Report of the 2016 Mental Health Expert Panel on

Suicide Prevention

in the Canadian Armed Forces

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SUMMARY

Context: An Expert Panel on Suicide Prevention convened from October 23 to 26, 2016 to review current practices and make recommendations regarding the Canadian Forces Health Services (CFHS) suicide prevention strategies. Panel members included subject matter experts from Canada, the United States, the United Kingdom, and representatives from Veterans Affairs Canada (VAC).

Objectives: The Expert panel reviewed the evidence and best practices for suicide prevention in civilian and military populations, reviewed the components of the CFHS mental health services and suicide prevention programs, considered the adequacy of the CFHS mental health services and suicide prevention programs compared to current evidence-informed best practices, suggested specific areas of improvement for CFHS mental health services and suicide prevention efforts programs, and suggested specific areas of future inquiry that could specifically improve suicide prevention efforts.

Results: The panel learned that over the past 10 years there have been an average of 16.6 suicides deaths per year amongst Canadian Armed Forces (CAF) Regular Force and Primary Reserves combined (range 11-25), and that access and availability of mental health services for serving military personnel with suicidal behavior are greater compared to the Canadian civilian population. The panel identified numerous factors associated with suicidal behavior, but acknowledged that because suicide is a behavior, it is extremely difficult to predict at an individual level. There was agreement that although the goal is to have no suicides in the CAF Regular Force population, not all suicides can be prevented.

Recommendations: The panel identified a total of 11 suggestions for improving the approach to suicide prevention in the CFHS: 1) create a new position: Canadian Armed Forces Suicide Prevention Quality Improvement Coordinator; 2) conduct a systematic multi-disciplinary review of CAF member suicides in the last 7 years; 3) increase suicide risk assessment and safety planning training for primary care and specialty mental health care staff; 4) conduct a needs assessment with regard to training in suicide-specific psychosocial interventions for people with a history of self-harm; 5) consider implementing the Caring Contacts protocol after a mental health crisis; 6) review best practices for screening for mental disorders and suicidal behavior during recruitment, pre-deployment and post-deployment; 7) create a working group to develop optimal suicide prevention and well-being support strategies specifically for CAF members/Veterans who are in in transition from military to civilian life; 8) consider evidence-based treatments that allow for integrated, rather than sequential, treatment of addictions and mental health disorders; 9) consider options for delivery of psychological and pharmacological interventions through novel delivery methods (internet, telephone, class room) to improve accessibility for CAF members; 10) encourage safe media reporting on suicides to Canadian journalists, editors and reporters; and 11) engage patients and families in treatment and program planning.

Conclusions: The CFHS is providing the highest quality of mental health care for military personnel. The recommendations above are based on state of the art research evidence. Implementation of these recommendations will ensure that the CFHS leads the way in providing outstanding care for military personnel dealing with suicidal behavior.

Expert Panel Recommendations for Suicide Prevention in the Canadian Armed Forces (CAF)
1. Create the position of a CAF Suicide Prevention Quality Improvement Coordinator
2. Conduct a systematic review of CAF member suicides since 2010
3. Increase suicide risk assessment and safety planning training
4. Conduct a needs assessment for suicide-specific psychosocial interventions
5. Consider implementing the Caring Contacts protocol following mental health crisis
6. Review best practices for screening for mental disorders and suicidal behaviour during recruitment, and pre-deployment
7. Create a working group to develop supports for CAF members transitioning to civilian life
8. Offer integrated treatment of addictions and mental health disorders
9. Consider novel methods for delivery of psychological and pharmacological interventions (i.e. technology)
10. Encourage safe media reporting of suicides
11. Engage patients and families in program planning

BACKGROUND

Context

Overall, suicide rates in serving members of the CAF appear to have remained stable over the last two decades, with an increase in rates in the Army.[1] Little information is available on suicide rates for Veterans (former CAF members who are no longer serving). However, a data linkage study in 2010 reported that the rate of death by suicide was 1.42 times higher for male Veterans and 2.5 times higher for female Veterans than in similar aged Canadians in the general population averaged over the 35-year study period of 1975-2006. An Expert Panel on Suicide Prevention was convened on October 23 to 26, 2016 to review CFHS suicide prevention strategies and to generate recommendations.

Objectives

There were five main objectives of the Expert Panel.

1) Review the evidence and best practices for suicide prevention in civilian and military/Veteran populations.
2) Review the components of the CFHS mental health services and suicide prevention programs.
3) Consider the adequacy of the CFHS mental health services and suicide prevention programs compared to current evidence-informed best practices.
4) Suggest specific areas of improvement for CFHS mental health services and suicide prevention efforts.
5) Suggest specific areas of future inquiry that may specifically improve suicide prevention efforts.

Methods

The Expert Panel comprised members from Canada, the United States and the United Kingdom, in addition to representation from Veterans Affairs. The panel deliberated over three days. The first day was dedicated to reviewing the current programs and systems in place in the CAF, and to determine their strengths, weaknesses, and gaps. Day two comprised individual presentations from each Panel member to share their knowledge and expertise in their specialized area of suicide prevention. Day three consisted of structured discussion to develop the suggestions for improving approaches to suicide prevention.

Panel Members

Chair:

- Dr. Jitender Sareen, MD, Professor and Head of Psychiatry, University of Manitoba

Co-Chair:

- Dr. Rakesh Jetly, Senior Psychiatrist for the Canadian Armed Forces

Research Team:

- Dr. Pamela L. Holens, Clinical Psychologist, Assistant Professor of Clinical Health Psychology, University of Manitoba
- Ms. Sarah Turner, MSc., University of Manitoba
- Dr. Cara Katz, MD, University of Manitoba

Canadian Panelists:

- Dr. Natalie Mota, Assistant Professor of Clinical Health Psychology, University of Manitoba

- Dr. Sidney Kennedy, MD, Professor of Psychiatry, University of Toronto
- Dr. Marnin Heisel, Clinical Psychologist, Associate Professor of Psychiatry, University of Western Ontario
- Dr. Ken Cooper, MD, Associate Professor of Psychiatry, Dalhousie University
- Dr. Ayal Schaffer, MD, Associate Professor of Psychiatry, University of Toronto
- Dr. Jim Thompson, MD, Research Medical Advisor in the Research Directorate at Veterans Affairs Canada
- Dr. Alexandra Heber, MD, Chief Psychiatrist of Veterans Affairs Canada

International Panelists:

- Dr. Kate Comtois, PhD, Associate Professor of Psychiatry and Behavioural Sciences, University of Washington, USA
- Dr. Murray Stein, MD, Distinguished Professor of Psychiatry and Family Medicine, University of California San Diego, USA
- Dr. Johan Hammes, MD, Consultant Psychiatrist for the UK Ministry of Defense, UK

Key Findings

1. Over the past 10 years there have been an average of 16.6 suicides deaths per year amongst CAF Regular Force and Primary Reserves combined (range 11-25)[1] The 2013 Canadian Forces National Survey found a past-year prevalence of suicidal ideation and attempts of 4.3% and 0.4%, respectively.[2]
2. Access and availability of mental health services for serving military personnel with suicidal behavior are greater compared to the Canadian civilian population.[2, 3]
3. Risk factors for suicidal behaviour among military personnel and veterans include previous history of self-harm, male sex, history of exposure to adverse childhood experiences[4], mental health problems[5], addictions, physical health problems[6], relationship problems, legal problems[7],

recent psychiatric hospitalization[8], access to lethal means[9], relationship conflicts, transition period leaving the military[6], and financial problems.[10] Deployment has not been found to be associated with suicidal behaviour. However, exposure to deployment-related traumatic events (combat, witnessing atrocities) is associated with a small, but significant association with suicidal behavior,[11, 12]

4. Despite efforts to reduce stigma and increase mental health services in Canada, there was agreement that in the Canadian and US general population, the prevalence of suicide has either increased over time or remained the same.[2, 3] There was agreement on the necessity to focus on interventions that target suicidal behaviour specifically, in addition to promoting psychological resiliency, and identifying and treating mental disorders.
5. Although there is a large body of literature on the risk factors for suicidal behaviour, prediction of individual suicidal behavior in the short-term is difficult.[13]
6. Worldwide, suicide prevalence in the general population is likely underestimated by approximately 30%. Some cases of undetermined deaths and unintentional deaths (e.g. motor vehicle accidents, overdose deaths) might be misclassified.[14]
7. Based on the 2009 CAF Expert Panel recommendations, the CAF has invested in improving access to mental health services, developed the Road to Mental Readiness Program (R2MR) to improve awareness of mental health problems and increase perceived need for care, and invested in state-of-the-art epidemiological surveys that provide cross-sectional information about the mental health needs of the Canadian population.
8. The Expert Panel learned that there are no mental health inpatient facilities within the CFHS for military personnel who require hospitalization for mental health or addiction problems.

Caveats

1. The Panel recognizes that suicide is a behaviour that is extremely difficult to predict at an individual level.
2. Although the goal is to have no individuals die by suicide in the CAF Regular Force population, it is recognized that not all suicides can be prevented.
3. It is important to be aware that providers can face embarrassment, stress, grief, guilt, and fear of litigation when faced with a suicide in their practice. Review of these deaths should be done carefully to examine areas for improvement.

RECOMMENDATIONS

1. *Canadian Forces Health System Suicide Prevention Quality Improvement Coordinator*

Rationale and Literature Review
It is well established that suicide is a complex public health problem that requires interventions at the individual, family and system levels.[15-17] Most successful suicide prevention strategies have required coordinated effort to identify and treat mental health problems, improve access to evidence based treatments in a timely manner, and reduce stigma while increasing mental health literacy.[18, 19] Below are examples of suicide prevention programs that have been implemented across large systems and have been shown to be associated with reductions in suicide rates.

The US Air Force Suicide Program[18] is aimed at changing the culture in the organization through: 1) strong commitment from top leadership to reduce suicide; 2) skills and information training on suicide intervention for all Air Force members, and 3) encouraging the responsibility of all Air Force members to care for one another (buddy care). A cohort analysis of over 5 million personnel demonstrated a reduction in suicide rates by 33% during the intervention in comparison with the period before the intervention.

Recognition and treatment of depression through coordinated efforts across health and social service systems has been shown to be associated with reductions in suicides.[19, 20] Two large depression recognition and treatment projects were implemented in Hungary and Germany. Both were found to be associated with reductions in suicide attempts and suicide deaths. More recently, The Henry Ford Health System has generated significant interest due to the implementation of the "Perfect Depression" care quality improvement program. The program has been successful in reducing suicides by 75%. According to a report by Coffey and Coffey, the keys of the program's success include: 1) partnership with patients through advisory council for design of the program and increased partnership throughout treatment planning and care process; 2) planned care model including stratification of risk into three levels with accompanying interventions, including emphasis on means restriction, 3) establishing and maintaining all clinician competency and training in cognitive behavior therapy, 4) robust performance improvement techniques, and 5) improved access for patients, including drop-in group medical visit appointments, advanced same day access to care and email visits.[21] Although there is observational evidence that these complex multisystem interventions can be associated with reductions in suicide, many authors have argued for the importance of careful independent evaluation of the programs prior to widespread dissemination.[22, 23]

The United States Department of Veterans Affairs [24] has created a national suicide prevention coordinated plan. The program includes: 1) addition of a suicide prevention coordinator at each Veterans Affairs Medical Centre; 2) a flagging system in the standardized electronic health record to identify Veterans at high risk for suicide, 3) a focus on safety planning and means restriction for Veterans at high risk, 4) implementation of a National Veterans' Crisis Hotline, 5) mandatory educational programs for staff concerning suicide, and 6) research on the biological and clinical aspects of suicide prevention.[24] It should be noted that, unlike Canada, the United

States has a national strategy for suicide prevention, providing a framework and resources for a number of related services and initiatives.

Current Canadian Armed Forces Context

The above examples demonstrate that evidence exists in the literature supporting a coordinated systematic multi-layered approach in reducing suicides. Currently, the CAF has a large, coordinated effort that has increased awareness of mental health problems, focused on reducing stigma, and increased access to evidence based mental health services.[25-27] There have been documented improvements in reducing waiting times and provision of evidence-based treatments for mental health problems and addictions.[3] To the best of our knowledge, a Canadian Armed Forces National Suicide Prevention Quality improvement coordinator for training, education, and evaluation does not currently exist in the CAF.

Recommendation

The Expert Panel recommends creation of a new position entitled: Canadian Forces Health System Suicide Prevention Quality Improvement (QI) Coordinator. Similar to the US VA system, the coordinator would focus on data driven QI projects for suicide prevention across the CAF health system. The CAF suicide prevention QI coordinator would be responsible for developing a patient advisory committee, reviewing characteristics of suicides, developing a suicide attempt registry, determining needs for education among staff for suicide specific interventions (safety planning, cognitive behavior therapy, medication management, crisis management), determining needs for education in primary care for recognition and treatment of depression, defining gaps in services, consulting with mental health clinicians working with high risk patients and developing post-suicide intervention for families and providers.

Caveats

Since the CFHS suicide prevention QI coordinator will be a new position, the roles and responsibilities of the coordinator will need to be carefully defined and evaluated. The coordinator will have to have strong clinical, communication, teaching, training, and evaluation skills. The coordinator would be responsible for reviewing and implementing the recommendations from this Expert Panel.

2. *Systematic Multi-Disciplinary Review of CAF Member Suicides since 2010*

Rationale and Literature review
The Expert panel learned that suicide death reviews called Medical Professional Technical Suicide Reviews (MPTSR) have been conducted by CFHS since 2010, and systematic annual reviews of these MPTSR's, with recommendations, have been published since 2011. The CAF should consider conducting an overall systematic review of MPTSRs completed since 2010 (~100) to identify and analyze specific risk factors and potential prevention opportunities. This will be useful for driving targeted suicide prevention strategies.

Although a large number of risk factors for suicide are well established in the literature, to date, there has not been a specific detailed examination of suicides in the CAF. For example, restriction of access to fire arms has a strong evidence base in suicide prevention.[9] However, it remains unknown whether restriction of firearms would reduce suicides in the CAF, particularly given the fact that CAF members do not have access to military-issued firearms outside of training/practice or on combat missions. A large UK cohort study examined the association between implementation of specific suicide prevention policies and rates of suicides.[28] This study found that mental health services that implemented a multi-disciplinary review of suicides had a significant reduction in suicide rates during the post-policy implementation period compared to the pre-policy implementation period. [28] In a systematic review of 102 suicides in New Brunswick, Seguin et al. [29] included a panel of researchers, clinicians, provincial planners, and consumers. Each case was systematically examined to determine unmet needs at the individual, programmatic and system level, and the researchers made specific recommendations around increased public promotion, professional development campaigns, and better program coordination.[29]

Current Canadian Armed Forces Context
Although MPTSRs have been conducted by the CAF since 2010, to date, a systematic review and report of consecutive deaths has not been conducted. Such a review could provide specific suggestions for improvements in the health care system. It has been well established that risk for suicide is greatly elevated during a mental health crisis. The Expert Panel learned that there are no inpatient facilities within the CFHS for military personnel who require hospitalization for mental health or addiction problems. When inpatient care is required, military personnel are admitted either to a private residential treatment for addictions, or a public hospital. Communication between the outpatient military mental health system and the emergency and inpatient health system during an acute crisis and in the subsequent discharge planning, can represent periods of increased risk. It is advisable to review the processes that occur during times when military personnel require admission to a mental health facility and/or addiction facility for mental health problems and/or addiction problems.

Recommendation
The Expert Panel recommends that a consecutive, systematic review of all MPTSRs completed since 2010 be conducted to examine the factors associated with the deaths (e.g., contextual and biopsychosocial factors), and identify opportunities for prevention and intervention. These reviews need to be done in a sensitive and respectful manner with the intent of improving future care rather than attributing blame. Careful review of potential gaps in unmet treatment needs for

pharmacological and/or psychosocial treatments should be considered. Annex A has specific questions for the review of suicides that should be considered. These are example questions that could provide specificity in the review of suicides such that intervention and prevention programs could be grounded in the context of the CAF needs.

Caveats

Due to the small numbers of suicides in the CAF, it may be difficult to make broad recommendations. Nonetheless, this review has the potential to provide important guidance in the types of quality improvement suicide prevention strategies that could be focused upon in the upcoming years.

3. *Suicide Risk Assessment and Safety Planning Training*

Rationale and Literature Review

There is a large body of literature on suicide risk factors, suicide risk assessment[13] and safety planning.[5, 30] Detailed reviews of these topics can be found in several published articles.[5, 24, 30]

Recently, a Clinical Care and Intervention Task Force report to the US National Action Alliance Task Force (http://actionallianceforsuicideprevention.org/task-force/clinicalcare) recommended that reducing suicides includes three specific system management approaches: 1) policies and procedures across all health and behavioral health organizations focused on the detection and management of persons presenting for care with suicide risk 2) collaboration and communication in a timely manner between all staff, patients and families involved in responding to suicide risk, and 3) building a trained and skilled workforce with the skills to manage people with suicidal behaviour.

The Clinical Care and Intervention Task Force report also identified the following components of care in reducing suicide: First, screening for suicide risk and suicide risk assessment. Universal screening for suicide is recommended across all primary care, hospital care, Emergency, and Crisis Response settings. Any person who screens positive for suicide risk should be formally assessed for suicidal ideation, plans, availability of means, presence of acute risk factors and level of risk. Second, intervening to increase coping to ensure safety. All persons identified as at risk for suicide should have a collaboratively designed safety plan. Safety planning[31, 32] includes encouraging use of coping strategies and restricting means. Third, treating and caring for people at risk of suicide should be carried out in the least restrictive setting using evidence-based practices. Fourth, persons with suicide risk who are leaving intervention and care settings should receive follow-up contact from the provider or caregiver.

There is emerging prevention work in the US VA that has shown acceptability and feasibility. This program is referred to as Suicide Assessment and Follow-up Engagement: Veteran Emergency Treatment (SAFE VET).[33] SAFE VET has two components. First, brief psychotherapeutic intervention based on principles of safety planning intervention that include implementation of means restriction, use of coping skills and problem solving, improvement of social support and understanding of who to call in an emergency, and motivational enhancement for additional treatment. [33] Second, structured telephone contacts that include risk assessment, review and revision of the safety plan, and facilitation of engagement with outpatient care. Although the SAFE VET has shown feasibility and acceptability, a definitive outcomes trial has not been conducted. A recent small, randomized controlled trial compared crisis response planning with contracts for safety among US military personnel presenting to an emergency room. Crisis response planning was associated with reduced suicide attempts in comparison with contracts for safety.[32]

Current Canadian Armed Forces Context

There has been considerable expansion of mental health services in the CFHS in the last 15 years,[3, 34] which includes an increase in recognition and treatment of mental health problems and suicidal behaviour.[2, 35] There has also been widespread implementation in the CFHS of psychological treatments for PTSD and depression.[3] However, it is not clear whether these

initiatives include systematic training related to suicide risk assessment, intervention, and safety planning.

Recommendation

The Expert Panel recommends screening for suicidal ideation in primary care. Simple tools like the Patient Health Questionnaire - 9 item could be used to screen for depression and suicidal ideation.[36] Screening should only be done if there is adequate follow-up available.[37] In primary care, it also would be helpful to ensure that there is regular training for primary care CAF physicians in recognizing and treating depression, PTSD, and alcohol use disorders.

In emergency settings and specialty mental health care settings, training in safety planning (e.g.. SAFE VET)[31, 33] and crisis response planning could be considered. Such training should be offered to primary care staff and specialty mental health staff.

Caveats

Broad training in safety planning can be expensive and skills learned in a one-day session may not be applicable in the real world. A careful needs assessment should be conducted to assess for the presence of and/or need for this type of training. Due to the limited evidence of efficacy of suicide assessment training, any training in the CFHS around suicide assessment and safety planning should be carefully evaluated, ideally using a control group. Modifying existing safety planning tools or packages to fit the military context may be a valuable approach.

4. Suicide-Specific Psychosocial Interventions for People with a History of Self-Harm

Rationale and Literature review

In addition to the treatment of the mental health problem and addiction, there is emerging evidence suggesting that suicide specific psychological treatments such as problems solving therapy, Dialectical Behavior Therapy (DBT)[38], Cognitive Behavioural Therapy for suicidal behaviour (CBT-suicidal behavior)[39], interpersonal therapy[40], and brief psychological treatments[17] after self-harm (e.g., Collaborative Assessment and Management of Suicidal behaviors (CAMS))[41] are effective in reducing suicide attempts. The CAF should consider conducting a needs assessment for training for clinicians interested in providing psychological interventions in the post self-harm period.

Several psychological treatments have been found to reduce suicide attempts and/or suicide related thoughts and behaviours. A recent randomized controlled trial (RCT) of Dialectical Behavior Therapy[42] found that a variety of DBT-based interventions, when offered by therapists who are trained in the DBT suicide risk assessment and management protocol, are effective for reducing suicide attempts and non-suicidal self-injury episodes in individuals with borderline personality disorder in the general population. The majority of studies on DBT have been conducted in US general population samples. Brief Cognitive- Behavioral Therapy has also demonstrated reductions in suicide attempts over a 2 year period compared to a control group among military personnel presenting with a history of suicide attempts[39].

Another more recent suicide prevention protocol known as "CAMS" has also been found to decrease suicidal ideation and overall symptom distress, while at the same time increasing feelings of hope.[41] DBT has advantages in that it has been more widely disseminated than any other suicide prevention outpatient treatment and is well described in published manuals. However, DBT is a complex, multi-session treatment that lasts for 6-12 months and is best delivered by members of a team who have received DBT training together. The number of hours involved in receiving formal DBT training can be quite substantial. CAMS, a newer protocol, takes significantly less time to administer and to train providers to offer, but does not yet have the evidence base that DBT does.

Current Canadian Armed Forces Context

Most of the noted literature on suicide specific psychological interventions is from non-Canadian samples. The generalizability of the studies to the Canadian military context remains unknown. Nonetheless, the Expert Panel recommended consideration of these novel psychological interventions in a suicide prevention action plan.

The panel learned that evidence-based mental health services are available to CAF members. There has been a large focus on training providers in trauma focused psychological treatments. However, it is unclear to what extent the evidence-based treatments being offered are specifically designed to target suicidal behaviour. It is unclear whether suicide specific interventions such as problem solving therapy, DBT, CBT for suicidal behaviour, and CAMS are available to Canadian military personnel presenting with suicidal behaviour.

Recommendation

The expert panel recommends that a needs assessment be conducted to determine the degree of need for mental health clinicians to be trained in suicide-specific, evidence-based treatment protocols, such as problems solving therapy, interpersonal therapy, DBT, CBT, or CAMS. It is recommended that at least one, but ideally *all* clinicians at each mental health facility have training or access to at least one of these treatment protocols.

Caveats

Consideration should be given to balancing the time commitment involved in training mental health clinicians in these protocols against the time commitment required to provide the treatments. While DBT has been well established in terms of its efficacy, the time commitment for staff training and delivery of a DBT program are substantial. On the other hand, CAMS training, which is newer and thus has a smaller base of evidence for efficacy, takes considerably less training time and is less labour-intensive to offer. CBT for suicidal behavior has a strong evidence base and training could be considered. Since many of these suicide specific interventions have not been tested in Canadian military and veterans samples, we recommend evaluation of any of these interventions in the Canadian military.

5. Caring Contacts or Letters after a Mental Health Crisis

Rationale and Literature review

There is empirical evidence that follow-up communication with individuals after a mental health crisis reduces suicides in the general population.[43] The CAF could explore implementing Caring Contacts and adapting it to modern day technologies so that this communication can occur through cellular devices.

It is well documented that the time immediately following discharge from a psychiatric hospitalization is a period of high risk for suicidal behaviour. Brenner and Barnes [44] reported that the highest risk period for suicide among VA patients was in the 12-week period immediately following discharge from a psychiatric hospital. Many patients do not follow-up with mental health care after presenting to the Emegency department or psychiatric hospitalization. Caring Contacts or letters following hospital discharge have been found to decrease suicide rates.[17, 45, 46]

The focus of the letters is generally an expression of concern that the person is “getting along alright” and an invitation to respond should the individual wish to do so.[46] The expert panel learned that a very high proportion of CAF members who have died by suicide have their cellular phone in close proximity. Therefore, there may be an advantage to sending these Caring Contacts via text messages to members’ cellular phones as there is a significant potential that a member who is in a suicidal crisis may look at his or her cellular phone in the moments before they engage in the suicidal act. They may then be reminded, through their text messages, that there are individuals “out there” who care about their well-being and are willing to be contacted for assistance.

Luxton and colleagues[46] recently adapted the Caring Contacts intervention for military personnel who received inpatient psychiatric care at a large military medical treatment facility. In this pilot study, the researchers utilized both letters and emails to deliver brief caring messages to participants. Data from the study indicated that most Service Members preferred to receive the follow-up contacts via email as compared to postal mail. The overall results of the pilot study support the feasibility of technology-based caring contact interventions. Based on these promising pilot data, Luxton and his group are beginning a large scale RCT (N = 4700) to determine if this caring email intervention might result in reductions suicide deaths and suicidal behavior in Service Members and Veterans who are receiving inpatient psychiatric care.

Current Canadian Armed Forces Context

Given that psychiatric hospitalizations occur outside of the CFHS, the transition following discharge should be given extra attention in terms of “continuity of care”. Privacy of the patient and family member needs to respected in the context of this vulnerable period. However, stronger verbal communication between civilian hospitals and Emergency staff and military mental health systems could reduce the gaps in services and improve transitions.

Recommendation

The expert panel recommends that the CFHS explore the possibility of implementing Caring Contacts for individuals who have experienced recent psychiatric hospitalization, or a recent

suicide attempt. The CAF should also consider the use of technology that would allow this communication to occur through cellular devices.

Caveats

Use of technological interventions require careful review related to privacy issues. A recent meta-analytic review of brief contact interventions including telephone contacts, emergency or crisis cards, and postcards or letter contacts, found only a non-significant positive effect on repeated self-harm, suicide attempt, and suicide.[47] Nevertheless, Caring Contacts has good evidence of efficacy and should be considered as part of a comprehensive suicide-prevention strategy.

Note: See example caring contacts letter in Annex B.

6. Review Best Practices to screen for Mental Disorders and Suicidal Behaviour during Recruitment, Pre-Deployment and Post-Deployment

Rationale and Literature Review

There is a limited and controversial literature on screening for mental health problems and suicidal behaviour at three key time points: 1) enlistment, 2) pre-deployment, and 3) post-deployment. Enhanced post-deployment screening for mental health problems has been implemented in Canada based on the 2009 Expert Panel recommendations[25]

Enlistment Screening for Mental Health Problems

There is increasing evidence from US army studies showing that a substantial proportion of military members had the onset of their suicidal behavior prior to enlistment in the military.[48] There is also a large body of evidence to show that the majority of common mental disorders such as depression, anxiety and substance use have an onset in childhood and adolescence.[49, 50] These findings suggest that there may be opportunities for screening for mental health problems and suicidal behavior at the time of enlistment in the military. There is limited literature on the topic of whether screening for mental disorders during the enlistment phase impacts on the development of mental disorders and suicidal behavior.[51, 52]

Pre-Deployment Screening for Mental Health Problems

There is limited literature on whether pre-deployment screening for mental health problems is associated with reductions in mental health problems. There was one positive study of pre-deployment screening in a US military cohort[53, 54] and one negative study of pre-deployment screening in a UK cohort.[55]

Current Canadian Armed Forces Context

The Expert Panel learned that during the enlistment phase, recruits for the CAF fill out a self-report questionnaire about mental health problems. People with a history of severe psychiatric illness such as schizophrenia and bipolar disorder are usually not recruited to the military. However, it remains unclear whether a history of self-harm behaviour and psychiatric hospitalization are assessed during the enlistment phase. It is important to note other high risk professions such as police conduct thorough psychological screening. However, it remains unclear whether such screening practices mitigate the risk for mental health problems.

Recommendation

The Panel recommends examining international best practices for identifying risk and building resilience during the early recruitment phase, and pre-deployment phase.

Caveats

The panel recognizes that there is very limited (and some contradictory) evidence that increased screening for mental health problems at the time of enlistment will contribute to reduced suicide rates. Any new programs should be carefully evaluated as to their risk-benefit ratio.

7.Improve Supports During the Transition to Civilian Life

Rationale and Literature Review

There is increased vulnerability (i.e., identity issues, financial, employment, social support, physical health, disability, housing and other well-being stressors) for suicidal behavior during the transition period between leaving the military and entering civilian life.[6, 56] The CAF and VAC could create a working group to develop optimal suicide prevention and mental health intervention and well-being support strategies for this transition.

Periods of transition associated with major life events increase an individual's risk for suicidal behaviour.[44] Potential causes of post-discharge suicide risk include the stress related to re-establishing or redefining a variety of roles (e.g., occupational, social, recreational), a heightened sense of burdensomeness (both financial and emotional) on families, and a sense of disconnectedness from civilians that sharply contrasts to the Veteran's previous sense of belongingness with other military personnel.[44]

Current Canadian Armed Forces Context

High quality mental health care is available to serving CAF members while they are in the military through the CAF Health Services, VAC Operational Stress Injury (OSI) clinics, and CAF Operational Trauma and Stress Support Centres (OTSSC's). Similarly, high quality mental health care is available to post-service Veterans through VAC OSI Clinics, and peer support is available through Operational Stress Injury Social Support (OSISS) programs. Despite the quality care and number of services that are offered at these two distinct time points, there is a period of vulnerability and increased suicidal risk as CAF members transition into civilian life that may require additional resourcing. Individuals with mental health problems who have not engaged in mental health services while serving may be at the highest risk due to not having forged any previous relationships within the mental health system (possibly due to concerns about stigma or career-ending implications). Therefore, they may not have connected with someone who could make an appropriate referral to services, such as the VAC OSI clinics and OSISS peer support programs, that are available to them in additional to Provincial healthcare services after release from service.

Recommendation

The expert panel recommends that the CAF and VAC create a working group to develop optimal support strategies to address suicide prevention and promote well-being among CAF members/Veterans who are in transition from military to civilian life. One possible model to explore is the U.S. Veterans Affairs SAFE VET program[33], an integral component of which is an Acute Services Coordinator who is a resource to the Veteran during the transition period and facilitates engagement in outpatient care. The utility of the SAFE VET program in the Canadian context requires empirical evaluation.

Caveats

It should be noted that released CAF members obtain their health care from Provincial healthcare providers. VAC does not deliver direct patient health care. The panel recognizes that there is limited evidence for screening for mental health problems during these phases. Any new programs should have careful evaluation.

8. Evidence-based Treatment to Address Co-occurring Mental Health Problems and Addictions

Rationale and Literature Review

Suicidal behavior is highly associated with co-occurring mental disorders and addictions.[25, 29] Common comorbidities include depression and PTSD[57] with alcohol and cannabis use disorders.[58] Physical health problems among military personnel, such as traumatic brain injury, and chronic pain are major stressors that increase the likelihood of mental health problems and addictions.[59] Among people with chronic pain and depression, there is a need for careful monitoring for the onset of prescription opioid use disorders.[60] Other important comorbidities associated with suicidal behavior include personality disorders (narcissistic personality, borderline personality and dependent).[61] There is empirical evidence that there is a dose response relationship between number of mental health and physical conditions and suicide risk.[62, 63]

Primary care and specialist mental health care providers are encouraged to follow treatment guidelines and use measurement based care.[64-66] There is a large body of empirical literature and many guidelines on the treatment of depression, anxiety disorder, substance use disorder, and personality disorders. Empirical evidence suggests that many patients do not receive treatment that is consistent with Practice Guidelines.[67]

The American Psychiatric Association, UK National Institute for Care and Excellence (NICE), and Canadian Network for Mood and Anxiety Treatments (CANMAT)Task Force on management of co-occurring conditions.[64, 68] Based on the level and severity of the conditions, the setting of the treatment needs to be considered - inpatient, outpatient or residential treatment. It is important to manage both the mental health problem and the addiction using a biopsychosocial approach. In the UK cohort study, policies related to management of dual-diagnosis were associated with reductions in suicide rates.[28]

It is also important to consider whether the addiction and the mental health issues are treated sequentially, or concurrently using an integrated treatment model. In the case of PTSD, the historical standard of care has been to treat the substance use disorder first and defer treatment of the PTSD until a period of sustained abstinence (e.g., 3–6 months) has been achieved. However, more recently the *integrated model* of treatment, which involves both disorders being simultaneously targeted by the same clinician, has gained favour.[69] Strong support for the integrated model is found in investigations that examine the temporal course of symptom improvement. For example, Hien and colleagues [70] using data from a National Institute on Drug Abuse (NIDA) Clinical Trials Network (CTN) (n = 353), found that improvements in PTSD symptoms had a greater impact on improvements in alcohol dependence symptoms, rather than the converse.[70] Furthermore, a large proportion of patients with comorbid PTSD and substance use disorders (SUD) indicate that they would prefer to receive integrated treatment.[71, 72] Given this growing evidence base and patient preference, the integrated model has received increasing support over the past decade. [73]

Roberts et al.[74] completed a systematic review and meta-analysis of RCTs of psychological interventions for PTSD and comorbid SUDs. They concluded that there is evidence that

individual trauma-focused psychological intervention delivered alongside SUD intervention can reduce PTSD severity and drug/alcohol use, although the current quality of evidence remains low. By contrast, they found little evidence to support use of non-trauma-focused individual or group-based interventions for comorbid PTSD and SUD. [74]

Current Canadian Armed Forces Context

Co-occurring mental disorders, physical health conditions and addictions are prevalent in serving and former CAF members. However, there is limited literature on the treatment of addictions and comorbidity among CAF members and Veterans in Canada. Although there is clear evidence that military personnel with suicidal behavior receive more access to mental health services than the general population, it remains unknown whether the mental health treatments received by military personnel are aligned with Clinical Practice Guidelines.

Recommendation

Based on the reviews of suicides in serving and former CAF members, it will be helpful to understand the frequency and severity of comorbid conditions. If there are gaps in the treatment of co-occurring conditions, there might be a need to provide training on both evidence-based psychosocial and evidence-based pharmacological treatment of co-occurring conditions. The CAF should consider evidence-based treatments that provide integrated, rather than sequential, treatment of addictions and mental health disorders. A needs assessment could also be considered to determine the types of training required by health proviers in the management of co-occurring conditions.

Caveats

Roberts et al.[74] cautioned that treatment dropout rates were higher for individuals with SUD who received trauma-focused interventions. So, while there is evidence of the efficacy of integrated treatment for PTSD and SUD, this must be balanced with the knowledge that co-occurring disorders such as PTSD and SUD are difficult to treat and typically associated with poor prognosis.

9. Novel Approaches in Improving Access to Evidence-Based Treatments

Rationale and Literature Review

Although access to mental health services is high in the military, novel approaches such as telehealth[75], internet-based, mobile apps[76], telephone-delivered CBT[77, 78], and large CBT classes for patients and families [79] could further improve efficiencies and provide timely access to care.

There is strong empirical evidence from Canadian epidemiologic studies that CAF members are significantly more likely to receive mental health services than Canadian civilian populations.[2] A national sample of CAF members compared to the general population demonstrated that suicidal behavior rates were similar between the two populations. However, CAF members with suicidal behavior were significantly more likely to receive any mental health services than the general population.[2] Other work has demonstrated that CAF members are able to receive mental health care more quickly than civilian populations.[3] Nonetheless, a significant minority of people with mental health problems do not receive any care.[26] Among people with a common mental health problem, the most common reasons for not receiving care is an unperceived need for care, and attitudinal barriers rather than structural barriers.[12] Examples of attitudinal barriers include a wish to handle the problem on their own.[80]

There is an enormous body of literature demonstrating the feasibility, acceptability, and effectiveness of CBT through telehealth, telephone, mobile apps, and Internet-based.[64] Systematic reviews and meta-analyses have demonstrated that these novel approaches have comparable efficacy rates to in-person delivered interventions.[81]

There is also an emerging literature on using a large class educational format for delivering CBT for depression and anxiety.[82] These classes can involve up to 30 people including family members; they can provide rapid access to principles of CBT, reduce waiting times, and encourage self-help strategies. In a large multi-system implementation of psychoeducation classes with over 4000 patients in UK primary care, demonstrated a medium effect size in reducing anxiety and mood symptoms.[83]

In Manitoba, a set of four 90-minute classes has been developed that provide education on CBT skills and mindfulness. During the last three years, approximately 1000 patients with mood and anxiety disorders have accessed these classes including patients at the VAC OSI clinic in Winnipeg. Waiting times for CBT have been reduced from 18 months down to 3 months in the public health system, while in the VAC OSI clinic in Winnipeg, waiting times for CBT have been reduced from 3-6 months to one month. [82]

Current Canadian Armed Forces Context

There has been a considerable recent increase in the amount of literature on the use of novel approaches for delivery of psychosocial interventions. CFHS has utilized novel approaches in delivering mental health care including use of telehealth.

Recommendation

The CFHS should consider a standard list of options for delivery of psychological and pharmacological interventions through novel delivery methods (Internet, mobile apps, telephone, class room) to improve accessibility for CAF members.

Caveats

A careful needs assessment is required to obtain client and provider feedback on types of novel approaches that would be most acceptable to both parties and most efficient to support. Privacy issues need to be balanced with the need to improve access through the use of technology.

10. Encourage Safe Media Reporting of Suicides

Rationale and Literature Review

There is a large body of literature demonstrating that certain types of media reporting increase the risk of imitation (or suicide contagion) and stigmatization of services while other types of media reporting reduce suicide contagion and increase help seeking.[16, 84] Although the majority of studies are observational, there is enough evidence to suggest that journalists, policymakers and clinicians need to be aware of the impact of media on suicidal behavior. Suicide prevention guidelines across the world include media guidelines on safe reporting of suicide as an important public health strategy. The Centre for Disease Control, Canadian Association of Suicide Prevention, Canadian Psychiatric Association all have specific guidelines for media reporting (http://www.cpa-apc.org/wp-content/uploads/2009-3pp-MediaGuidelines-eng.pdf).

Media Reports should avoid; a) front page stories, b) photos of the deceased and loved ones, c) excessive details of the method, content of the suicide note, simplistic or superficial reasons for the suicide. The stories should also avoid the word Suicide in the Headline, and not use the words “commit,” “completed,” or “successful” suicide.

Media reports should include reporting about the link between mental disorders and suicide, highlight that mental disorders are treatable, and most suicides are preventable. Media reports should include alternatives to suicide including community resource information such as websites, or crisis lines.

The Canadian Psychiatric Association (CPA) is currently updating their guidelines in collaboration with Canadian journalists, and members of the CAF. The updated Guidelines will be released in 2017.

Current Canadian Armed Forces Context

Over the last 3 years, there has been a substantial increase in media reports of suicides of CAF members and Veterans. Many of the media guidelines recommended above are often ignored. Names of the people who have died by suicide are reported, methods of suicide are also published, and the same death is reported multiple times. This type of reporting has the potential for suicide contagion. There is a need for Media outlets and Journalists to review the CPA Guidelines for reporting suicidal behavior.

Recommendation

The CPAs 2017 Media Guidelines on Suicide reporting will be released this year. The CFHS could consider working collaboratively with the CPA to raise awareness among journalist and editors about best practices of reporting suicides in the media

Caveats

Some journalists have disagreed with the previous CPA guidelines , suggesting instead that media reports of suicide increase public awareness about the impact of suicide, and increase attention among policy makers. It is important to ensure that there is strong advocacy for suicide prevention at the policy level. Investment in improving mental health care and research in mental

health and suicide prevention is greatly needed. However, such advocacy should be done systematically, and not by reporting specific cases.

11. Engaging Patients and Families in Treatment and Program Planning

Rationale and Literature Review
There is increasing emphasis worldwide on engaging families in design and delivery of health services. Services that are patient and family centered are much more likely to be successful. The Henry Ford Health System's Perfect Depression treatment program has specifically engaged family members and patients in the design of their program.[85] Another program in the US called the Arizona Programmatic Suicide Deterrent System Project included four elements: 1) comprehensive staff training to move suicide care from speciality referral to core mission; 2) suicide attempt survivor leadership and support, through participation in design and implementation of peer support groups, 3) active engagement of family in the treatment process (the new "normal", and community integration and support), and 4) development of culturally sensitive best practices for suicide care.

Engaging families in clinical care of patients presenting with suicidal behavior is important especially in crisis situations. Although concerns about privacy are important, there is especially a need to acquire collateral information from family and friends during an acute crisis and elevate suicide risk.[86]

Current Canadian Armed Forces Context
Over the last ten years, there has been a considerable expansion of mental health services for patients presenting with mental health problems and suicidal behaviour. The frequency with which family members are included in assessment and treatment planning remains unclear. At this time, a national patient and family advisory committee does not exist for CAF mental health services and suicidal behaviour. The Panel recognized the need for the facilitation of communication and feedback between patients, family, health care providers and decision makers.

Recommendation

The Expert panel suggests that a patient and family advisory committee be created. This committee of 8-10 people would provide input into the design of mental health services and suicide prevention efforts. The committee membership, terms of reference, and frequency of meetings would need to be carefully considered. Family members and patients who had concerns about not receiving appropriate mental health services could have the option of contacting this Advisory committee rather than going through media reports. Such an approach may reduce inappropriate media stories that could be associated with suicide contagion, and also provide a systematic way of improving mental health services.

Caveats
The patient advisory committee needs to be carefully selected to ensure balance of perspectives of patients and families across the whole range of mental health problems, and across Canada.

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ANNEXES

Annex A: Questions to Consider when Conducting a Systematic Review of Canadian Armed Forces Suicides

1. What were the sociodemographics (age, sex, marital status, race, region) and methods of suicide (overdose, hanging) among CAF members?
2. Where did the suicides occur (home, work, other)?
3. Among the cases of suicides, what were the mental health and addiction problems?
4. How common were diagnoses of personality disorders or personality traits (e.g. borderline personality disorder, narcissistic)?
5. What was the pattern of recent work and psychosocial stressors (divorce, retirement, separation, legal problems) among the deceased?
6. What types of physical health problems (including but not limited to musculoskeletal disorders, cancer, neurologic, respiratory, chronic pain and effects of traumatic brain injury) were prevalent among the deceased?
7. What was the pattern of service use (hospitalization, emergency visits, outpatient specialty or primary care) prior to suicide deaths?
8. What was the pattern of pharmacotherapy, and psychosocial interventions among the deceased?
9. What proportion of patients with suicide received medications that have evidence in suicide prevention (lithium, clozapine, atypical antipsychotics, antidepressants)?
10. Did people receive evidence based treatments related to their mental health problem or addiction?
11. Among deceased people with a history of prior suicide attempts, what types of psychosocial interventions did they receive (e.g., interpersonal therapy, cognitive behavior therapy, dialectical behaviour therapy, group therapy, family therapy, spiritual care) after their suicide attempt?
12. Among people with firearm related suicides, what types of measures were taken to limit access to firearms prior to the death?

Annex B: Caring Contacts Letter

Dear [patient's name],

We appreciated the opportunity to get to know you while you were at the hospital. We hope things are going well for you.

We remember how you said that you enjoy hiking around the South Puget Sound. With the return of the summer weather, we hope you're getting a chance to get out there and explore some new trails. Anyway, we just wanted to send a quick e-mail to let you know we are thinking about you and wishing you well.

If you wish to drop us a note, we would be glad to hear from you.

Sincerely, Cassidy and Laura

Example taken from:

Luxton DD, Thomas EK, Chipps J, Relova RM, Brown D, McLay R, et al. Caring letters for suicide prevention: Implementation of a multi-site randomized clinical trial in the U.S. military and veteran affairs healthcare systems. *Contemp Clin Trials*. 2014;37(2):252–60. Available from: http://dx.doi.org/10.1016/j.cct.2014.01.007