Using Survey Data to Understand Suicidal Behaviour: Findings from the 2013 Canadian Forces Mental Health Survey

Bryan G Garber MD and Mark A Zamorski MD
Research and Analysis Section
Directorate of Mental Health
Canadian Forces Health Services

Presented at HFM-275 Symposium on Military Suicide
Riga Latvia, April 2017

Introduction

- The past decade has seen a rise in suicide rates in the US Army and Marine Corps subsequent to engagement on the Global War on Terror.
- Canadian analysis of suicides (1995-2015) found no such trend and suicide rates overall were comparable to the Canadian General Populations after standard adjustments.
- However, males in the Army (combat trades) had a higher suicide rate compared to non-combat arms males.
- There was a trend towards elevated risk in males that had deployed to Afghanistan albeit not statistically significant.

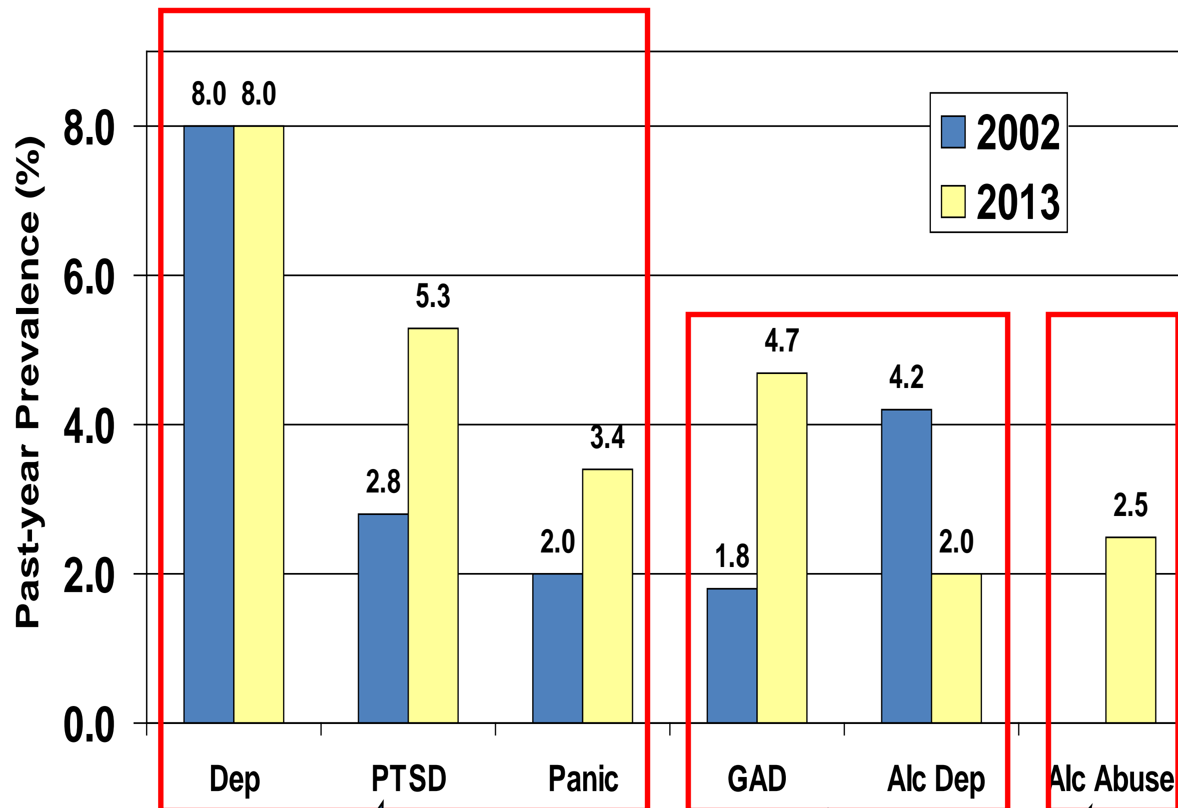
Introduction

- Relying solely on suicide surveillance data to guided prevention approaches problematic:
  - The small numbers of suicides in the Canadian Armed Forces
  - limited information on mental health status pose
- Survey data can provide complimentary evidence related to risk and protective factors regarding suicide and suicide-related behaviours

2002 and 2013 CF Mental Health Surveys

- Stratified random sample of more than 8000 serving personnel at each time point
- Response rate ~80%
- In-person interview survey with StatCan personnel
- Use of the Composite International Diagnostic Interview for assessment of past-year mental disorders
- Methods are highly comparable with general population surveys in 2002 and 2012

The prevalence of some past-year disorders has increased since 2002



2002 – 2013 rates are fully comparable

2002 – 2013 rates are *not* comparable

Not assessed in 2002

Zamorski & Bennett, 2014 (MVHRF)

Military-Civilian Comparison in Prevalence of Past-year Disorders

Past-year variable	Full-time Regular Force members (weighted N =64,400)	Canadian Civilians (weighted N =28,314,720)	Restricted* Civilian Sample (weighted N =11,754,680)	Matched** Civilian Sample (weighted N =64,400)
Major Depresion	7.96% (7.27-8.64)	4.72% (4.31-5.14)	3.48% (2.96-4.01)	3.64% (3.11-4.17)
GAD	4.69% (4.16-5.22)	2.57% (2.30-2.84)	1.81% (1.42-2.20)	1.50% (1.11-1.89)
Alcohol abuse or dependence	4.49% (3.94-5.03)	3.17% (2.81-3.52)	3.99% (3.36-4.61)	6.63% (6.00-7.25)
Suicidal ideation	4.26% (3.71-4.81)	3.34% (2.99-3.70)	2.09% (1.66-2.52)	2.24% (1.81-2.67)
Suicide attempts	0.37% (0.20-0.55)	0.53% (0.33-0.72)	0.07% (0.03-0.11)	0.09% (0.05-0.13)

*Restricted To: age 17-60 years, full-time Employed, no recent emigrant, no exclusionary chronic conditions for military service

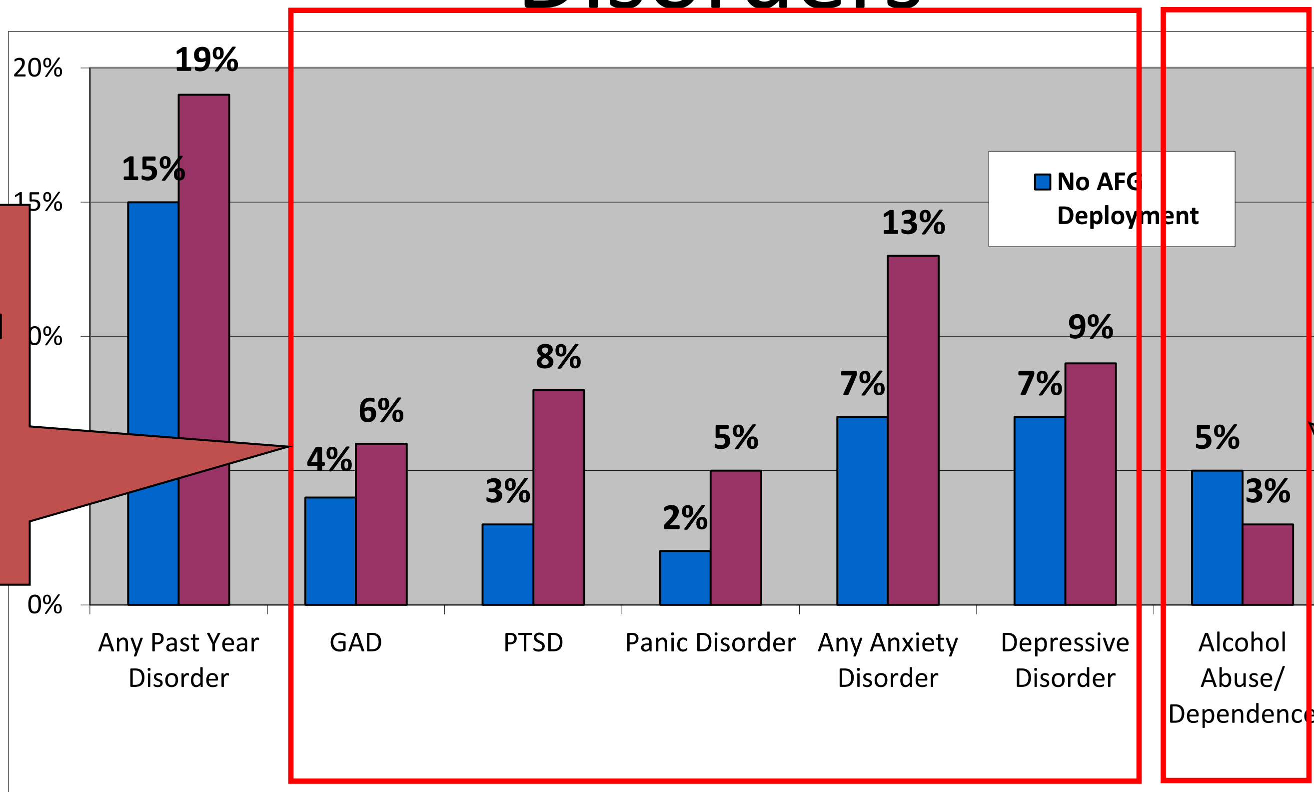
**Matched For: age, sex, race, marital status, province of residence, education, income, childhood trauma

Rusu, Zamorski, Boulos, & Garber, 2014

Higher Prevalence of Many Mental Disorders in Army

	Army % (95% CI)	Navy % (95% CI)	Air Force % (95% CI)	Total % (95% CI)
Depression	9.07 (8.03 - 10.11)	6.50 (5.38 - 7.62)	7.03 (5.54 - 8.52)	7.96 (7.27 - 8.64)
PTSD	6.67 (5.79 - 7.56)	3.73 (2.83 - 4.63)	3.47 (2.34 - 4.61) [b]	5.26 (4.65 - 5.86)
GAD	5.05 (4.30 - 5.79)	4.45 (3.49 - 5.41)	3.98 (2.82 - 5.13)	4.69 (4.16 - 5.22)
Panic Disorder	4.33 (3.63 - 5.04)	1.92 (1.32 - 2.53)	2.94 (1.84 - 4.04) [b]	3.38 (2.91 - 3.85)
Alcohol abuse	2.98 (2.34 - 3.63)	1.36 (0.82 - 1.91) [b]	3.24 (2.05 - 4.44) [b]	2.52 (2.09 - 2.95)
Alcohol dependence	2.69 (2.05 - 3.34)	1.05 (0.67 - 1.65) [b]	1.09 (0.40 - 1.77) [b]	1.96 (1.59 - 2.34)
Alcohol abuse or dependence	5.68 (4.80 - 6.56)	2.42 (1.66 - 3.19)	4.34 (3.03 - 5.65)	4.49 (3.94 - 5.04)
Any past-year disorder[a]	18.73 (17.38 - 20.09)	12.13 (10.68 - 13.58)	13.99 (11.96 - 16.08)	15.99 (15.06 - 16.91)

The Effect of Deployment to Afghanistan on Past-Year Mental Disorders



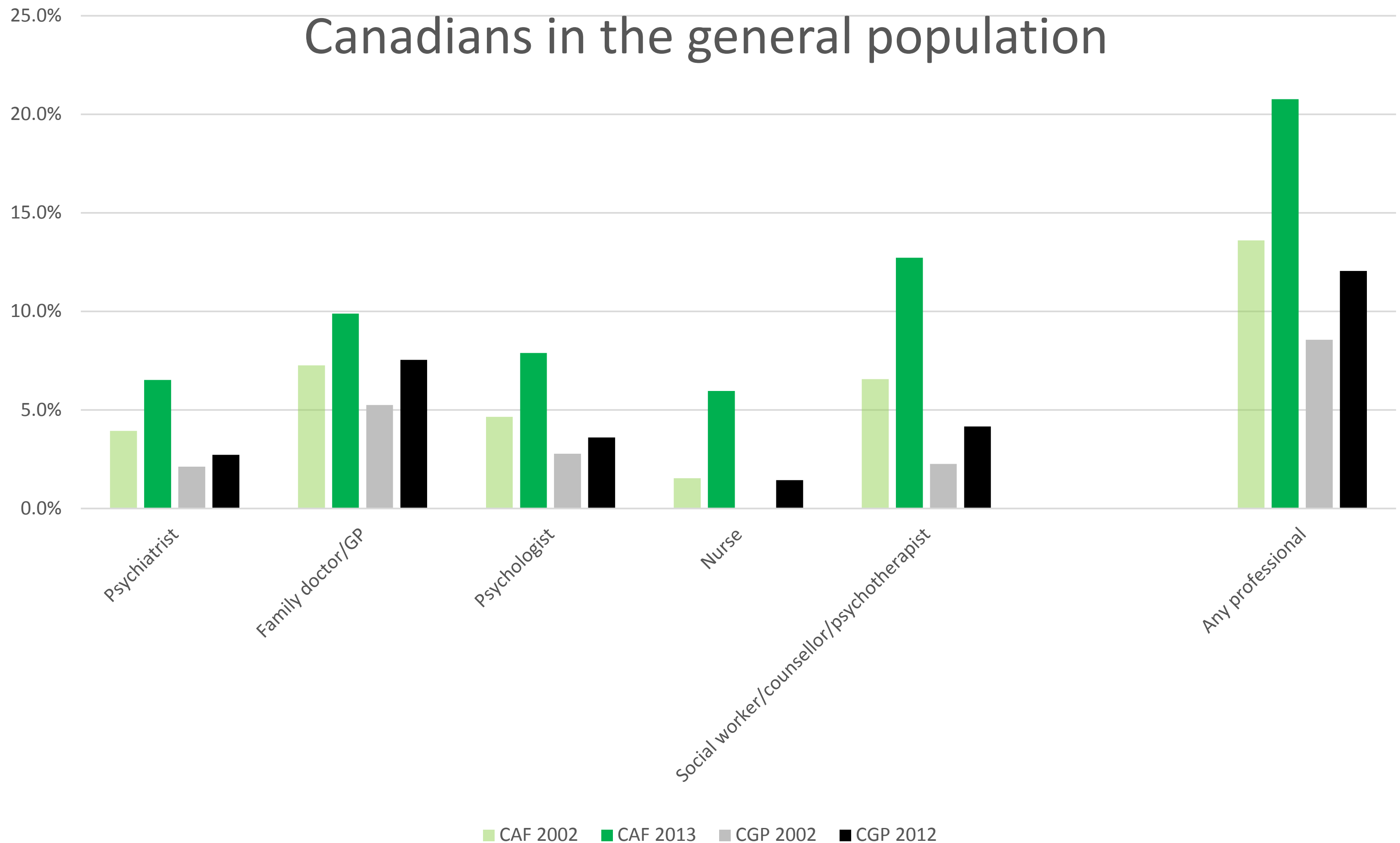
But lower prevalence of alcohol use disorders! Surprising given higher prevalence of mood and anxiety disorders and findings from other nations.

All are significant at 0.05 level - Chi-Square Test

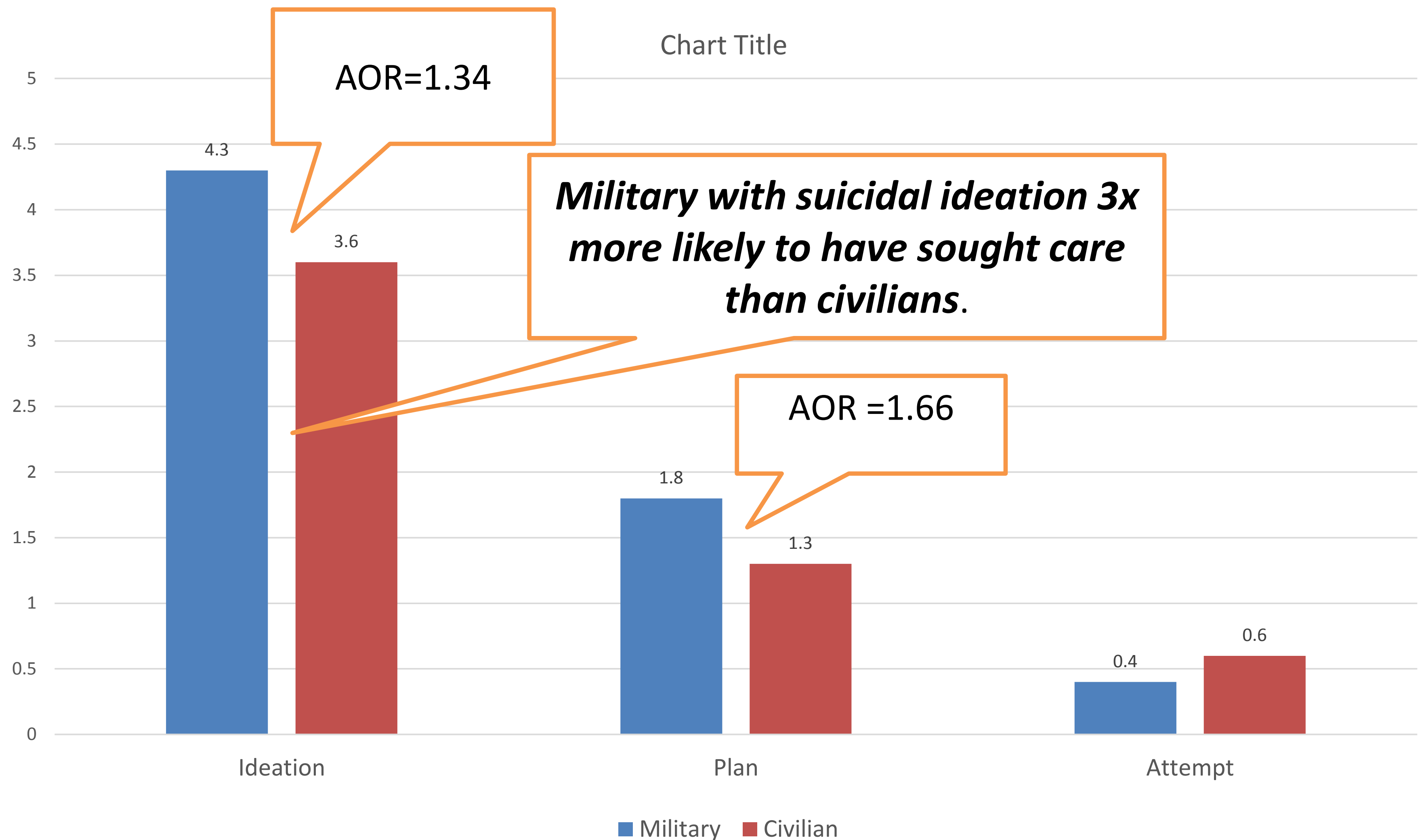
Boulos & Zamorski, 2016 (Can J Psychiatry)

Adverse Childhood Exposures (ACE)

- ACE higher in RegF (47.7%) compared to CGP (33.1%);
  - Includes: physical abuse, sexual abuse and exposure to intimate partner violence.
- ACE contributed far more to the overall burden on mental disorder in the CAF (PAF= 28.7%)than did deployment to Afghanistan(PAF=8.7%).
- All types of ACE exposures were also linked to increased odds of suicidal behaviours (ideation, plans and attempts) in both CAF and CGP
- Many of these associations were significantly weaker in military personnel relative to civilians.


Past Year Mental Health Services Use in CAF Regular Force personnel and comparable Canadians in the general population
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Psychiatrist
Family doctor/GP
Psychologist
Nurse
Social worker/counsellor/psychotherapist
Any professional
CAF 2002
CAF 2013
CGP 2002
CGP 2012

Past-year Suicidal Behaviour and Care Seeking 2012/2013*



*Sareen et al CMAJ Aug 9 2016. 188(11)

Summary of Key Findings

- Mental disorder is more prevalent in the CAF compared to the Canadian General Population.
- Afg-deployment contributed to the burden of mental illness (most pronounced for PTSD).
- Adverse Childhood Experiences had a greater impact on both prevalence of mental disorder and suicidal behaviors.
- More mental disorders in the Army vs Navy/Air Force
- Greater care seeking in CAF for both mental disorder and suicidal ideation than in comparable civilian.
- The link between some ACE and suicidal behaviours attenuated in the CAF.

Implications

- Findings point to the need to target drivers of suicidal behaviour other than deployment-related trauma (e.g., ACE's).
- Many programs and services to aimed on reducing morbidity and mortality of mental disorder but survey data tell us little about the effectiveness of any of these
- Need a better understanding of what works and what doesn't.

THANK YOU:
bryan.garber@forces.gc.ca