Mental health service utilization in Canadian Veterans living in Ontario: a retrospective study using administrative healthcare data

Presenting Author: Alyson Mahar, PhD Candidate

Authors:
Dr. Alice B. Aiken, Canadian Institute for Military & Veteran Health Research
Dr. Patti Groome, Public Health Sciences, Queen’s University
Marlo Whitehead, ICES Queen’s
Dr. Paul Kurdyak, Centre for Addiction & Mental Health
Background

• The mental health needs of Canadian Armed Forces Veterans are a national priority.
  – Mental health problems may begin or worsen after leaving the CAF
  – 22% Veterans report a mental health diagnosis (VAC, 2013)

• Little data exist describing the use of mental health services by Canadian Veterans.
  – Transition from the federal to provincial healthcare system
Objectives

• Our group has recently developed a longitudinal data resource linking provincial administrative healthcare databases in Ontario and we used them to describe health services utilization related to mental health following release.
Methods

- **Study Design:** population-based, retrospective cohort using healthcare administrative data at the Institute for Clinical Evaluative Sciences

- **Definition of Veteran:** documentation of service history (CAF, RCMP) to the Ministry during Ontario health card registration, linked via encrypted health card number

- **Start date OHIP coverage:** January 1, 1990- March 31, 2013
- **End follow-up date:** March 31, 2014
DATA SOURCES

INSTITUTE FOR CLINICAL EVALUATIVE SCIENCES
Identifying mental health-related health system contacts:
- Hospitalizations: ICD-10 primary diagnosis codes, DSM-IV
- Emergency Department: ICD-10 primary diagnosis codes
- Primary care: validated ICES algorithm using billing codes
- Psychiatry: any diagnosis, specialist = psychiatry

Descriptive statistics:
- Ever/never use (%), averages (standard deviation)
- Stratified by years following OHIP registration, age at release
**Description of Cohort**

N= 23,818 Veterans

**Sex**
- Men: 86%
- Women: 14%

**Age at release from the Canadian Forces or RCMP**
- Less than 30 years old: 36%
- 30-39 years old: 23%
- 40-49 years old: 25%
- 50-59 years old: 16%
- 60 and older: 1%
Where do Ontario Veterans live?

- 20% of veterans live in Operational Stress Injury Clinics.
- 47% of veterans live in other areas.
- 8% of veterans live in the region indicated.

The map shows the distribution of veterans across different regions in Ontario.
Overall Use of Mental Health Services

Time Intervals Following Entry into the Provincial Healthcare System

Primary Care
Psychiatry
Emergency Department
Psychiatric Hospital Admission
Mental Health Management in Primary Care

Proportion of Veterans Visiting a Family Doctor (%)

Time intervals following entry into the provincial healthcare system

Age at Release
- Overall
- Age < 30
- Age 30-39
- Age 40-49
- Age ≥ 50
Mental Health Management in Primary Care

Age at Release

![Graph showing average family physician visits per Veteran over time intervals following entry into the provincial healthcare system.]

- **Overall**
- **Age < 30**
- **Age 30-39**
- **Age 40-49**
- **Age ≥ 50**

Average # family physician visits per Veteran*

<table>
<thead>
<tr>
<th>Time intervals following entry into the provincial healthcare system</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 years</td>
</tr>
</tbody>
</table>

*The average was calculated for Veterans using this service at least once over the time interval.*
Psychiatry Services - Proportion of Veterans

Proportion of Veterans visiting a psychiatrist (%)

Time intervals following entry into the provincial healthcare system

- Overall
- Age <30
- Age 30-40
- Age 40-50
- Age ≥50

Age at Release
Psychiatry Services- Average number of visits

Time intervals following entry into the provincial healthcare system

*The average was calculated for Veterans using this service at least once over the time interval.
Acute Mental Health Care- Emergency Department Visits

Proportion with at least one visit (%)

Age at Release

Overall  <30  30-39  40-49  50 +

Years Following Release

0-5 year  5-10 years  10-15 years  15-20 years
### Acute Mental Health Care - Emergency Department Visits

<table>
<thead>
<tr>
<th>Age</th>
<th>0-5 Years</th>
<th>5-10 Years</th>
<th>10-15 Years</th>
<th>15-20 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall</strong></td>
<td>1.63 (1.83)</td>
<td>1.83 (3.34)</td>
<td>1.73 (2.12)</td>
<td>1.54 (2.23)</td>
</tr>
<tr>
<td><strong>Age &lt; 30</strong></td>
<td>1.46 (1.00)</td>
<td>1.61 (1.30)</td>
<td>1.44 (0.94)</td>
<td>1.23 (0.60)</td>
</tr>
<tr>
<td><strong>Age 30-39</strong></td>
<td>1.74 (2.64)</td>
<td>2.05 (3.73)</td>
<td>2.31 (3.20)</td>
<td>2.92 (4.66)</td>
</tr>
<tr>
<td><strong>Age 40-49</strong></td>
<td>1.76 (1.73)</td>
<td>1.89 (4.15)</td>
<td>1.44 (1.08)</td>
<td>1.17 (0.39)</td>
</tr>
<tr>
<td><strong>Age ≥ 50</strong></td>
<td>1.54 (0.89)</td>
<td>1.30 (1.24)</td>
<td>1.00 (0.00)</td>
<td>1.15 (0.49)</td>
</tr>
</tbody>
</table>

*The average was calculated for Veterans using this service at least once over the time interval.*
Strengths & Limitations

• First description of mental health services use in Canadian Veterans using population-based administrative healthcare data

• Incomplete assessment of mental health services use
  – Privately funded, OSI clinics

• Missing information on service-related details
  – No information on deployment, conflicts, rank, role, medical status at release
Conclusions

• The use of provincially funded mental health services is not uncommon in Canadian Veterans. Differences in use may exist by age and needs may change over time.

• Subsequent analyses are necessary to understand:
  – the reasons for use (diagnoses)
  – how it compares to civilian use
  – who are the heavy users versus never users

• These data may be used to plan appropriate and adequate healthcare services, prevent unnecessary hardship and suffering.
Thank you!!

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