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2018 Report on Suicide Mortality in the Canadian Armed Forces (1995 to 2017)

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2018 Report on Suicide Mortality in the Canadian Armed Forces (1995 to 2017)

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Abstract

Introduction: Suicide is a tragedy and an important public health concern. Suicide prevention is a top priority for the Canadian Armed Forces (CAF). In order to better understand suicide in the CAF and refine ongoing suicide prevention efforts, the Directorate of Force Health Protection (DFHP) and the Directorate of Mental Health (DMH) regularly conduct analyses to examine suicide rates and the relationship between suicide, deployment and other potential suicide risk factors. This report is an update covering the period from 1995 to 2017.

Methods: This report describes crude suicide rates from 1995 to 2017, comparisons between the Canadian population and the CAF using Standardized Mortality Ratios (SMRs), and suicide rates by deployment history using SMRs and direct standardization. It also examines variation in suicide rate by environmental command, and using data from Medical Professional Technical Suicide Reviews (MPTSR), looks at the prevalence of other suicide risk factors that occurred in 2017.

Results: Between 1995 and 2017, there were no statistically significant increases in the overall suicide rates. The number of Regular Force males that died by suicide was not statistically higher than that expected based on male suicide rates in the Canadian General Population (CGP). Rate ratios comparing those with a history of deployment to those without a history of deployment did not establish a statistically significant link between deployment and increased suicide risk. These rate ratios also highlighted that, since 2006 and up to and including 2017, being part of the Army command significantly increases the risk of suicide, relative to those who are part of the other environmental commands.

The most recent findings suggest that the suicide rate in those with a history of deployment may now be lower than those with no history of deployment (suicide rate ratio: 0.73). This is in discordance with the 10-year (2005 – 2014) pattern that found that those with a history of deployment were possibly at higher risk than those with no history of deployment. However, this most recent finding, which fell just short of statistical significance, suggests that the pattern seen during and following the Afghanistan conflict may be shifting. Regular Force males under Army command were at significantly increased risk of suicide relative to Regular Force males under non-Army commands (age-adjusted suicide rate ratio = 2.44, CI: 1.82, 3.29).

The 3-year moving average suggests that the gap between Army and non-Army rates appear to be narrowing. Regular Force males under Army command in the combat arms trades had statistically significant higher suicide rates (32.83/100,000, CI: 25.98, 41.36) than non-combat arms Regular Force males (16.70/100,000, CI: 13.64, 20.40).

Results from the 2017 MPTSRs continue to support a multifactorial causal pathway (this includes biological, psychological, interpersonal, and socio-economic factors) for suicide rather than a direct link between single risk factors (e.g., Post-Traumatic Stress Disorder (PTSD) or deployment) and suicide. This is consistent with MPTSR findings from previous years.

Conclusions: Suicide rates in the CAF did not significantly increase over the period of observation described in these findings, and after age standardization, they were not statistically higher than those in the Canadian population. However, small numbers have limited the ability to detect statistical significance. The evidence supporting history of deployment as a related risk factor appears to be waning, although the numbers supporting this observation were non-significant. The increased risk in Regular Force males under Army

command compared to Regular Force males under non-Army command is a finding that continues to be under observation by the CAF.

Keywords: Age-adjusted rate; Canadian Armed Forces; Canadian population; deployment; rate ratio; rates; standardized mortality ratio; suicide.

Résumé

Introduction : Le suicide est une tragédie et un problème important de santé publique. La prévention du suicide constitue l'une des principales priorités des Forces armées canadiennes (FAC). Afin de mieux comprendre le suicide dans les FAC et de cibler les efforts continus en matière de prévention, la Direction – Protection de la santé de la Force (DPSF) et la Direction de la santé mentale (DSM) mènent régulièrement des analyses pour examiner les taux de suicide et la relation entre le suicide, le déploiement et d'autres risques potentiels de suicide. Le présent rapport constitue une mise à jour de la période s'échelonnant de 1995 à 2017.

Méthodes : Le présent rapport décrit les taux bruts de suicide de 1995 à 2017, les comparaisons entre la population canadienne et les FAC 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. Il examine également la variation du taux de suicide selon le commandement d'armée et, au moyen de données tirées des examens techniques des suicides par des professionnels de la santé (ETSPS), la prévalence d'autres facteurs de risque en ce qui concerne les suicides survenus en 2017.

Résultats : Entre 1995 et 2017, il n'y a pas eu d'augmentation statistiquement significative des taux globaux de suicide. Le nombre d'hommes de la Force régulière décédés par suicide n'était pas statistiquement plus élevé que le taux prévu en fonction des taux de suicide observés chez les hommes dans la population canadienne. Les ratios des taux de suicide comparant les hommes ayant fait l'objet d'un déploiement n'établissent pas un risque accru de suicide comparativement à ceux qui n'ont jamais participé à un déploiement. Cela dit, l'écart observé n'est pas statistiquement significatif. Ces ratios de taux montrent par ailleurs que, de 2006 à 2017 inclusivement, le fait de faire partie du commandement de l'Armée de terre accroît de manière statistiquement significative le risque de suicide par rapport aux militaires relevant d'un autre commandement d'armée.

Les constatations les plus récentes révèlent que le taux de suicide chez les militaires ayant fait l'objet d'un déploiement pourrait être inférieur que chez ceux qui n'ont jamais fait l'objet d'un déploiement (ratio de taux de suicide : 0,73). Ceci va à l'encontre de la tendance sur dix ans (2005 à 2014) qui semble indiquer que les militaires ayant fait l'objet d'un déploiement présentent un risque accru comparativement à ceux qui n'ont jamais fait l'objet d'un déploiement. L'écart observé n'est pas statistiquement significatif, mais suggère que la tendance observée pendant le conflit en Afghanistan et à la suite de celui-ci semble fluctuer. Les hommes de la Force régulière faisant partie du commandement de l'Armée de terre présentent un risque significativement plus élevé de suicide par rapport aux hommes de la Force régulière relevant d'un autre commandement (ratio de taux de suicide ajusté selon l'âge = 2,44, intervalle de confiance [IC] : 1,82, 3,29).

La moyenne mobile sur trois ans suggère que l'écart entre les taux du commandement de l'Armée de terre et ceux observés chez les hommes de la Force régulière relevant d'un autre commandement semble se rétrécir. Au sein de la Force régulière de l'Armée de terre, les hommes appartenant aux groupes professionnels des armes de combat affichaient des taux de suicide significativement supérieurs sur le plan statistique (32,83/100 000, IC : 25,98, 41,36) par rapport aux hommes n'appartenant pas aux groupes professionnels des armes de combat (16,70/100 000, IC : 13,64, 20,40).

Les résultats des ETSPS de 2017 continuent d'appuyer la théorie d'un enchaînement de causalité multifactoriel (qui comprend des facteurs biologiques, psychologiques, interpersonnels et socio-économiques) plutôt qu'un

lien direct entre des facteurs de risque individuels (p. ex., l'état de stress post-traumatique [ESPT] ou le déploiement) et le suicide. Ces résultats concordent avec ceux des ETSPS des années précédentes.

Conclusions : Les taux de suicide dans les FAC n'ont pas augmenté de façon marquée avec le temps et, une fois standardisés selon l'âge, ils ne sont pas plus élevés que ceux de la population canadienne. Toutefois, le nombre peu élevé de sujets pourrait limiter la capacité à détecter une signification statistique. Les antécédents de déploiement comme un éventuel facteur de risque de suicide paraissent être en déclin, bien que les données à l'appui de cette observation ne sont pas significatives. Le risque accru de suicide chez les hommes de la Force régulière faisant partie de l'Armée de terre comparativement aux militaires relevant d'un autre commandement est une constatation que les FAC continuent de surveiller.

Mots clés : Déploiement; Forces armées canadiennes; population canadienne; ratio de taux; ratio standardisé de mortalité; suicide; taux; taux ajusté selon l'âge.

Executive Summary

The tragic loss of life of Canadian Armed Forces (CAF) members through suicide requires our continual focus to better understand these difficult events and guide our suicide prevention efforts. This report describes the suicide experience in the CAF and the epidemiology of Regular Force males that died by suicide between 1995 and 2017, with an additional focus on the risk factors associated with the Regular Force males that died by suicide in 2017.

This report is produced by the Epidemiology section of the Directorate of Force Health Protection with input from the Directorate of Mental Health.

Methods

Data described in Section 3.1 [Results from the Medical Professional Technical Suicide Review (MPTSR) Reports, Regular Force Males, 2017 Results Only] are collected during the MPTSR process, following a suicide. An MPTSR is a quality assurance tool for Canadian Forces Health Services (CFHS) that is ordered by the Deputy Surgeon General immediately following the confirmation of all Regular Force and Primary Reserve Force suicides. Each MPTSR is typically conducted by a team consisting of a mental health professional and a General Duty Medical Officer.

Epidemiological data described in Section 3.2 (Epidemiology of Suicide in Regular Force Males, 1995 – 2017, inclusive) and 3.3 (Epidemiology of Suicide in Regular Force Males, by environmental command, 2002 – 2017, inclusive) was obtained from the Directorate of Casualty Support Management up to 2012. As of September 2012, the number of suicides was tracked and provided by DMH. Finally, denominator data (Canadian suicide counts by age and sex) were obtained from Statistics Canada.

Frequencies, standardized mortality ratios (ratio of observed number of CAF suicides to expected number of CAF suicides, if the CAF were to have the same age and sex makeup as the Canadian general population) and directly standardized rates were calculated.

Results

Mental Health Diagnosis of Those Who Died by Suicide in 2017

Identified mental health disorders at time of death included depressive disorders (15.4%) or an anxiety disorder (15.4%). No evidence of other types of trauma and stress-related disorders, including post-traumatic stress disorder, was reported. A documented substance use disorder was reported in 38.5% of 2017 Regular Force male suicide deaths. It was common (53.8%) to have at least two mental health diagnoses at the time of death.

Work/Life Stressors of Those Who Died by Suicide in 2017

At the time of death, 100% of the Regular Force males that died by suicide in 2017 reportedly had at least one work and/or life stressor (including: failing relationships, friend/family suicide, family/friend death, family and/or personal illness, debt, professional problems, legal problems); 69.2% had at least three concomitant stressors prior to their death.

Crude Suicide Rates, 1995 – 2017

In 2015 – 2017, the crude suicide rate of Regular Force males was 24.2 (17.3, 32.8) per 100,000. This was the highest crude rate reported here. However, the confidence intervals overlapped between all time periods, suggesting that there was no significant difference in crude rates over time. Additionally, the findings for the last time period includes only three years (2015 to 2017) and should therefore be further monitored to ascertain whether this pattern persists.

Comparison of CAF Regular Force Male Suicide Rates to Canadian Rates Using Standardized Mortality Ratios, 1995 – 2016

The SMR for 2010 – 2014 and for 2015 – 2016 were both non-significant, and overlapped, suggesting that there was no significant change in SMRs during this time frame.

Impact of Deployment on CAF Regular Force Male Suicide Rates

SMRs comparing those with a history of deployment to those without (1995 – 2016) did not identify a statistically significant difference in suicide rate between these deployment status groups. Using direct standardization for the 10-year time period 2005 – 2014 resulted in a suicide rate ratio comparing those with a history and those without a history of deployment that approached statistical significance [1.48 (95% Confidence interval (CI): 0.98, 2.22)]. This suggests that those Regular Force males with a history of deployment may have been at increased risk of taking their own lives, compared to those with no history of deployment. However, deployment may be confounded by other unexplained variables, and more recent evidence evaluating a possible link between deployment and excess suicide risk is strongly non-significant, with rate ratios frequently below 1.0.

Impact of Environmental Command on CAF Regular Force Male Suicide Rates

The age-adjusted suicide rate ratio comparing Army to non-Army command for the period 2002 – 2017 was statistically different [2.44 (1.82, 3.29)]. This finding was supported by a significantly higher Army command SMR in 2007 – 2011 [173% (123, 236)] and 2012 – 2016 [186% (135, 254)]. The suicide rate in the Regular Force male population who were in an Army combat arms occupation appeared higher than the overall suicide rate of all non-combat arms Regular Force males [32.83 (95% CI: 25.98, 41.36) versus 16.70 (95% CI: 13.64, 20.40)].

Sommaire

La perte tragique de vie par suicide des membres des Forces armées canadiennes (FAC) requiert notre attention continue afin de mieux comprendre ces évènements difficiles et guider nos efforts de prévention. Le présent rapport décrit le phénomène du suicide au sein des FAC et l'épidémiologie des suicides chez les hommes de la Force régulière entre 1995 et 2017 et on accorde une attention particulière aux facteurs de risque associés aux suicides chez les hommes de la Force régulière qui ont eu lieu en 2017.

Le rapport est produit par la section d'épidémiologie de la Direction – Protection de la santé de la Force, avec la contribution de la Direction – Santé mentale.

Méthodes

Les données décrites dans la section 3.1 [Résultats des rapports d'examen technique des suicides par des professionnels de la santé (ETSPS), hommes de la Force régulière, pour 2017 seulement] sont recueillies pendant le processus d'ETSPS, à la suite d'un suicide. L'ETSPS est un outil d'assurance de la qualité pour les Services de santé des Forces canadiennes (SSFC) lancé par le médecin général adjoint dès que tout suicide est confirmé dans la Force régulière ou dans la Première réserve. Chaque ETSPS est généralement mené par une équipe composée d'un professionnel de la santé mentale et d'un médecin militaire généraliste.

La Direction – Gestion du soutien aux blessés a fourni les données épidémiologiques décrites dans la section 3.2 (Épidémiologie des suicides chez les hommes de la Force régulière de 1995 à 2017 inclusivement) et la section 3.3 (Épidémiologie des suicides chez les hommes de la Force régulière, selon le commandement d'armée, de 2002 à 2017 inclusivement) pour la période allant jusqu'à 2012. Depuis septembre 2012, les données sur le nombre de suicides ont été obtenues auprès de la DSM, qui en assure le suivi. Enfin, les données utilisées en guise de dénominateur (taux de suicide au Canada en fonction de l'âge et du sexe) ont été obtenues auprès de Statistique Canada.

Les fréquences, les ratios standardisés de mortalité (ratio du nombre observé de suicides dans les FAC et du nombre de cas escomptés dans les FAC, si les FAC correspondaient à la population générale canadienne, d'un point de vue de l'âge et du sexe) et les taux standardisés de façon directe ont été calculés.

Résultats

Diagnostic de maladie mentale chez les hommes qui sont décédés par suicide en 2017

Au nombre des troubles mentaux connus au moment du décès figuraient les troubles dépressifs (15,4 %) ou un trouble anxieux (15,4 %). Aucun autre type de trouble lié à un traumatisme ou au stress, y compris l'état de stress post-traumatique, n'a été déclaré. Dans 38,5 % des cas de décès par suicide survenus en 2017 chez les hommes de la Force régulière, les membres présentaient un trouble connu lié à la consommation de substances. Au moment du décès, de nombreux cas (53,8 %) présentaient au moins deux diagnostics liés à la santé mentale.

Facteurs de stress professionnel et personnel chez les hommes qui sont décédés par suicide en 2017

Au moment du décès, au moins un des facteurs de stress professionnel et personnel était présent dans 100 % des cas de suicide survenus en 2017 chez les hommes de la Force régulière (y compris les facteurs suivants : déclin des relations, suicide d'un ami ou d'un membre de la famille, décès d'un ami ou d'un membre de la famille, maladie personnelle ou d'un membre de la famille, dettes, problèmes professionnels, problèmes juridiques). 69,2 % des cas présentaient au moins trois facteurs de stress concomitants avant le décès.

Taux bruts de suicide, 1995 – 2017

Au cours de la période de 2015 à 2017, le taux brut de suicide chez les hommes de la Force régulière s'élevait à 24,2 (17,3, 32,8) pour 100 000, soit le taux brut de suicide le plus élevé jamais enregistré. Toutefois, les intervalles de confiance de toutes les périodes se chevauchent, ce qui laisse entendre qu'il n'y a pas de variation significative quant aux taux bruts de suicide dans le temps. De plus, les résultats de la dernière période portent seulement sur trois années (2015 à 2017) et devraient donc être examinés plus en détail pour déterminer si cette tendance se maintient.

Comparaison des taux de suicide chez les hommes de la Force régulière des FAC et au sein de la population canadienne au moyen des ratios standardisés de mortalité, 1995 – 2016

Les intervalles de confiance des ratios standardisés de mortalité (RSM) des périodes 2010 à 2014 ainsi que 2015 à 2016 ne démontrent aucun changement significatif. De surcroît, les intervalles de confiances se chevauchent entre eux, ce qui voudrait dire qu'il n'y a pas eu de changement significatif dans les RSM pendant cette période.

Répercussions des déploiements sur le taux de suicide chez les hommes de la Force régulière des FAC

La comparaison des RSM des cas ayant des antécédents de déploiement et de ceux n'ayant aucun antécédent de déploiement (1995 à 2016) n'a révélé aucune différence statistiquement significative entre les taux de suicide des groupes avec ou sans antécédent de déploiement. Au moyen de la méthode de standardisation directe pour la période de dix ans (2005 à 2014), on a établi un ratio de taux de suicide en comparant les cas ayant des antécédents de déploiement à ceux n'ayant aucun antécédent de déploiement dont la valeur s'approche d'une variation statistique significative (1,48 [intervalle de confiance à 95 % : 0,98, 2,22]). Cela porte à croire que le risque de suicide pourrait être plus élevé chez les hommes de la Force régulière ayant déjà fait l'objet d'un déploiement que chez ceux n'ayant jamais participé à un déploiement. Toutefois, les résultats liés aux déploiements pourraient être confondus par d'autres variables inexpliquées, et des observations plus récentes qui ont évalué un lien possible entre le déploiement et un risque excessif de suicide est à tendance fortement non significative, avec des ratios de taux souvent inférieurs à 1,0.

Répercussions du commandement d'armée sur les taux de suicide chez les hommes de la Force régulière des FAC

La comparaison du ratio de taux de suicide ajusté selon l'âge chez les hommes faisant partie du commandement de l'Armée de terre à celui des hommes relevant d'un autre commandement pour la période de 2002 à 2017 a révélé une variation statistiquement significative [2,44 (1,82, 3,29)]. Cette constatation a été étayée par un

RSM significativement plus élevé au sein du commandement de l'Armée de terre au cours des périodes allant de 2007 à 2011 [173 % (123, 236)] et de 2012 à 2016 [186 % (135, 254)]. Le taux de suicide dans la population de la Force régulière faisant également partie des professionnels des armes de combat semble être plus élevé que le taux global de suicide parmi les hommes de la Force régulière ne faisant pas partie des professionnels des armes de combat [32,83 (IC à 95 % : 25,98, 41,36) versus 16,70 (IC à 95 % : 13,64, 20,40)].


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2018 Report on Suicide Mortality in the Canadian Armed Forces (1995 to 2017)

1. Introduction

Suicide is a tragedy and an important public health concern. Suicide prevention is a top priority for the Canadian Armed Forces (CAF). Monitoring and analysing suicide events of CAF members provides valuable information to guide and refine ongoing suicide prevention efforts. The evidence collected in the annual reports is used to:

1) Ensure that clinical and prevention programmes optimally target high risk individuals; and
2) Ascertain why some individuals are not availing themselves of available prevention and clinical resources prior to taking their own lives.

There has been concern expressed since the early 1990s about the apparent rate of suicide in the CAF and its possible relationship to deployment. In response to these concerns, the CAF began an active suicide mortality surveillance program to determine the rate of suicide among CAF personnel overall in comparison to the CGP, as well as the rate of suicide in those personnel with a history of deployment compared to those without such a history.

Historically, reports on suicide produced by the Epidemiology section of the Directorate of Force Health Protection have focused on the surveillance and epidemiology of suicide within the CAF. Since 2015, the report has expanded its scope to describe the larger body of evidence related to suicide in the CAF, and to describe its evolution over the last 21 years. This report provides a more in-depth analysis of the variation of suicide rates by environmental command, as well as information on the mechanisms and underlying risk factors that may have contributed to the Regular Force male suicides that took place in 2017 based on an assessment of the Medical Professional Technical Suicide Reviews (MPTSRs).

This report, as with previous ones, only analyzes Regular Force males who have died by suicide. The reasons are as follows:

1) Female suicide numbers are small (range between 0 and 2 events per year), which precludes the ability to conduct trend analyses. Reporting separately on their characteristics would contravene the privacy of the involved individuals ("identity" and "attribute" disclosure[1]). Aggregating female data with male data would circumvent these disclosure concerns. However, the differences in suicide risk

[1] Statistics Canada defines *identity disclosure* as: "identifying an individual from a table, typically from small cell showing 1 or 2 persons with a characteristic. If no other information is released it is not necessarily a confidentiality breach but the perception of a breach is there. This translates into a "small cell" problem, where, for the purpose of vital statistics, "small" is defined as frequencies representing fewer than 5 births, deaths or stillbirths."

Attribute disclosure is defined as: "disclosing attributes of individuals, even if they are not specifically identified. For example, a table row where all units share the same attribute because they are found in a single column. This translates into "zero cell" and "full cell" problems. Not all zero cells are problematic. Full cells, which occur when only one cell in a row or column is nonzero, are more likely to be."

Taken from: **Statistics Canada. Disclosure control strategy for Canadian Vital Statistics Birth and Death Databases. Ministry of Industry: Ottawa, 2016.**

factors, behaviours and mechanisms between sexes warrant gender-specific evaluation of suicide-related evidence. [1], [2]

2) For Reserve Force data, there are also issues around data completeness, in addition to those regarding identity and attribute disclosure. Reserve Force records may be incomplete for both suicide events and information on the size and characteristics of the Reserve Force, both of which are needed to calculate reliable suicide rates. There is a high turnover for Class A Reservists and suicides among this group may not be brought to the attention of the Department of National Defence (DND). The true number at risk is also uncertain.

3) Since data on suicide attempts are often incomplete, in keeping with other occupational health studies, this report only includes suicides, not attempts. Furthermore, the data used for this analysis include only those who have died of suicide while active in the Regular Forces, and do not include those who have died of suicide after leaving the military.

Because of these limitations, the evidence presented in this report applies only to Regular Force males.

2. Data Sources and Methods

2.1 Data Sources

2.1.1 Medical Professional Technical Suicide Review

Data on the methods of suicide and risk factors (mental health and psycho-social factors) are collated from the Medical Professional Technical Suicide Reviews (MPTSR). MPTSRs are ordered by the Deputy Surgeon General when a death is deemed a likely suicide, and are conducted by military medical professionals. This team reviews all pertinent health records and conducts interviews with relevant individuals who cared for and worked with the member and who may be knowledgeable about the circumstances of the suicide in question. MPTSRs began in 2010 as a Quality Assurance tool within the Canadian Forces Health Services (CFHS) to provide the Surgeon General with observations and recommendations for improvements with suicide prevention efforts within CFHS. All of this information is collected and managed by the Directorate of Mental Health (DMH).

2.1.2 Epidemiological Surveillance

Information on the number of suicides and demographic information was obtained from the Directorate of Casualty Support Management (DCSM) up to 2012. As of September 2012, suicides were tracked and provided by DMH. DMH also cross-references their results with those collected by the Administrative Investigation Support Centre (AISC), which is part of the Directorate Special Examinations and Injuries (DSEI).

Information on deployment history and CAF 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.

Canadian suicide counts by age and sex were obtained from Statistics Canada. Data were available up to 2016 at the time of preparation of this report. Canadian suicide rates are derived from death certificate data collected by the provinces and territories and collated by Statistics Canada. 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 Canadian Socio-Economic Information Management System (CANSIM) Table 102-0540 from Statistics Canada, for 2009 to 2011 suicide deaths CANSIM Table 102-0551, and from 2012 to 2016 CANSIM Table 13-10-0156-01 were the sources. 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). To ensure valid comparisons, the Statistics Canada exclusions were followed for these analyses. CGP denominators up to 2013 were taken from Statistics Canada CANSIM Table 051-0001; from 2012 onwards, they were taken from CANSIM Table 17-10-0005-01. Denominators, up to and including 2010, were final inter-censal estimates, while 2011-2016 were based on final post-censal estimates.

Information on component, environment, Military Occupational Structure ID/Military Occupation code (MOSID/MOC), last known department description and last known location were obtained through a request to the Directorate of Human Resources Information Management (DHRIM) using Human Resources Management System (HRMS) data.

Command was ascertained in three fashions:

1) If command was explicitly stated in the Medical Professional Technical Suicide Review (MPTSR) Report [3] or in the Suicide Event Report for an individual (2011 – 2017 cases), the command information provided by the MPTSR was used.
2) However, if information as to which CAF command an individual belonged was not available in the MPTSR or the DCSM/AISC database, individuals were assigned into Army or Non-Army command categories based on their home unit information.
3) In some cases, MOC/MOSID and rank were also used to classify individuals if the home unit information was not clear. This subjective method may have led to misclassification of some suicides into an incorrect command, affecting the validity of the results.

MOSID information for the analysis involving the "Army trade" (or "combat arms") was obtained directly from DHRIM. Individuals were considered to be employed in an Army trade if they had the following MOSIDs: 00005 (CRMN), 00008 (ARTYMN-FD), 00009 (ARTYMN-AD), 00010 (INFMN), 000178 (ARMD), 000179 (ARTY), 000180 (INF), 000181 (ENGR), 00339 (CBT ENGR) and 00368 (ARTYMN) (since 2012).[2]

2.2 Methods

Crude CAF Regular Force male suicide rates were calculated from 1995 to 2017. Suicide rates prior to 1995 have not been calculated as the historical method of ascertainment of suicides within the CAF is not well defined.

To compare CAF Regular Force male rates with the male CGP rates, standardization by age using the indirect method was used to provide Standardized Mortality Ratios (SMRs) for suicide up to 2016. This method controls for the difference in age distribution between the CAF Regular Force male and general Canadian male populations. An SMR is the observed number of cases divided by the number of cases that would be

[2] Details on the different MOSIDs, including the general duties associated with them, are available at: http://www.forces.gc.ca/en/about-policies-standards-medical-occupations/cf-mosid-task-statements.page.

expected in the population at risk based on the age and sex-specific rates of a standard population (the CGP in this case) expressed as a percentage. Therefore, an SMR less than 100% indicates that the population in question has a lower rate than the CGP, while an SMR greater than 100% indicates a higher rate.

SMRs were calculated separately for those Regular Force males with and without a history of deployment.

The calculation of Confidence Intervals (CIs) for population-based data is provided here for those who may want to generalize the results to other years. Confidence intervals were calculated for CAF Regular Force male suicide rates and SMRs directly with Poisson distribution 95% confidence limits using the exact method described by Breslow and Day [4].

To compare suicide risk among those Regular Force males with a history of deployment directly to those without, direct standardization was done using the total Regular Force male population of the CAF as the standard. Age-adjusted suicide rates for those Regular Force males with and without a history of deployment were compared using rate ratios.

Because the annual suicide numbers for the Canadian Armed Forces are small, they are highly influenced by random annual variability. Moving averages, which take an average of the year of interest as well as the previous and following year,[3] have been used by others in a similar military suicide context. [5] This method attempts to control the aforementioned variability caused by small numbers and provide a snapshot of potential temporal trends in the data.

3. Results

3.1 Results from the Medical Professional Technical Suicide Review Reports, Regular Force Males, 2017 Results Only

3.1.1 Mental Health Factors

Approximately 15.4% of the individuals had a documented depressive disorder and/or an anxiety disorder (Table 1). One individual (7.7%) was reported as having a trauma- or stress-related diagnosis prior to death; no diagnoses of post-traumatic stress disorder were captured. Over one-third of all individuals (38.5%) had a history of addiction or substance use disorders. In addition to mental health factors, two (15.4%) of the individuals had been diagnosed with a Traumatic Brain Injury (TBI) (N.B.: The etiology of one was not identified in the MPTSR and may or may not be combat-related; the etiology of the second one was not combat-related). One of the two TBI-related events occurred at least one year preceding the death. Overall, seven (53.8%) individuals had at least two mental health factors at the time of death. Whether or not these mental health factors were related to operational stress[4] was not captured by the MPTSR.

[3] For example, the moving average value for 2006 would be an average of 2005, 2006 and 2007. For 2002 and 2017 where there are no prior and/or subsequent years, the moving average was based on two years' worth of data (e.g., 2017 = average of 2016 and 2017).

[4] As defined in the Surgeon General's Mental Health Strategy, "*... the term "Operational Stress Injury" (OSI) is not a diagnosis; rather it is a grouping of diagnoses that are related to injuries that occur as a result of operations. The most common OSIs are PTSD, major depression and generalized anxiety. This term has helped break down several barriers to care and reduce the stigma surrounding mental illness.*"

Table 1: Mental Health Factors.

Factor	2017 (N (%)) [a]
Depressive disorders	2 (15.4)
Trauma and stress-related disorders (post-traumatic stress disorder)	0 (0)
Trauma and stress-related disorders (other)	1 (7.7)
Anxiety disorders	2 (15.4)
Addictions or substance use disorders	5 (38.5)
Traumatic brain injury	2 (15.4)
Personality disorders	0 (0)

[a] Total does not equal 100% as not all individuals were diagnosed with a mental health factor at time of death, and some individuals had more than 1 mental health factor.

Documented evidence of prior suicidal ideation and/or prior suicide attempts was noted for 5 (38.5%) individuals.

3.1.2 Work and Life Stressors

All thirteen (100%) Regular Force male suicide deaths in 2017 had at least one reported work and/or life stressor listed in Table 2. All but one (93.2%) had at least two of the stressors listed in Table 2. Nine individuals (69.2%) reportedly had at least three concomitant stressors prior to their death.

Table 2: Prevalence of Documented Work and Life Stressors Prior to Suicide.

Factor	2017 (N (%)) [a]
Failed/failing spousal/intimate partner relationship	7 (53.9)
Failed other relationship (e.g. family, friends)	1 (7.7)
Completed spousal, family or friend suicide	4 (30.8)
Family or friend death (other than suicide)	9 (69.2)
Physical health problem	6 (46.2)
Ill family member	2 (15.4)
Debt	3 (23.1)
Job, supervisor or work performance problem	8 (61.5)
Legal problem(s)	3 (23.1)

[a] Total does not equal 100% as 93.2% of individuals had more than 1 stressor.

Five individuals (38.5%) had a documented history of being physically, sexually, and/or emotionally abused during their lifetime, and 4 (30.8%) individuals had been the perpetrators of physical abuse and/or emotional abuse.

Within the year prior to their death, 3 of the individuals (23.1%) had experienced some sort of legal or disciplinary proceedings (e.g., police investigation, legal proceeding, Absent Without Leave (AWOL), incarceration). At the time of death, none were in the process of being released from the CAF (disciplinary, administrative or medical), but one individual (7.7%) had experienced legal or disciplinary proceedings in the preceding 12 months.

3.2 Epidemiology of Suicide in Regular Force Males, 1995 – 2017, Inclusive

The annual number of male Regular Force suicides between 1995 and 2017, inclusive, are captured in Table 3, as are the corresponding 5-year crude rates. The crude CAF Regular Force male suicide rates have not appreciably changed between 1995 and 2009. While they appear to have increased somewhat in the last five years, the confidence intervals for all time periods, including 2010 to 2017, overlap, indicating that this increase is not statistically significant.

Regular Force female rates were not calculated because female suicides were uncommon. There were no suicides in females from 1995 to 2002, two in 2003, no suicides in females in 2004 and 2005, one per year from 2006 to 2008, two in 2009, none in 2010, one in 2011, three in 2012, one in 2013, one in 2014, one in 2015, one in 2016, and none in 2017.

A comparison of suicide rates among Regular Force males to their civilian counterparts is presented in Table 4. The 2005 to 2009 data indicate that the CAF Regular Force male population had a 13% lower suicide rate than the CGP after adjusting for the age differences between the populations. This SMR is not statistically significant as the confidence intervals include 100%. While the SMR for 2010 – 2014 is above 100%, the confidence intervals include 100%, making these results statistically non-significant. The 2015-2016 (2-year) SMR was also non-significant.

Table 3: CAF Regular Force Male Multiyear Suicide Rates (1995 – 2017).

Year	Number of CAF Regular Force Male Person-Years[5]	Number of CAF Regular Force Male Suicides [a]	CAF Regular Force Male Suicide Rate per 10^5 (95% CI)
1995	62 255	12	
1996	57 323	8	
1997	54 982	13	
1998	54 284	13	
1999	52 689	10	
1995 – 1999	**281 533**	**56**	**19.9 (15.1, 26.0)**
2000	51 537	12	
2001	51 029	10	
2002	52 747	9	
2003	54 137	9	
2004	53 873	10	
2000 – 2004	**263 323**	**50**	**19.0 (14.1, 25.1)**
2005	53 648	10	
2006	54 301	7	
2007	55 140	9	
2008	55 704	13	
2009	56 813	12	
2005 – 2009	**275 606**	**51**	**18.5 (13.8, 24.4)**
2010	58 723	12	
2011	58 622	21	
2012	57 940	10	
2013	57 687	9	
2014	56 699	16	
2010 – 2014	**289 866**	**68**	**23.5 (18.4, 29.9)**
2015	56 284	14	
2016	56 561	14	
2017	56 699	13	
2015 – 2017	**169 544**	**41**	**24.2 (17.3, 32.8)**

[a] The number of confirmed suicides for CAF Regular Force males for 2009 increased by one since the "Suicide in the Canadian Forces 1995 to 2012" report.

[5] Person time is defined as "*a measurement combining person and time as the denominator in incidence and mortality rates when, for varying periods, individual subjects are at risk of developing disease or dying. It is the sum of the periods of time at risk for each of the subjects.* ***The most widely used measure is person-years,***" (emphasis added) [6].

Table 4: Comparison of CAF Regular Force Male Suicide Rates to Canadian Male Rates Using Standardized Mortality Ratios (SMRs) (1995 – 2016).

Year	SMR for Suicide (95% Confidence Intervals) [a]
1995 – 1999	72% (55, 94)[†]
2000 – 2004	80% (59, 105)
2005 – 2009	87% (64, 114)
2010 – 2014	123% (97, 156)
2015 – 2016[**]	121% (81, 176)

[a] Some estimates may have changed slightly compared to previous reports due to updates in CAF Regular Force male population numbers.

[**] Based on two years of observations only.

[†] Statistically significant.

A further analysis comparing SMRs in those with a history of deployment to those without a history of deployment is presented in Table 5. For the two-year period between 2015 and 2016, the higher SMR switched between those with a history of deployment and those without; however, none of the SMRs presented here (for any time period) were statistically significant.[6]

Table 5: Standardized Mortality Ratios for Suicide in the CAF Regular Force Male Population by History of Deployment (1995 – 2016).

Year	SMR (95% CI) for those With a History of Deployment [a]	SMR (95% CI) for those Without a History of Deployment [a]
1995 – 1999	68% (42, 105)	74% (52, 103)
2000 – 2004	81% (53, 120)	79% (51, 118)
2005 – 2009	99% (67, 141)	74% (46, 113)
2010 – 2014	117% (84, 160)	111% (74, 160)
2015 – 2016[**]	94% (48, 164)	155% (89, 251)

[a] Some estimates may have changed slightly compared to previous reports due to updates in CAF Regular Force male population numbers.

[**] Based on two years of observations only.

[6] In the 2017 report ("2017 Report on Suicide Mortality in the Canadian Armed Forces (1995 to 2016)"), the four-year SMR for 2010-2013 reflected a (non-significantly) lower age-adjusted rate in those with a history of deployment than in those without. With the addition of 2014 data to the SMR calculations, the (non-significant) 2010-2014 SMR now suggests that the age-adjusted rate for those with a history of deployment was once again higher than the equivalent age-adjusted rate for those without a history of deployment. This also serves to illustrate the instability of the rates reported here, and why they must be interpreted with caution.

The 10-year rate representing 1995 – 2004 illustrated a slightly lower SMR for those with a history of deployment (SMR: 75% [95% CI: 54%, 100%]) than for those without a history of deployment (SMR: 77% [95% CI: 60%, 100%]); both of these estimates approached, but did not reach, statistical significance. There was no statistically significant difference in the 10-year SMR from 2005 – 2014 amongst those with a history of deployment (SMR: 109% [95% CI: 85%, 138%]) versus those with no history of deployment (SMR: 92% [95% CI: 67%, 121%]).

An analysis comparing the same groups but using a statistically different method (direct standardization) also failed to identify a statistically significant relationship between those with a history of deployment versus those without a history of deployment (Table 6). 10-year rates (1995 – 2004 and 2005 – 2016) were also non-significant.

Table 6: Comparison of CAF Regular Force Male 5-Year Suicide Rates by Deployment History Using Direct Standardization (1995 – 2017).

Year	History of Deployment	No History of Deployment	Suicide Rate Ratio (95% CI) [a]
1995 – 1999	19.83	19.90	1.00 (0.57, 1.75)
2000 – 2004	18.97	17.89	1.06 (0.60, 1.88)
2005 – 2009	24.85	15.60	1.59 (0.86, 2.97)
2010 – 2014	24.41	18.75	1.30 (0.77, 2.19)
2015 – 2017[*]	18.22	24.89	0.73 (0.37, 1.47)

[a] Some estimates may have changed slightly compared to previous reports due to updates in CAF Regular Force male population numbers.

[*] Based on three years of observations only.

3.3 Epidemiology of Suicide in Regular Force Males, by Environmental Command, 2002 – 2017, Inclusive

Over the past 16 years, there were 112 deaths by suicide among the Regular Force males within the Army command and 76 within all other environmental commands combined (Navy, Air Force and Other). The crude Army suicide rate was 33.91 per 100,000 population (95% CI: 27.71, 41.44) compared to 13.38 (95% CI: 10.61, 16.83) for the non-Army rate. The confidence intervals for the rate in each environmental command did not overlap indicating that there was a statistically significant difference between the two groups. The age-adjusted rates were very similar to the crude rates (Army: 33.68 [95% CI: 27.26, 40.10]; Non-Army: 13.78 [95% CI: 10.66, 16.90]). Furthermore, the age-adjusted suicide rate ratio was significant [2.44 (95% CI : 1.82, 3.29)], meaning that the age-adjusted suicide rate among Regular force males in the Army was nearly two and a half times higher than in the non-Army commands.

SMRs for each environmental command as well as for each time period (2002 – 2006, 2007 – 2011, 2012 – 2016) were conducted (Table 7). The SMRs for the Army command for the 2007 – 2011 and 2012 – 2016 periods were significantly above 100%, while the SMR for Navy/Other for 2012 – 2016 was significantly below 100%. All other SMRs were not statistically significant. Furthermore, the SMR for all environmental commands combined was systematically non-significant across all three time periods.

Table 7: Standardized Mortality Ratios for Suicide in CAF Regular Force Males by Environmental Command (2002 – 2016)

Environmental Command	SMR for Suicide (95% Confidence Intervals), 2002 – 2006	SMR for Suicide (95% Confidence Intervals), 2007 – 2011	SMR for Suicide (95% Confidence Intervals), 2012 – 2016
Army	105% (66, 159)	173% (123, 236)†	186% (135, 254)†
Air Force	68% (33, 125)	81% (39, 148)	89% (45, 160)
Navy/Other	75% (45, 117)	72% (43, 114)	39% (19, 72)†
All Commands	86% (64, 113)	112% (87, 143)	109% (85, 140)

† Statistically significant.

The suicide rate in Army combat arms occupations in the Regular Force male population was also calculated. Between 2002 and 2017, there were a total of 75 suicides among Regular Force males who had a combat arms MOSID. There were no suicides during this time frame in females with a combat arms MOSID.

The suicide rate in the Regular Force male population who were in an Army combat arms occupation appeared higher than the overall suicide rate of all non-combat arms Regular Force males [32.83 (95% CI: 25.98, 41.36) versus 16.70 (95% CI: 13.64, 20.40)]. As the confidence intervals between the two rates did not overlap, the difference was statistically significant, indicating an increased risk of suicide in Regular Force male combat arms relative to those in non-combat arms.

Figure 1 shows the moving average trends for all environmental commands combined (represented by the triangular markers), Army command only (represented by the diamond markers) and for the Non-Army commands (represented by the square markers). What this figure illustrates is that while the Army command rate was always slightly higher or equal to other groupings up until 2008. From 2009 onwards, it showed a larger rate increase in Army than in non-Army or All commands. This rise in the Army mean appeared to have stopped post-2012, but the average remained well above pre-2010 levels. Between 2009 and 2013, the non-Army moving average rate appeared to be decreasing, but subsequently returned to pre-2011 levels.

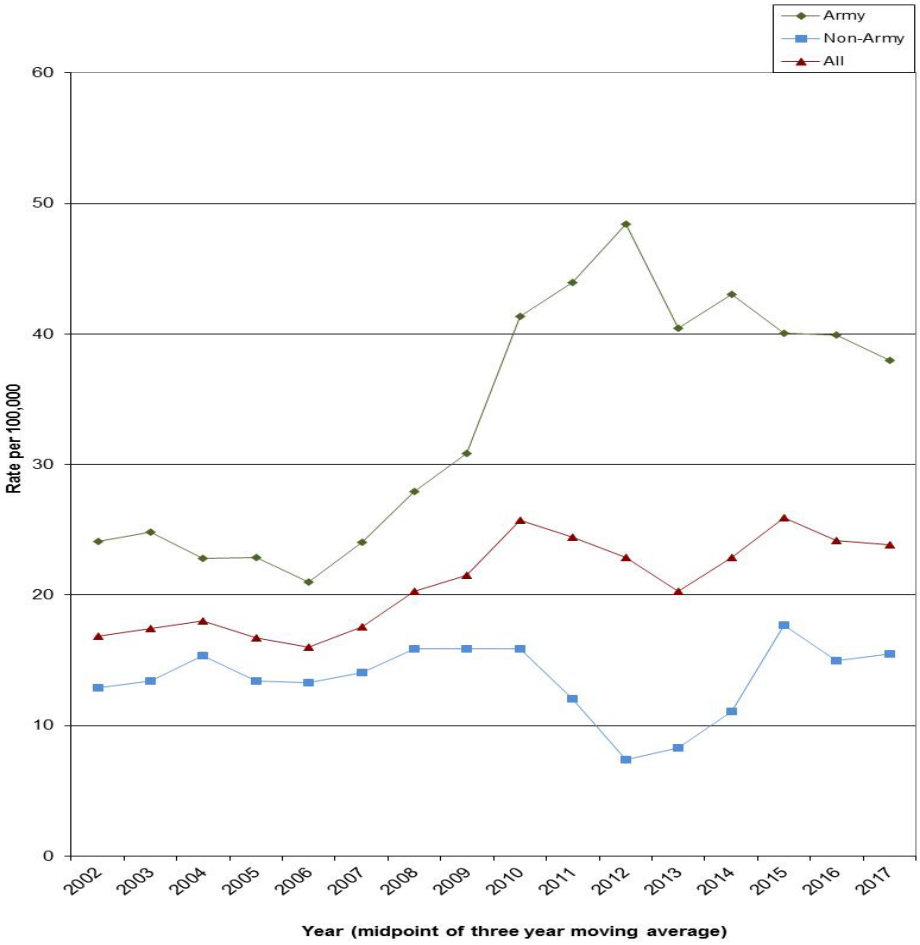

Figure 1: Three Year-Moving Averages by Command, Canadian Armed Forces, 2002 – 2017.

4. Data Limitations

1) The numbers on which these analyses are based are very small and variable; consequently, these findings must be interpreted with caution.

2) Female suicide numbers are small (range between 0 and 2 events per year), which precludes the ability to conduct trend analyses.

3) Since the individual's last known unit/base was used to categorize environmental command, this did not take into account that the individual may have just recently been posted to that environmental command and therefore not really have functioned under that environmental command for an appreciable amount of time (e.g., when one goes on training).

4) The denominators for this study (number of CAF Regular Force males in each environmental command) may also be inaccurate since the DHRIM system is not systematically updated. Consequently, denominator data may differ, depending on when the report was run by DHRIM.

5) The lack of DHRIM data prior to 2002 makes it impossible to ascertain whether the pre-Afghanistan suicide experience for Army command relative to non-Army command was any different to what is described here.

6) Finally, the wide confidence intervals for many of the rates reported here indicate that the analyses may not have the power to detect statistically significant differences.

5. 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 2017, there has been no statistically significant change in the overall suicide rate of CAF Regular Force males.

2) The rate of suicide when standardized for age and sex is not significantly different from that of the CGP.

3) High prevalence of addictions or substance use disorders (38.5%), non-suicide family and/or friend deaths (69.2%) or of employment-related problems (61.5%) may be indicators of heightened suicide risk in CAF Regular Force males.

4) Analyses suggest that there is a significantly higher crude rate of suicide in Regular Force males in the Army command relative to other CAF environmental commands. This may be driven in part by the significant difference in the crude Regular Force male suicide rate for the combat arms trades relative to the non-combat arms suicide rate.

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

Introduction: Suicide is a tragedy and an important public health concern. Suicide prevention is a top priority for the Canadian Armed Forces (CAF). In order to better understand suicide in the CAF and refine ongoing suicide prevention efforts, the Directorate of Force Health Protection (DFHP) and the Directorate of Mental Health (DMH) regularly conduct analyses to examine suicide rates and the relationship between suicide, deployment and other potential suicide risk factors. This report is an update covering the period from 1995 to 2017.

Methods: This report describes crude suicide rates from 1995 to 2017, comparisons between the Canadian population and the CAF using Standardized Mortality Ratios (SMRs), and suicide rates by deployment history using SMRs and direct standardization. It also examines variation in suicide rate by environmental command, and using data from Medical Professional Technical Suicide Reviews (MPTSR), looks at the prevalence of other suicide risk factors that occurred in 2017.

Results: Between 1995 and 2017, there were no statistically significant increases in the overall suicide rates. The number of Regular Force males that died by suicide was not statistically higher than that expected based on male suicide rates in the Canadian General Population (CGP). Rate ratios comparing those with a history of deployment to those without a history of deployment did not establish a statistically significant link between deployment and increased suicide risk. These rate ratios also highlighted that, since 2006 and up to and including 2017, being part of the Army command significantly increases the risk of suicide, relative to those who are part of the other environmental commands.

The most recent findings suggest that the suicide rate in those with a history of deployment may now be lower than those with no history of deployment (suicide rate ratio: 0.73). This is in discordance with the 10-year (2005 – 2014) pattern that found that those with a history of deployment were possibly at higher risk than those with no history of deployment. However, this most recent finding, which fell just short of statistical significance, suggests that the pattern seen during and following the Afghanistan conflict may be shifting. Regular Force males under Army command were at significantly increased risk of suicide relative to Regular Force males under non-Army commands (age-adjusted suicide rate ratio = 2.44, CI: 1.82, 3.29).

The 3-year moving average suggests that the gap between Army and non-Army rates appear to be narrowing. Regular Force males under Army command in the combat arms trades had statistically significant higher suicide rates (32.83/100,000, CI: 25.98, 41.36) than non-combat arms Regular Force males (16.70/100,000, CI: 13.64, 20.40).

Results from the 2017 MPTSRs continue to support a multifactorial causal pathway (this includes biological, psychological, interpersonal, and socio-economic factors) for suicide rather than a direct link between single risk factors (e.g., Post-Traumatic Stress Disorder (PTSD) or deployment) and suicide. This is consistent with MPTSR findings from previous years.

Conclusions: Suicide rates in the CAF did not significantly increase over the period of observation described in these findings, and after age standardization, they were not statistically higher than those in the Canadian population. However, small numbers have limited the ability to detect statistical significance. The evidence supporting history of deployment as a related risk

factor appears to be waning, although the numbers supporting this observation were non-significant. The increased risk in Regular Force males under Army command compared to Regular Force males under non-Army command is a finding that continues to be under observation by the CAF.

Introduction : Le suicide est une tragédie et un problème important de santé publique. La prévention du suicide constitue l'une des principales priorités des Forces armées canadiennes (FAC). Afin de mieux comprendre le suicide dans les FAC et de cibler les efforts continus en matière de prévention, la Direction – Protection de la santé de la Force (DPSF) et la Direction de la santé mentale (DSM) mènent régulièrement des analyses pour examiner les taux de suicide et la relation entre le suicide, le déploiement et d'autres risques potentiels de suicide. Le présent rapport constitue une mise à jour de la période s'échelonnant de 1995 à 2017.

Méthodes : Le présent rapport décrit les taux bruts de suicide de 1995 à 2017, les comparaisons entre la population canadienne et les FAC 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. Il examine également la variation du taux de suicide selon le commandement d'armée et, au moyen de données tirées des examens techniques des suicides par des professionnels de la santé (ETSPS), la prévalence d'autres facteurs de risque en ce qui concerne les suicides survenus en 2017.

Résultats : Entre 1995 et 2017, il n'y a pas eu d'augmentation statistiquement significative des taux globaux de suicide. Le nombre d'hommes de la Force régulière décédés par suicide n'était pas statistiquement plus élevé que le taux prévu en fonction des taux de suicide observés chez les hommes dans la population canadienne. Les ratios des taux de suicide comparant les hommes ayant fait l'objet d'un déploiement n'établissent pas un risque accru de suicide comparativement à ceux qui n'ont jamais participé à un déploiement. Cela dit, l'écart observé n'est pas statistiquement significatif. Ces ratios de taux montrent par ailleurs que, de 2006 à 2017 inclusivement, le fait de faire partie du commandement de l'Armée de terre accroît de manière statistiquement significative le risque de suicide par rapport aux militaires relevant d'un autre commandement d'armée.

Les constatations les plus récentes révèlent que le taux de suicide chez les militaires ayant fait l'objet d'un déploiement pourrait être inférieur que chez ceux qui n'ont jamais fait l'objet d'un déploiement (ratio de taux de suicide : 0,73). Ceci va à l'encontre de la tendance sur dix ans (2005 à 2014) qui semble indiquer que les militaires ayant fait l'objet d'un déploiement présentent un risque accru comparativement à ceux qui n'ont jamais fait l'objet d'un déploiement. L'écart observé n'est pas statistiquement significatif, mais suggère que la tendance observée pendant le conflit en Afghanistan et à la suite de celui-ci semble fluctuer. Les hommes de la Force régulière faisant partie du commandement de l'Armée de terre présentent un risque significativement plus élevé de suicide par rapport aux hommes de la Force régulière relevant d'un autre commandement (ratio de taux de suicide ajusté selon l'âge = 2,44, intervalle de confiance [IC] : 1,82, 3,29).

La moyenne mobile sur trois ans suggère que l'écart entre les taux du commandement de l'Armée de terre et ceux observés chez les hommes de la Force régulière relevant d'un autre commandement semble se rétrécir. Au sein de la Force régulière de l'Armée de terre, les hommes appartenant aux

groupes professionnels des armes de combat affichaient des taux de suicide significativement supérieurs sur le plan statistique (32,83/100 000, IC : 25,98, 41,36) par rapport aux hommes n'appartenant pas aux groupes professionnels des armes de combat (16,70/100 000, IC : 13,64, 20,40).

Les résultats des ETSPS de 2017 continuent d'appuyer la théorie d'un enchaînement de causalité multifactoriel (qui comprend des facteurs biologiques, psychologiques, interpersonnels et socio-économiques) plutôt qu'un lien direct entre des facteurs de risque individuels (p. ex., l'état de stress post-traumatique [ESPT] ou le déploiement) et le suicide. Ces résultats concordent avec ceux des ETSPS des années précédentes.

Conclusions : Les taux de suicide dans les FAC n'ont pas augmenté de façon marquée avec le temps et, une fois standardisés selon l'âge, ils ne sont pas plus élevés que ceux de la population canadienne. Toutefois, le nombre peu élevé de sujets pourrait limiter la capacité à détecter une signification statistique. Les antécédents de déploiement comme un éventuel facteur de risque de suicide paraissent être en déclin, bien que les données à l'appui de cette observation ne sont pas significatives. Le risque accru de suicide chez les hommes de la Force régulière faisant partie de l'Armée de terre comparativement aux militaires relevant d'un autre commandement est une constatation que les FAC continuent de surveiller.

13. KEYWORDS, DESCRIPTORS or IDENTIFIERS (Technically meaningful terms or short phrases that characterize a document and could be helpful in cataloguing the document. Use semi-colons as delimiters.)

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