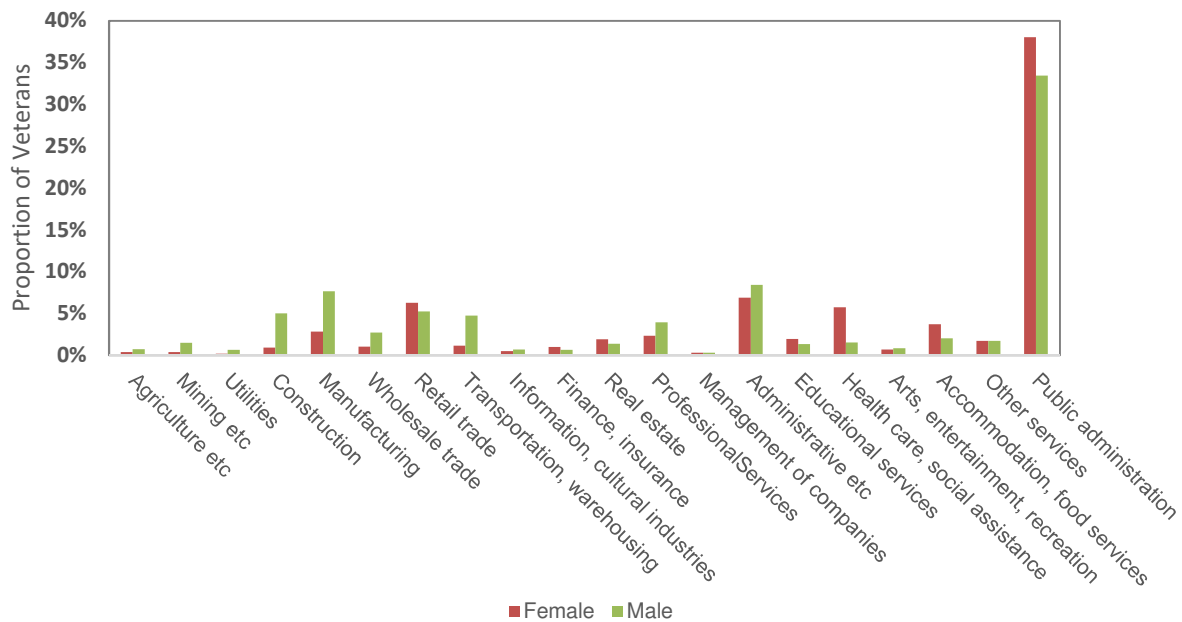
Female Veterans earned 90% of what their male counterparts earned (Figure 27). Female Veterans had similar earnings to their male counterparts in the mining industry but earned slightly more in agriculture and less in all other industries. The largest difference was in management of companies where females earned about half of what males earned. For both females and males, earnings were highest for those who were working in public administration. The next highest earnings for females were in real estate followed by educational services. The next highest earnings for males were in professional services, followed by health care and educational services. Earnings for both females and males were lowest in accommodations/food services, with earnings of less than $40,000 per year.

Figure 27: Average* Labour-Market Earnings by Main Industry in the Year After Release
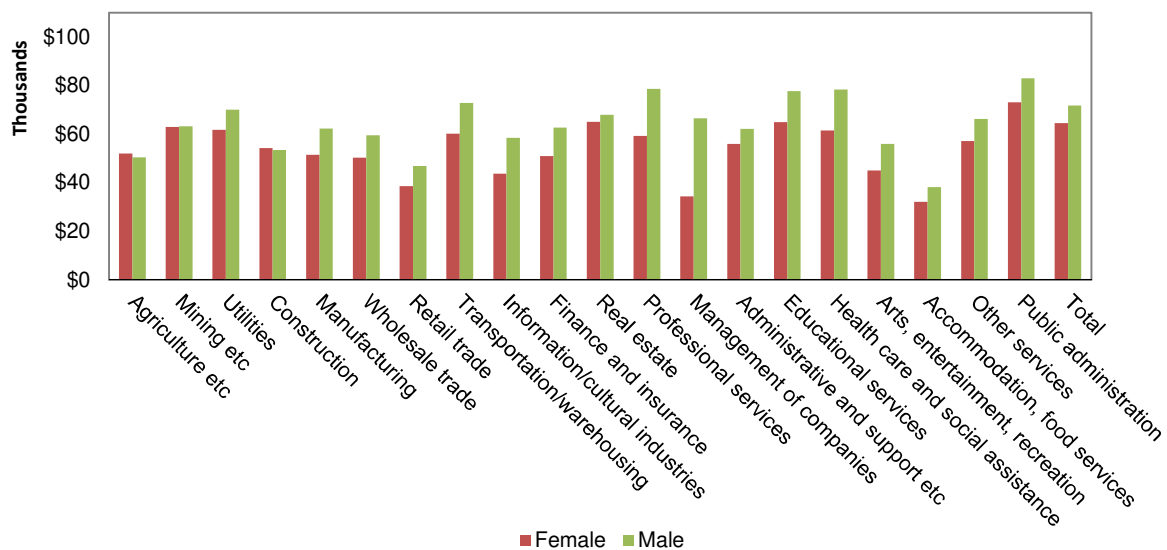
* Among those with Labour-Market Earnings

3.9 VAC Clients in Rehabilitation Program

There were 4,325 clients who completed the Rehabilitation program and their records were linked to the tax data. Veterans who completed rehabilitation recovered almost all of their pre-release income in the first few years after completing the program and eventually their total income exceeded their pre-release income. However, labour-market earnings replacement rates were much lower at 60% of pre-release earnings the first year after completing the program but eventually rose to 92% by the 10th year after program completion (Table 7). Rates of experiencing low income were similar pre-program, during the program and after program completion at between 3 and 5%. Prior to release, however, few (less than 1%) experienced low income. The highest percent below LIM was during program at 8% with the lowest LME percent of total income at 39%.

Table 7: Completed Rehabilitation, Income Pre- & Post-Rehabilitation

	Total income*		Labour-Market Earnings**			Low Income (% below LIM)
	$	Pre-Release Replacement Rate	$	Pre-Release Replacement Rate	% of Total Income	
Pre-release	$74,380	-	$73,450	-	99%	0.8%
Pre-Program	$69,660	94%	$55,780	76%	80%	3.3%
During Program	$69,780	94%	$27,320	37%	39%	7.9%
1 Yr After Program	$73,880	99%	$44,220	60%	60%	3.0%
2 Yrs	$73,010	98%	$47,030	64%	64%	2.9%
3 Yrs	$73,920	99%	$48,760	66%	66%	2.8%
4 Yrs	$73,770	99%	$51,360	70%	70%	2.3%
5 Yrs	$74,670	100%	$53,280	73%	71%	1.5%
6 Yrs	$73,330	99%	$53,900	73%	74%	1.6%
7 Yrs	$76,510	103%	$59,080	80%	77%	2.8%
8 Yrs	$77,320	104%	$58,780	80%	76%	n.a.
9 Yrs	$82,460	111%	$61,950	84%	75%	5.0%
10 Yrs	$83,250	112%	$67,810	92%	81%	

n.a. fewer than 5 cases and considered unreliable.
* Includes earnings, pensions, other employment income and government transfers. VAC disability benefits (disability pensions and award) are not included as they are not reported on tax files used in the Income Study.
**Labour-market earnings were calculated as "earnings" less "other employment income."

A subset of those who participated in the Rehabilitation had completed vocational rehabilitation (1,310 or 30%). Veterans who completed vocational rehabilitation recovered around 90% of their pre-release income in the first few years after the program but this declined to around 80% in later years. However, labour-market earnings replacement rates were lower at about 60% in the first few years after completing the program (Table 8). Former vocational rehabilitation clients relied heavily on labour-market earnings, which accounted for roughly 70% of total income after program completion. Rates of experiencing low income were similar pre-program, during the program and after program completion at between 4 and 6%. However, rates were lower pre-release and during the program at around 1%. The highest percent below LIM was during program at 10% with the lowest LME percent of total income at 34%.

Table 8: Completed Vocational Rehabilitation, Income Pre- & Post-Rehabilitation

|	Total income*		Labour-Market Earnings**			Low Income (% below LIM)
	$	Pre-Release Replacement Rate	$	Pre-Release Replacement Rate	% of Total Income	
Pre-release	$69,910		$69,130		99%	1.5%
Pre-Program	$64,190	92%	$49,630	72%	77%	3.9%
During Program	$62,190	89%	$23,370	34%	38%	10.4%
1 Yr Post-Program	$61,980	89%	$41,090	59%	66%	6.5%
2 Yrs	$63,770	91%	$43,260	63%	68%	5.1%
3 Yrs	$65,000	93%	$44,760	65%	69%	5.6%
4 Yrs	$64,620	92%	$46,910	68%	73%	6.4%
5 Yrs	$59,850	86%	$42,490	61%	71%	4.2%
6 Yrs	$63,950	91%	$43,270	63%	68%	n.a.
7 Yrs	$59,230	85%	$48,930	71%	83%	n.a.
8 Yrs	$56,260	80%	n.a.	n.a.	n.a.	n.a.

n.a. fewer than 5 cases and considered unreliable.
* Includes earnings, pensions, other employment income and government transfers. VAC disability benefits (disability pensions and award) are not included as they are not reported on tax files used in the Income Study.
**Labour-market earnings were calculated as "earnings" less "other employment income."

3.10 VAC Clients and Disability Rating and Age

Among Veterans released from 1998 to 2017, 42% were in receipt of disability benefits from VAC. Of those with disability benefits, 5% had disability ratings of less than 5%, 35% were rated at 5 to 17%, 14% at 18 to 27%, 16% at 28 to 47% and 29% were assessed at 48% or greater. Among Veterans aged less than 25, those without disability benefits replaced 181% of their total income, while those with disability benefits replaced 109% to 143% (Figure 28). Replacement rates among those aged 50 or older at release were similar for those with and without benefits.

Figure 28: Total Income Replacement Rate in Sixth Year Post-Release
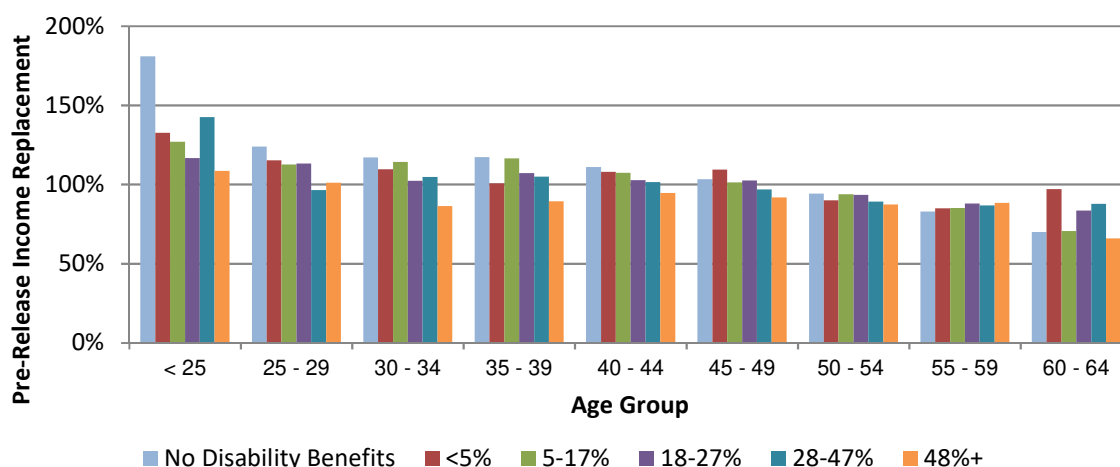

Economic losses were experienced by younger Veterans in receipt of disability benefits but not older Veterans. The labour-market earnings replacement rates among Veterans aged less than 25 without disability benefits was 180% while Veterans with disability benefits replaced 96% to 138% (Figure 29). The labour-market replacement rates among Veterans aged 50 or older were similar (ranging between 40-55%) among those with disability benefits and those without, suggesting no economic losses.

**Figure 29:** Labour-Market Earnings Replacement Rate in Sixth Year Post-Release
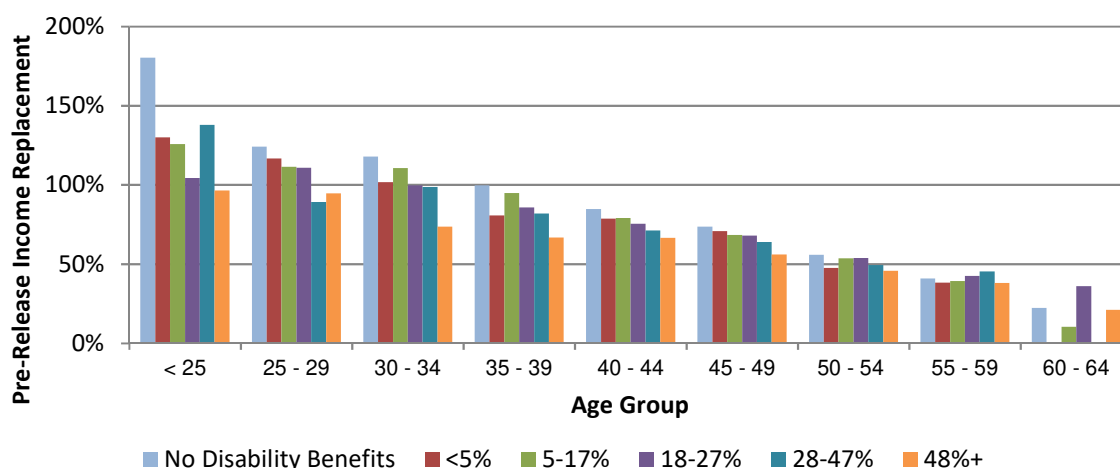
Regardless of disability assessment, older Veterans were more likely than younger Veterans to have low earnings recovery. Veterans with disability benefits were more likely to have low earnings recovery compared to those not in receipt of benefits. However, the difference was more pronounced among younger Veterans (Figure 30). For example, among Veterans less than age 25, over one quarter of those with a high disability assessment (48% or greater) had low earnings recovery compared to 8% of those with no disability benefits. However, many without disability or with low disability assessments had poor earnings recovery.

Figure 30: Proportion of Veterans Replacing Less than 50% of Pre-release Labour-Market Earnings in Sixth Year Post-Release
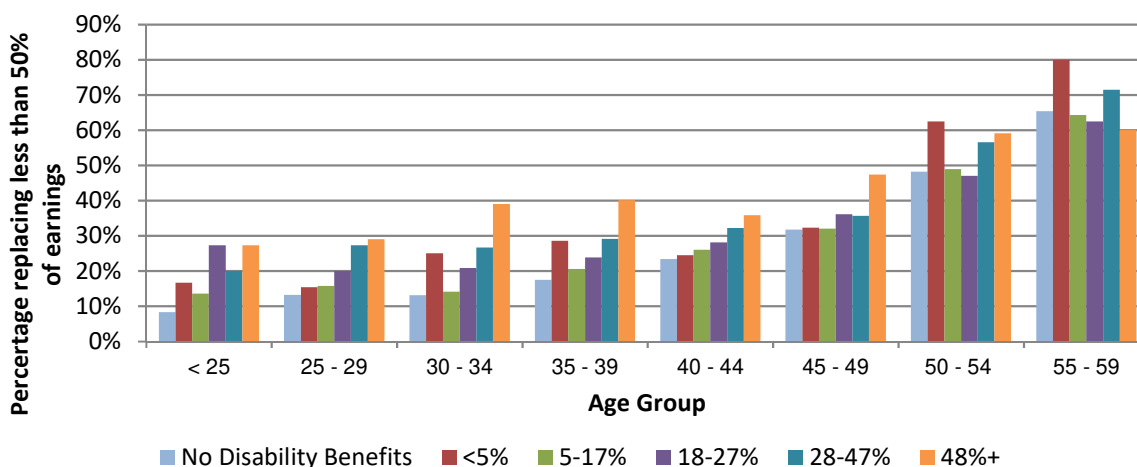
Regardless of disability assessment, younger Veterans were more likely than older Veterans to have high earnings recovery. Veterans with disability benefits were less likely to have high earnings recovery compared to those not in receipt of benefits. However, the difference was more pronounced among younger Veterans (Figure 31). Among those aged 50 to 54, the proportion who recovered more than 100% of their pre-release earnings with no disability benefits was double that of those at the highest disability level. However, many with high disability assessments had high earnings recovery.

Figure 31: Proportion of Veterans Replacing More than 100% of Pre-release Labour-Market Earnings in Sixth Year Post-Release
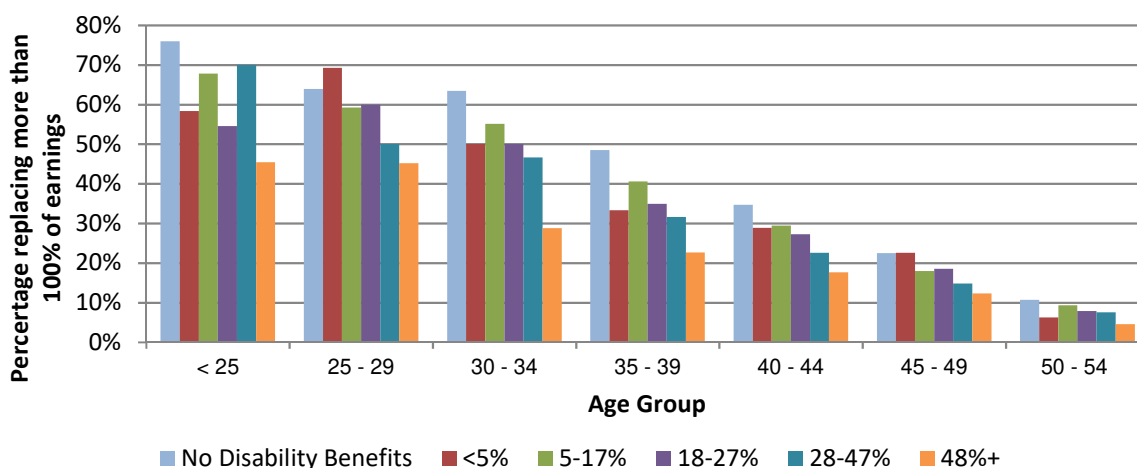
References

MacLean MB and Pound T (2014). Compensating for Permanent Losses: Totally and Permanently Incapacitated. Research Directorate, Veterans Affairs Canada, Charlottetown. 5 April 2014: p. 28.
http://publications.gc.ca/collections/collection_2016/acc-vac/V32-265-2016-eng.pdf

MacLean MB, Van Til L, and Poirier A (2016a). Income Recovery after Participation in the Rehabilitation Program. Research Directorate, Veterans Affairs Canada, Charlottetown. 29 March 2016: p.7.
http://publications.gc.ca/collections/collection_2016/acc-vac/V32-263-2016-eng.pdf

MacLean MB, Van Til L and Poirier A (2016b). Economic Loss: Is it related to age or disability rating? Life After Service Studies Secondary Analysis, Research Directorate Data Report, Veterans Affairs Canada, Charlottetown. 29 March 2016: p.18.
http://publications.gc.ca/collections/collection_2016/acc-vac/V32-264-2016-eng.pdf

Public Health Agency of Canada (2011), What Determines Health?, Oct. 11, 2011.
https://www.canada.ca/en/public-health/services/health-promotion/population-health/what-determines-health.html

Appendix A: Record Linkage

This study required the links to be done longitudinally, from pre-release to post-release years. The first step to construct the longitudinal file was to build the target population of Veterans for the study. The target population is made up of all records from the linked DND-VAC-T1FF for the year of their release. Then the longitudinal file is created by adding one-by-one the T1FF files containing the income information for the pre-release year, and all available post-release years.

The DND-VAC file contained 90,583 records of Veterans released from the Regular Force from 1998 to 2017 (Table 1). At Statistics Canada, out-of-scope records were removed due to death during the length of the panel being observed. The overall linkage rate to the year of release was 91.6%.

Table 1: Total Linkage Rates DND-VAC and the T1FF Files

	Number of Veterans		Linkage rate
	DND-VAC File	**DND-VAC-T1FF File (Linked to Release Year t0)**	
Regular Force	90,583	82,967	91.6%

Linkage rates were consistent for the study period from 1998 to 2017 (Table 2).

Table 2: Linkage rates by year of release (panel)

Panel	Regular Force
1998	91.8%
1999	92.7%
2000	91.8%
2001	94.6%
2002	92.0%
2003	91.2%
2004	92.0%
2005	92.7%
2006	92.7%
2007	92.0%
2008	91.7%
2009	91.2%
2010	90.0%
2011	91.1%
2012	91.3%
2013	89.9%
2014	91.0%
2015	89.9%
2016	92.0%
2017	91.6%

The analysis comparing pre-release and post-release income used a cohort of Veterans who were linked to tax files in the pre-release year and in all of the first three years post-release. The cohort included 59,915 Regular Force Veterans.. Table 3 shows the Regular Force Veteran cohort for the pre-release (t-1) year, the release year (t0) and up to 19 years post-release. Receipt of EI, SA/GIS or low income at least one year or every year post-release was also calculated. This population included those who linked to tax files in the release year and had at least three years of post-release income.

Table 3: Regular Force Veteran Population Linked to Income Tax Data

Time Period	Total Population	Clients	Non Clients
Total Population	59,915	25,060	34,850
Pre-release Year (t-1)	59,690	25,015	34,675
Release Year (t0)	59,745	25,005	34,740
Year after Release (t1)	59,580	24,915	34,670
2 years post-release (t2)	59,550	24,910	34,640
3 years post-release (t3)	59,580	24,935	34,645
4 years post-release (t4)	54,215	22,405	31,810
5 years post-release (t5)	50,200	20,565	29,640
6 years post-release (t6)	46,460	18,805	27,655
7 years post-release (t7)	43,065	17,365	25,700
8 years post-release (t8)	39,500	16,000	23,500
9 years post-release (t9)	35,320	14,265	21,055
10 years post-release (t10)	30,910	12,565	18,345
11 years post-release (t11)	26,590	10,860	15,730
12 years post-release (t12)	22,795	9,150	13,640
13 years post-release (t13)	19,650	7,695	11,950
14 years post-release (t14)	16,590	6,265	10,325
15 years post-release (t15)	13,870	5,000	8,865
16 years post-release (t16)	11,115	3,895	7,220
17 years post-release (t17)	8,420	2,840	5,575
18 years post-release (t18)	5,550	1,815	3,735
19 years post-release (t19)	2,760	900	1,860

Appendix B: Service Variable Definitions

Release types[4]:
- Voluntary
    - 4a   voluntary immediate annuity,
    - 4b   voluntary fixed service;
    - 4c   voluntary other causes;
    - 5a   *Retirement Age* (completed service)
    - 5c   *Service Complete*
- Medical
    - 3a   medical
    - 3b   medical military occupation
- Involuntary
    - 1a   sentenced to dismissal
    - 1b   service misconduct
    - 1c   illegally absent
    - 1d   fraudulent statement on enrolment
    - 2a   unsatisfactory service
    - 2b   unsatisfactory performance
    - 5b   service complete - reduction in strength
    - 5d   not advantageously employed
    - 5e   irregular enrolment
    - 5f   unsuitable for further service

Ranks[5]:
- Officers
    Navy: Sub-Lieutenant to Admiral
    Army/Air Force: Lieutenant to General

- Senior Non-Commissioned Member (NCM)
    Navy: Petty Officer 2nd Class to Chief Petty Officer 1st Class
    Army/Air Force: Sergeant to Chief Warrant Officer

- Junior Non-Commissioned Member (NCM)
    Navy: Ordinary Seaman to Master Seaman
    Army/Air Force: Private-Recruit (trained or basic) to Master Corporal

- Entry
    Navy: Ordinary Seaman-Recruit, Navy Cadet or Acting Sub-Lieutenant
    Army/Air Force: Private-Recruit, Officer Cadet or Second-Lieutenant

---

[4] Definitions available at: www.admfincs.forces.gc.ca/qro-orf/vol-01/doc/chapter-chapitre-015.pdf

[5] Source: www.forces.gc.ca/en/honours-history-badges-insignia/rank.page

Appendix C: Income Data Definitions

1. Total income is the sum of all sources of taxable income **before tax**, filed with the Canada Revenue Agency, as described on this page.

2. Earnings
- Earnings from T4 slips
- Other employment income of gratuities, training, wage loss replacement (e.g. VAC's Earnings Loss and Diminished Earning Capacity), employee benefit plans (e.g. SISIP Long-term Disability Insurance for medically released Veterans)
- Net self- employment income (business, professional, commissions, farming, fishing)
- Indian exempt income/self-employment income

Labour-Market Earnings from both T4 + net self-employment, excludes "Other employment income".

3. Pensions
- Pension and superannuation income*
- Foreign pensions converted into Canadian funds
- Excludes RRSP income of individuals aged 65 and over (RRSPO)
- Excludes Old Age Security, Canada/Quebec Pension Plan (**Government transfers**)
- **Nontaxable and not on tax file** War Veterans' Allowance, Veterans' and dependents' Disability Pension/Disability Award

4. Government transfers
- Old Age Security pension
- Canada/Quebec Pension Plan
- Employment insurance
- **Nontaxable but included on tax file** Net federal supplements, Tax Credits, Social assistance, Workers' compensation benefits, Federal Child Benefits, Family benefits, Working income tax benefits, Children's fitness tax credit, Eligible educator school supply tax credit

5. Investment
- Dividends and Interest, and other investment income (not capital gains)
- Limited partnership income
- Net rental income

6. Other income (or other private income)
- Registered retirement saving plans (RRSP income) for tax filers aged 65 years and over
- Alimony or separation allowances
- Gratuities, director fees, foreign employment
- Registered education savings plan, scholarships, research grants, artist grants, project grants, amateur athlete trust
- Retiring allowances
- Death benefits from employment service
- Registered disability saving plan income
- Training allowances
- Annuity payments (eg. Guaranteed Annual Income Plan)

Appendix D: North American Industry Classification System (NAICS)

Code	Sector
11	Agriculture, forestry, fishing and hunting
21	Mining, quarrying, and oil and gas extraction
22	Utilities
23	Construction
31-33	Manufacturing
41	Wholesale trade
44	Retail trade
48-49	Transportation and warehousing
51	Information and cultural industries
52	Finance and insurance
53	Real estate and rental and leasing
54	Professional, scientific and technical services
55	Management of companies and enterprises
56	Administrative and support, waste management and remediation services
61	Educational services
62	Health care and social assistance
71	Arts, entertainment and recreation
72	Accommodation and food services
81	Other services (except public administration)
91	Public administration

Appendix E: Low-Income Measure (LIM)

LIM is a relative measure of low income comparing the income of families to a threshold set by the distribution of the same size. LIM thresholds are half the median adjusted family income and are adjusted for a particular family size (including family size of 1) and composition. In 2017, the before-tax LIM for a family of four was $48,078 (Table 1). This means that a family of four whose before-tax income was less than $48,078 would be considered low income.

Table 1: Low Income Measure Before tax (CFLIM-BT) by family size, 2017

Census family size	Before-tax income
1 person	24,039
2 persons	33,996
3 persons	41,637
4 persons	48,078
5 persons	53,753
6 persons	58,883
7 persons	63,601

Source: Statistics Canada, Income Statistics Division, Special Tabulation of T1 Family File data (T1FF).