



# **Suicide in the Canadian Forces 1995 to 2012**

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### Abstract

**Introduction:** The Directorate of Force Health Protection (DFHP) regularly conducts analyses to examine suicide rates and the relationship between suicide and deployment. This report is an update covering the period from 1995 to 2012.

**Methods:** This report describes crude suicide rates from 1995 to 2012, comparisons between the Canadian population and the CF using standardized mortality ratios (SMRs), and suicide rates by deployment history using SMRs and direct standardization.

**Results:** Between 1995 and 2012, there were no statistically significant increases in suicide rates. The number of Regular Force male suicides was generally lower than that expected based on Canadian male suicide rates. SMRs comparing CF suicide rates by deployment history to Canadian suicide rates demonstrated that the number of Regular Force male suicides was consistently less than that expected based on Canadian male suicide rates. Rate ratios indicated that those with a history of deployment were not at an increased risk of suicide compared to those who have never been deployed.

**Conclusions:** Suicide rates in the CF did not increase over time, and after age standardization, they were lower than those in the Canadian population. History of deployment was not a risk factor for suicide in the CF. Small numbers may have limited the ability to detect statistical significance.

*suicide; Canadian Forces; rates; age-adjusted rate; standardized mortality ratio; rate ratio; deployment; Canadian population*





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## Suicide in the Canadian Forces 1995 to 2012

### Introduction

There has been concern expressed since the early 1990s about the apparent rate of suicide in the CF and its possible relationship to deployment. As a result, the Surgeon General has been asked to determine the rate of suicide among CF personnel overall in comparison to the Canadian population as well as the rate of suicide in those personnel with a history of deployment compared to those without such a history. Although DND keeps a current record of CF suicides, comparisons with the general Canadian population are dependent on the releases of Canadian mortality rates by Statistics Canada approximately 4 years after the end of their data collection. Currently CF suicide data are available until 2012; however, the most recent Canadian data available are 2009.

This is not the first report on suicide in the CF. A study by Sakinofsky and colleagues in 1996 investigated the suicides of CF personnel between January 1990 and June 1995. This study found the male CF suicide rate to be 12.2/100,000 over the 5.5 years covered by the study compared to the Canadian rate for 20 to 54 year old males of 26.8/100,000. The assumption must have been made that Canadian suicide rates did not change after 1992 as the authors only had 1990 to 1992 Canadian data at the time of the study. The Sakinofsky study also found that deployment was not a risk factor for suicide.

The Directorate of Force Health Protection has updated these findings and provides, on a regular basis, epidemiological reports that include CF suicide rates over time, comparisons to the general population, and suicide analyses according to deployment history. This report only includes Regular Force suicides as Reserve Force records are incomplete for both suicides and those at risk. There is a high turnover for Class A Reservists and suicides among this group are generally reported and investigated outside the military system unless they are specifically brought to the attention of DND. The number at risk is also uncertain due to the high turnover such that the definition of an active reservist is unclear. Since data on suicide attempts are often incomplete, in keeping with other occupational health studies, this report only includes completed suicides. The data used for this analysis includes only those who have died of suicide while active in the Forces and does not include those who have died of suicide after leaving the military.

### Methods

1. Crude CF male suicide rates were calculated from 1995 to 2012 inclusive. Canadian rates for suicide in females are typically 1/3 to 1/5 of those for males. In conjunction with the low proportion of females in the CF, it is not unusual to have very few female suicides in the CF over this short period of time. Due to the very low number of female suicides and instability of this data statistically, comparisons to the Canadian suicide rates were made with male rates alone. Suicide rates prior to 1995 have not been calculated as the method of ascertainment of suicides has changed over the years.

2. To compare CF male rates with general Canadian male population rates, standardization by age using the indirect method was used to provide standardized mortality ratios (SMRs) for suicide up to 2009. This method controls for the age difference between the CF male and general Canadian male populations. An SMR is the observed number of cases divided by the number of cases that would be expected in the population at risk



based on the age and sex-specific rates of a standard population (the Canadian population in this case) multiplied by 100. Therefore, an SMR less than 100% indicates that the population in question has a lower rate than the Canadian population, while an SMR greater than 100% indicates a higher rate.

3. The calculation of confidence intervals for population-based data is controversial but is provided here for those who may want to generalize the results to other years. Confidence intervals (CIs) were calculated for CF male suicide rates and SMRs directly using Poisson distribution 95% confidence limits using the exact method described by Breslow and Day<sup>1</sup>. In any case, CIs are valuable in illustrating the variability that is possible when dealing with such small numbers of cases.

4. SMRs were calculated separately for those with and without a history of deployment. However, SMRs cannot be compared directly to each other as they are standardized to different population distributions.

5. To compare suicide risk among those with a history of deployment directly to those without, direct standardization was done using the total male population of the CF as the standard. Age-adjusted suicide rates for those with and without a history of deployment were compared using rate ratios. However, since age and sex-specific rates for this population are extremely unstable, caution should be used when comparing directly standardized rates. Confidence intervals were calculated using the method described in the text by Rothman and Greenland<sup>2</sup>.

6. Information on the number of suicides and demographic information was obtained from the Directorate of Casualty Support Management (DCSM) up to 2011. As of 2012, the number of suicides were provided by the Administrative Investigation Support Centre (AISC). Note that suicide death investigations often take several months, as a result the investigations into suicides in the previous year are not complete at the time of the initial release of this report. As a result, the number of suicides can change, for this report the number of suicide deaths for 2011 has been increased by 2 from the previous report. Information on deployment history and CF population data (by age, sex and deployment history) originated from the Directorate of Human Resources Information Management (DHRIM). History of deployment was based on department IDs and deployment units from DHRIM. It should be noted that the number of personnel with a history of deployment occasionally changes from previous reports due to updating of DHRIM records; some deployment inaccuracies may persist.

7. Canadian suicide counts by age and sex were obtained from Statistics Canada. Data were available up to 2009 at the time of preparation of this report. Canadian suicide rates are derived from death certificate data. Codes utilized for this report were ICD-9 E950-E959 (suicide and self-inflicted injury) in the Shelf Tables produced by Statistics Canada from 1995 to 1999. For 2000 to 2008 the number of suicide deaths was based on ICD-10 codes X60-84 and Y87.0 utilizing CANSIM Table 102-0540 from Statistics Canada, for 2009 suicide deaths CANSIM Table 102-0551 was the source. Open verdict cases (ICD-9: E980-E989; ICD-10: Y30-Y34) are excluded by Statistics Canada, although they are routinely included in suicide statistics reported elsewhere (e.g. UK – both in civilian and military contexts). All Canadian population denominators were taken from Statistics Canada CANSIM Table 051-0001. Denominators up to and including 2005 were final intercensal estimates and 2006 to 2009 were final postcensal estimates. There is some evidence that death

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<sup>1</sup> Breslow NE, Day NE. *Statistical Methods in Cancer Research: Volume II-The Design and Analysis of Cohort Studies*. Lyon: International Agency for Research on Cancer, 1987.

<sup>2</sup> Rothman KJ, Greenland S. *Modern Epidemiology* 2<sup>nd</sup> Edition, Lippincott, Williams, & Wilkins, Philadelphia, 1998, p.260-4.



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certificate data underestimate suicide rates although the true rate is probably no more than 1.25 times the official rate (CDC National Center for Injury Prevention and Control estimate).

### Results

#### A. Crude CF Suicide Rates (1995 – 2012)

Table 1 shows the CF rate for suicide per 100,000 for males. As the number of events was less than 20 in most years, rates were not calculated annually as these would not have been statistically reliable. Therefore five-year rates have been calculated for 1995 to 1999, 2000 to 2004, and 2005 to 2009, and a three-year rate for 2010 to 2012. Female rates were not calculated as female suicides were uncommon; there were no suicides in females from 1995 to 2002, 2 in 2003, no suicides in females in 2004 and 2005, one per year from 2006 to 2008, 2 in 2009, none in 2010, 1 in 2011, and 3 in 2012.

Table 1: Male CF Multiyear Suicide Rates (1995-2012)

Year	Number of Male CF Personnel	Number Male CF Suicides	CF Male Suicide Rate per 10 <sup>5</sup> (95% CI)
1995	62 255	12	
1996	57 323	8	
1997	54 982	13	
1998	54 284	13	
1999	52 689	10	
<b>1995-99</b>	<b>281 533 PYs</b>	<b>56</b>	<b>20 (15-26)</b>
2000	51 537	12	
2001	51 029	10	
2002	52 747	9	
2003	54 137	9	
2004	53 873	10	
<b>2000-04</b>	<b>263 323 PYs</b>	<b>50</b>	<b>19 (14-25)</b>
2005	53 648	10	
2006	54 301	7	
2007	55 140	9	
2008	55 704	13	
2009	56 813	11	
<b>2005-09</b>	<b>275 606 PYs</b>	<b>50</b>	<b>18 (13-24)</b>
2010	58 723	12	
2011	58 622	21	
2012	58 135	10	
<b>2010-12</b>	<b>175 480 PYs</b>	<b>43</b>	<b>25 (18-33)</b>

As can be seen in Table 1, CF suicide rates have not appreciably changed over the years. While the rate for the 2010 to 2012 time period appears higher than the other five-year rates, the 95% confidence interval overlaps



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with the confidence intervals for the other five-year rates, indicating that it is not a statistically significant increase. Furthermore, due to the smaller number of cases used to calculate the 2010 to 2012 rate, the 95% confidence intervals are very wide, meaning that the estimate is unstable. Note that PYs refers to person-years.

### B. Comparison of CF Suicide Rates to Canadian Rates using Standardized Mortality Ratios (1995 – 2009)

As the CF rates are somewhat statistically unstable due to low numbers, the best approach is to compare suicide mortality by estimating the number of cases expected assuming Canadian rates applied to the military population. This method, known as indirect standardization, is used commonly in occupational studies. By dividing the number of observed cases by those expected (using Canadian rates), the standardized mortality ratio (SMR) can be calculated. This does limit calculations to include only those up to 2009 as Statistics Canada has only released suicide rates up to that year at present. Five-year and ten-year comparisons were calculated where possible as ten-year rates have narrower confidence intervals. The 2005 to 2009 interval was left as a five-year comparison as this will cover the intense combat years in Afghanistan starting in 2006. (Table 2).

**Table 2: Comparison of CF Male Suicide Rates to Canadian Male Rates using Standardized Mortality Ratios (SMRs): 1995-2009**

Year	Age	Number of Male CF Personnel (PYs)	Canadian Male Suicide Rate	Expected # of Male CF Suicides	Observed # of Male CF Suicides	SMR for Suicide (95% Confidence Intervals)
<b>1995-1999 (5 Yr)</b>	15-19	4 056	19.36	0.79	2	
	20-24	26 521	26.81	7.11	7	
	25-29	52 268	25.29	13.22	14	
	30-34	72 904	27.61	20.13	17	
	35-39	64 964	29.40	19.10	10	
	40-44	33 881	29.44	9.97	3	
	45-49	18 769	28.12	5.28	3	
	50-54	7 766	26.84	2.08	0	
	55-59	404	23.92	0.10	0	
	<b>Total</b>			<b>77.77</b>	<b>56</b>	<b>72% (55-94)</b>
<b>2000-2004 (5 Yr)</b>	15-19	5 875	14.88	0.87	1	
	20-24	28 433	21.72	6.18	6	
	25-29	36 274	20.57	7.46	9	
	30-34	48 996	22.49	11.02	8	
	35-39	65 618	25.35	16.63	10	
	40-44	47 569	26.09	12.41	10	
	45-49	20 602	26.77	5.51	5	
	50-54	9 256	26.21	2.43	1	
	55-59	700	23.06	0.16	0	
		<b>Total</b>			<b>62.67</b>	<b>50</b>



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Year	Age	Number of Male CF Personnel (PYs)	Canadian Male Suicide Rate	Expected # of Male CF Suicides	Observed # of Male CF Suicides	SMR for Suicide (95% Confidence Intervals)
<b>1995-2004 (10 Yr)</b>	15-19	9 931	17.07	1.70	3	
	20-24	54 954	24.18	13.29	13	
	25-29	88 542	22.95	20.32	23	
	30-34	121 900	25.19	30.70	25	
	35-39	130 582	27.40	35.78	20	
	40-44	81 450	27.68	22.54	13	
	45-49	39 371	27.40	10.79	8	
	50-54	17 022	26.49	4.51	1	
	55-59	1 104	23.44	0.26	0	
	<b>Total</b>				<b>139.88</b>	<b>106</b>
<b>2005-2009 (5 Yr)</b>	15-19	7 412	11.81	0.88	0	
	20-24	39 045	18.64	7.28	10	
	25-29	45 551	17.52	7.98	7	
	30-34	41 004	18.51	7.59	5	
	35-39	47 669	22.22	10.59	11	
	40-44	50 000	25.43	12.72	13	
	45-49	31 281	26.61	8.32	3	
	50-54	11 897	25.37	3.02	1	
	55-59	1 747	23.31	0.41	0	
	<b>Total</b>				<b>58.78</b>	<b>50</b>

For the ten-year period from 1995 to 2004, the SMR was 76% indicating that the number of CF male suicides was 24% lower than that expected based on Canadian male rates taking the different age distributions into account. This finding was statistically significant as the upper confidence limit was less than 100%. The 2005 to 2009 data indicate that the CF male population had a 15% lower suicide rate than the Canadian population after adjusting for the age differences between the populations. This SMR is not statistically significant as it includes 100%.



**C. Comparison of CF Suicide Rates by Deployment History to Canadian Rates using Standardized Mortality Ratios (1995 – 2009)**

Concern has been expressed that CF members with a history of ever being deployed may be more likely to die of suicide. The SMRs according to a history of deployment are shown in Table 3.

**Table 3: Standardized Mortality Ratios for Suicide in the CF Male Population By History of Deployment: 1995-2009**

Year	Age	Male CF Suicides With Hx of Deployment			Male CF Suicides Without Hx of Deployment		
		Expected	Observed	SMR (95% CI)	Expected	Observed	SMR (95% CI)
<b>1995-1999 (5 Yr)</b>	15-19	0.01	0		0.78	2	
	20-24	1.33	2		5.78	5	
	25-29	4.90	3		8.31	11	
	30-34	8.07	10		12.06	7	
	35-39	7.84	4		11.26	6	
	40-44	4.21	1		5.76	2	
	45-49	2.13	0		3.15	3	
	50-54	0.73	0		1.35	0	
	55-59	0.01	0		0.08	0	
<b>Total</b>	<b>29.24</b>	<b>20</b>	<b>68% (42-105)</b>	<b>48.53</b>	<b>36</b>	<b>74% (52-103)</b>	
<b>2000-2004 (5 Yr)</b>	15-19	0.01	0		0.86	1	
	20-24	1.33	1		4.84	5	
	25-29	3.56	3		3.90	6	
	30-34	6.45	6		4.56	2	
	35-39	9.42	6		7.21	4	
	40-44	6.75	6		5.66	4	
	45-49	2.89	3		2.62	2	
	50-54	1.12	0		1.30	1	
	55-59	0.06	0		0.10	0	
<b>Total</b>	<b>31.60</b>	<b>25</b>	<b>79% (51-117)</b>	<b>31.07</b>	<b>25</b>	<b>80% (52-119)</b>	
<b>1995-2004 (10 Yr)</b>	15-19	0.02	0		1.67	3	
	20-24	2.69	3		10.60	10	
	25-29	8.42	6		11.90	17	
	30-34	14.59	16		16.11	9	
	35-39	17.49	10		18.29	10	
	40-44	11.12	7		11.42	6	
	45-49	5.03	3		5.75	5	
	50-54	1.86	0		2.65	1	
	55-59	0.08	0		0.18	0	
<b>Total</b>	<b>61.30</b>	<b>45</b>	<b>73% (54-98)</b>	<b>78.58</b>	<b>61</b>	<b>78% (60-101)</b>	



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Year	Age	Male CF Suicides With Hx of Deployment			Male CF Suicides Without Hx of Deployment						
		Expected	Observed	SMR (95% CI)	Expected	Observed	SMR (95% CI)				
2005-2009	15-19	0.01	0		0.87	0					
	20-24	1.28	4		6.00	6					
	25-29	3.36	3		4.61	4					
	30-34	4.62	2		2.97	3					
	35-39	7.38	6		3.21	5					
	40-44	8.56	11		4.15	2					
	45-49	5.22	3		3.11	0					
	50-54	1.74	0		1.28	1					
	55-59	0.20	0		0.21	0					
	<b>Total</b>							<b>90% (60-129)</b>			

The SMRs in each of the time periods indicate that the observed number of male suicides is consistently less than that expected using general Canadian male suicide rates. For example, in the period from 1995 to 2004, the number of suicides among male CF personnel with a history of deployment was 73% of that expected based on Canadian male suicide rates, meaning that male personnel who have ever deployed were 27% less likely to die of suicide compared to the Canadian population of males of the same age. This was also statistically significant as the confidence intervals were less than 100%. For males who did not deploy, the SMR was 78%, indicating that they are 22% less likely to die of suicide compared to the Canadian population of males of the same age; however this finding was not statistically significant. SMRs should not be compared to each other as they are based on different populations. From 2005 to 2009, males who had a history of deployment were 10% less likely to die from suicide than Canadian males of the same age; however, this result is not statistically significant. The SMR for CF males during this time period who do not have a history of deployment is also not statistically significant, indicating that the rate in the CF population is not statistically higher than the suicide rate in the Canadian population of males of the same age from 2005 to 2009.

### D. CF Suicide Rates by Deployment History using Direct Standardization (1995 – 2012)

Table 4 shows the results of the direct standardization. Suicide rate ratios less than 1.0 would suggest a decreased risk of suicide with a history of deployment; rate ratios greater than 1.0 would suggest an increased risk with a history of deployment.



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**Table 4: Comparison of CF Suicide Rates by Deployment History using Direct Standardization (1995-2012)**

Year	Age	Total Male CF Person- Years	CF Male Suicide Rate/10 <sup>5</sup>		Age Adjusted Suicide Rate/10 <sup>5</sup>		Suicide Rate Ratio(95% CI)
			Hx of Depl	No Hx of Depl	Hx of Depl	No Hx of Depl	
<b>1995- 1999 (5 Yr)</b>	15-19	4 056	0	49.83			
	20-24	26 521	40.23	23.20			
	25-29	52 268	15.47	33.47			
	30-34	72 904	34.23	16.02			
	35-39	64 964	15.00	15.67			
	40-44	33 881	6.98	10.22			
	45-49	18 769	0	26.78			
	50-54	7 766	0	0			
	55-59	404	0	0			
	<b>Total</b>	<b>281 533</b>	<b>19.05</b>	<b>20.39</b>	<b>19.83</b>	<b>19.90</b>	<b>1.00(0.57-1.75)</b>
<b>2000- 2004 (5 Yr)</b>	15-19	5875	0	17.26			
	20-24	28 433	16.29	22.43			
	25-29	36 274	17.34	31.62			
	30-34	48 996	20.91	9.85			
	35-39	65 618	16.14	14.06			
	40-44	47 569	23.19	18.43			
	45-49	20 602	27.77	20.41			
	50-54	9 256	0	20.10			
	55-59	700	0	0			
	<b>Total</b>	<b>263 323</b>	<b>19.14</b>	<b>18.84</b>	<b>18.42</b>	<b>18.13</b>	<b>1.02(0.57-1.80)</b>
<b>1995- 2004 (10 Yr)</b>	15-19	9 931	0	30.58			
	20-24	54 954	27.01	22.81			
	25-29	88 542	16.35	32.79			
	30-34	121 900	27.63	14.07			
	35-39	130 582	15.66	14.98			
	40-44	81 450	17.42	14.54			
	45-49	39 371	16.33	23.81			
	50-54	17 022	0	9.99			
	55-59	1 104	0	0			
	<b>Total</b>	<b>544 856</b>	<b>19.10</b>	<b>19.72</b>	<b>19.10</b>	<b>19.13</b>	<b>1.00(0.67-1.49)</b>



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Year	Age	Total Male CF Person- Years	CF Male Suicide Rate/10 <sup>5</sup>		Age Adjusted Suicide Rate/10 <sup>5</sup>		Suicide Rate Ratio(95% CI)
			Hx of Depl	No Hx of Depl	Hx of Depl	No Hx of Depl	
<b>2005- 2009 (5 Yr)</b>	15-19	7 412	0	0			
	20-24	39 045	58.21	18.65			
	25-29	45 551	15.62	15.18			
	30-34	41 004	8.01	18.71			
	35-39	47 669	18.07	34.58			
	40-44	50 000	32.68	12.24			
	45-49	31 281	15.30	0			
	50-54	11 897	0	19.88			
	55-59	1 747	0	0			
	<b>Total</b>	<b>275 606</b>	<b>19.96</b>	<b>16.12</b>	<b>22.81</b>	<b>16.99</b>	<b>1.34(0.71-2.52)</b>
<b>2010- 2012 (3 Yr)</b>	15-19	3 401	0	0			
	20-24	28 123	35.20	31.19			
	25-29	33 665	20.31	26.46			
	30-34	28 462	29.56	43.29			
	35-39	24 085	29.38	14.16			
	40-44	23 756	22.66	16.39			
	45-49	21 572	19.53	16.10			
	50-54	10 365	0	26.98			
	55-59	2 051	0	0			
	<b>Total</b>	<b>175 480</b>	<b>23.08</b>	<b>26.20</b>	<b>23.83</b>	<b>24.83</b>	<b>0.96(0.50-1.86)</b>

In the ten-year time period from 1995 to 2004, the standardized rate ratio suggests that having a history of deployment does not make one more or less likely to die from suicide compared to those who did not have a history of deployment. The suicide rate ratio of 1.00 indicates that the rate of suicide among those male CF personnel with a history of deployment is the same as that found among those without a history of deployment. Data from 2005 to 2009 show that there is an increased rate ratio in suicide deaths among those with a history of deployment compared to those without a history of deployment. However, as with the other time periods, the confidence interval for this finding contains 1.00 signifying that the result is not statistically significant. Although the figures for the three-year time period from 2010 to 2012 are shown for completeness, the confidence limits are very wide and the findings are not statistically significant as expected.

### Discussion

The finding that CF suicide rates are lower than the general Canadian population rates is not surprising as CF personnel are a screened employed population and would be expected to have lower rates of suicide as well as lower rates of other medical problems. Reporting of CF suicides is probably more complete than those of the



Canadian population as the latter derive suicide data from death certificate records which are known to under-report suicides. Reporting of CF suicides is a product of both death certificate data as well as records kept by military police. As a result, comparisons with Canadian rates in this document are conservative in that CF suicide rates would likely be lower if identification of suicides was restricted to death certificate data.

As shown in Table 1, suicide rates in the CF are stable. While there appears to be an increase in the crude suicide rate in 2010 to 2012, this was not a statistically significant increase from the rates for the other five-year time periods. During the three-year time period of 2010 to 2012, there would need to have been a total of 56 suicides (compared to the 43 that occurred) for there to be a statistically significant increase from the rate for 2005 to 2009. Due to low numbers and low statistical power, detecting changes in CF suicide rates over time is limited to finding only very gross changes in suicide rates.

The SMR analysis comparing the number of observed CF cases to expected cases based on Canadian rates is also limited by the small numbers. Note that if the 95% confidence intervals include 100%, this indicates that the difference between CF rates and Canadian rates is not statistically significant. However, Table 2 demonstrates that in the ten-year period from 1995 to 2004 the suicide rate among male CF members was statistically significantly lower than the corresponding Canadian rate. Over the same time period, the SMRs in Table 3 comparing the observed number of cases of those with a history of deployment with the expected number of cases based on Canadian rates also demonstrates that deployment does not place CF personnel at higher risk, this is also statistically significant. This is confirmed by the direct standardization rates which, up to 2012, show that there is no statistically significant relationship between history of deployment and risk of suicide.

## Conclusions

The following conclusions are reached with the understanding that statistical analysis may not identify a true difference due to the small total number of suicides, i.e. the power of the study is low:

- 1) From 1995 to 2012 there has been no statistically significant change in male CF suicide rates.
- 2) The rate of suicide when standardized for age and sex is lower than that of the general Canadian population.
- 3) History of deployment is not a risk factor for suicide in the Canadian Forces.





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Notre mission**



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12. ABSTRACT (Brief and factual summary of the document.)

**Introduction:** The Directorate of Force Health Protection (D FHP) regularly conducts analyses to examine suicide rates and the relationship between suicide and deployment. This report is an update covering the period from 1995 to 2012.

**Methods:** This report describes crude suicide rates from 1995 to 2012, comparisons between the Canadian population and the CF using standardized mortality ratios (SMRs), and suicide rates by deployment history using SMRs and direct standardization.

**Results:** Between 1995 and 2012, there were no statistically significant increases in suicide rates. The number of Regular Force male suicides was generally lower than that expected based on Canadian male suicide rates. SMRs comparing CF suicide rates by deployment history to Canadian suicide rates demonstrated that the number of Regular Force male suicides was consistently less than that expected based on Canadian male suicide rates. Rate ratios indicated that those with a history of deployment were not at an increased risk of suicide compared to those who have never been deployed.

**Conclusions:** Suicide rates in the CF did not increase over time, and after age standardization, they were lower than those in the Canadian population. History of deployment was not a risk factor for suicide in the CF. Small numbers may have limited the ability to detect statistical significance.

**Introduction :** La Direction de la protection de la santé de la Force mène régulièrement des analyses afin d'examiner les taux de suicide et la relation entre le suicide et le déploiement. Le présent rapport constitue une mise à jour de la période s'échelonnant de 1995 à 2011.

**Méthode :** Le présent rapport décrit les taux bruts de suicide de 1995 à 2011, les comparaisons entre la population canadienne et les FC au moyen des ratios standardisés de mortalité (RSM) et les taux de suicide chez les personnes ayant des antécédents de déploiement au moyen des RSM et de la normalisation directe.

**Résultats :** Entre 1995 et 2011, il n'y avait pas d'augmentation statistiquement significative des taux de suicide. Le nombre de suicides chez les hommes de la Force régulière était généralement moins élevé que le taux prévu en fonction des taux de suicide chez les hommes dans la population canadienne. Les RSM utilisés pour comparer les taux de suicide des militaires des FC ayant des antécédents de déploiement aux taux de suicide dans la population canadienne démontrent que le nombre de suicides chez les hommes de la Force régulière était beaucoup moins élevé que le taux prévu en fonction des taux de suicide chez les hommes dans la population canadienne. Les ratios des taux indiquent que les militaires qui avaient des antécédents de déploiement ne présentaient pas un risque plus élevé de suicide par rapport aux militaires n'ayant jamais été déployés.

**Conclusions :** Les taux de suicide dans les FC n'ont pas augmenté avec le temps, et ils sont plus bas que ceux de la population canadienne lorsqu'ils sont normalisés selon l'âge. Les antécédents de déploiement n'étaient pas un facteur de risque de suicide au sein des FC. Le nombre peu élevé de cas peut avoir limité la capacité de détecter une signification statistique.



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suicide; Canadian Forces; rates; age-adjusted rate; standardized mortality ratio; rate ratio; deployment; Canadian population