Self-harm following release from prison

A prospective data linkage study

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Higher in marginalised groups: MH, Indigenous, education => offenders
Suicide & self-harm in offender populations

- **Suicide in prison:** incidence rate of suicide is 5 x higher than in the general population
  - >50% had self-harmed within previous 30 days (*Fazel et al; 2011, 2005*)

- **Self-harm in prison:** incidence rates are also higher in prisoners; 140,000 episodes (*Hawton et al; 2013*)
  - Repetition very common (102 -> 17,000)

- **Suicide after release from prison:**
  - 5-14 x increased risk of suicide (*Spittal et al; 2014*)
  - behavioural / emotional problems / IDU / homelessness

- However, **nothing** is currently known about patterns of self-harm after prison (=> engagement?)

<table>
<thead>
<tr>
<th></th>
<th>Suicide</th>
<th>Self-harm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prison</strong></td>
<td>↑ incidence ✓</td>
<td>↑ incidence ✓</td>
</tr>
<tr>
<td><strong>Post-release</strong></td>
<td>↑ incidence ✓</td>
<td>No published evidence</td>
</tr>
</tbody>
</table>

The Passports study

• Randomised controlled trial of an intervention designed to increase health care utilisation for adults following release from one of seven prisons in Queensland, Australia (Kinner et al, 2013);

• 1325 prisoners completed face-to-face baseline interview within eight weeks of their expected release date;

• Interview included questions about a range of mental health, physical health, social, demographic and criminogenic factors;

• Baseline data were complemented by extensive prospective and retrospective linked data from multiple sources;
Aims of our study

• To determine the incidence of emergency department (ED) presentations and ambulance attendances resulting from self-harm in a representative sample of adults following release from prison;

• To identify baseline characteristics which predict these episodes;

• To characterise these episodes in terms of mental health service access after discharge from the emergency department.
Linked data sources
(pre- & post-prison)

Pharmaceuticals (PBS)
Trauma registry
Hospital admissions
Notifiable conditions
Alcohol and other drug services

Queensland Ambulance Service
Emergency Department
2002
2006
2007
2009
2011
2013

Mental health care

NHMRC #409966 2007-2012 $1.8M
NHMRC #1002463 2011-2015 $1.5M
NHMRC #1060024 2014-2016 $320,000
ARC DP140102333 2014-2016 $390,000

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Queensland Corrective Services records
Baseline
Follow-up 1 month
Follow-up 3 months
Follow-up 6 months

National Death Index
Pharmaceuticals (PBS)
Medicare

1999 2001 2003 2005 2007 2009 2011 2013
Emergency Department (ED) presentations: Coding the records

• ED records for each presentation contained:
  • ICD codes (X71-X83 = self-harm)
  • Free text, entered by ED staff => screened using coding system to increase ascertainment of self-harm events
  • Self-cutting/burning; self-poisoning; self-battering; risk-taking; other

• All ED presentations (N=3755) coded:
  • “0 = no self-harm”
  • “1 = self-harm”

“Medically verified self-harm”
What did we find?

- **Post-release**: 3755 ED presentations in 3192 person-years (any reason);
  - => crude incident rate >5x that of the population rate during the same period
- 83 (6.4%) participants presented to the ED due to self-harm post-release;
- 165 (4.4%) ED presentations were due to self-harm (c.f. 3.1%)

Who were they?
- 71% male, 32% Indigenous, 54% <10yrs formal education
- 59% presented on one occasion; 24% presented twice; 17% presented three or more times (max. = 14 presentations in <3yrs)
- 10% presented within 3 months of release; 42% within 12 months
What did we find?

• **Method:**
  1. Poisoning: 39%
  2. Cutting/burning: 21%
  3. Other: 40%

• **Triage category:**
  1. Resuscitation (2 minutes): 7%
  2. Emergent (10 minutes): 41%
  3. Urgent (30 minutes): 44%
  4. Semi-urgent (60 minutes): 7%
  5. Non-urgent (120 minutes): 1%
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### Associations between baseline characteristics and ED presentations for self-harm (N=1307)

<table>
<thead>
<tr>
<th>Baseline variable</th>
<th>Unadjusted IRR (95%CI)</th>
<th>Adjusted IRR (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>1.25 (0.64, 2.44)</td>
<td>1.19 (0.61, 2.34)</td>
</tr>
<tr>
<td>Age at release</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-24</td>
<td>1.00 (ref.)</td>
<td>1.00 (ref.)</td>
</tr>
<tr>
<td>25-39</td>
<td>1.31 (0.66, 2.61)</td>
<td>1.16 (0.62, 2.18)</td>
</tr>
<tr>
<td>40+</td>
<td>0.90 (0.93, 2.61)</td>
<td>1.44 (0.66, 3.14)</td>
</tr>
<tr>
<td>Indigenous</td>
<td>1.87 (1.01, 3.47)</td>
<td>2.01 (1.11, 3.62)</td>
</tr>
<tr>
<td>Not married or de-facto</td>
<td>1.22 (0.67, 2.24)</td>
<td>1.06 (0.61, 1.84)</td>
</tr>
<tr>
<td>&lt;10 years of education</td>
<td>1.78 (1.02, 3.11)</td>
<td>1.54 (0.92, 2.57)</td>
</tr>
<tr>
<td>LGBT</td>
<td>2.52 (0.87, 7.27)</td>
<td>1.59 (0.61, 4.13)</td>
</tr>
<tr>
<td>History of self-harm¹</td>
<td>3.90 (1.94, 7.84)</td>
<td>1.65 (0.85, 3.18)</td>
</tr>
<tr>
<td>Previous self-harm ED presentation</td>
<td>11.32 (4.97, 25.76)</td>
<td>3.91 (1.85, 8.30)</td>
</tr>
<tr>
<td>QCS self-harm flag</td>
<td>6.18 (3.55, 10.76)</td>
<td>2.61 (1.44, 4.73)</td>
</tr>
<tr>
<td>Previous suicide attempt²</td>
<td>4.94 (2.77, 8.83)</td>
<td>1.02 (0.54, 1.95)</td>
</tr>
<tr>
<td>Lifetime history of any mental disorder²</td>
<td>4.91 (2.82, 8.56)</td>
<td>2.13 (1.19, 3.82)</td>
</tr>
<tr>
<td>Previous hospitalisation for psychiatric treatment</td>
<td>9.32 (4.77, 18.2)</td>
<td>2.68 (1.40, 5.14)</td>
</tr>
<tr>
<td>Violent offence (index incarceration)</td>
<td>1.40 (0.80, 2.47)</td>
<td>1.33 (0.78, 2.28)</td>
</tr>
</tbody>
</table>

¹ Self-reported.
Access to mental health services after discharge from the ED

- In 25% of cases, participants were admitted to hospital for psychiatric treatment within 48hrs of ED presentation.

- In 29% of cases, accessed mental health services during ED stay. (Australian/UK guidelines => 100%)

- In 69% of ED presentations, participants had contact with public mental health services either during their ED visit or within 30 days afterwards.
2. Ambulance attendances

- Coding records from Queensland Ambulance Service (QAS):
  - All QAS attendances (N=3080) coded “0=no self-harm” / “1=self-harm”
  - 77 (5.9%) participants were attended by an ambulance due to self-harm;
  - 133 (4.3%) QAS attendances were due to self-harm

**Who were they?**

- 75% male; 35% Indigenous; mean age = 32.2yrs (SD: 10.9)
  - 68% presented on one occasion
  - 16% presented twice
  - 16% presented three or more times (max. = 9 presentations in <4yrs)
  - 91% transported, 5% no Tx, 2% ACP, 2% deceased at scene
What did we find?

• **Method:**
  1. Poisoning: 50%
  2. Cutting/burning: 35%
  3. Other: 15%

• **GCS ratings:**
  • $\geq 13$ (minor): 84%
  • 9-12 (moderate): 5%
  • $8\geq$ (severe): 11%
Conclusions

• Our findings highlights importance of access to mental health care and a formal mental health care plan during transition period between prison and community;

• In our study, a definable profile of ex-prisoners presented to the ED/QAS following self-harm
  • Guide development of preventative interventions

• EDs and ambulance services can play a vital role in suicide prevention for vulnerable populations such as ex-prisoners.
Limitations

• Participants may have presented to an ED or been attended by an ambulance outside Queensland => these would not have been captured.
  • However, linked Medicare data showed that <5% of participants accessed health services solely outside of Queensland => the number of such presentations was likely to be small.

• As most-self harm is not followed by help-seeking behaviour, it is likely that our approach under-ascertained self-harm events
  • Primary outcome = ED / ambulance.
Strengths

• First known data examining self-harm post-release internationally;
• We used prospective ED & ambulance data to capture self-harm events (more objective than self-report & permits validation of such);
• Highly representative sample;
• Almost zero attrition due to data linkage methodology;
• By combining multiple administrative linked datasets, we could examine participants’ access to mental health services after discharge from the ED.
• Detailed coding of free-text records (↑ascertainment of events)
• State & federal, health & justice datasets (complete picture)
Future directions

• Were the same people presenting to the ED and being attended by ambulance staff following self-harm?

• Examine the health & social outcomes of prisoners with any history of medically-verified self-harm vs. those with no such history.

• Examine reliability of self-reported self-harm in this population (ED, QAS, hospital data) => i.e. do those who reported having no history of self-harm at baseline interview actually have a medically-verified history of self-harm?
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1999 2001 2003 2005 2007 2009 2011 2013
Project team

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