Identifying high risk groups to prevent suicide - The National Confidential Inquiry into Suicide and Homicide in the UK

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The Centre for Suicide Prevention
University of Manchester

Cork, December 2008
National Confidential Inquiry into Suicide

<table>
<thead>
<tr>
<th>Alison Roscoe</th>
<th>Alyson Ashton</th>
<th>Anna Pearson</th>
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<tbody>
<tr>
<td>Cathryn Rodway</td>
<td>Damian da Cruz</td>
<td>David While</td>
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<td>Harriet Bickley</td>
<td>Huma Daud</td>
<td>Isabelle Hunt</td>
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<td>James Burns</td>
<td>Jenny Shaw</td>
<td>Kelly Hadfield</td>
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<td>Kirsten Windfur</td>
<td>Louis Appleby</td>
<td>Nav Kapur</td>
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<td>Nicola Swinson</td>
<td>Pauline Turnbull</td>
<td>Philip Stones</td>
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<td>Pooja Saini</td>
<td>Rebecca Lowe</td>
<td>Sandra Flynn</td>
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National Confidential Inquiry into Suicide

1. Context
2. Methods
3. What have we found and has it had any impact?
4. What else can we do?
1. Context
Context

• 4,500 suicides per year in England
• Suicide is a major contributor to premature mortality (in men 2nd to heart disease)
Trend in suicide rate for young men (aged 20-34)
Death rates from Intentional Self-harm and Injury of Undetermined Intent, England

Three-year average rate, plotted against middle year of average (1969-2006)

Rates are calculated using population estimates based on 2001 census. Rates are calculated using the European Standard Population to take account of differences in age structure.

Years to 1998 and 2000 have been coded using ICD9; 1999 and 2001 onwards are coded using ICD10.

Source: ONS (ICD9 E950-E959, plus E980-E989, excluding E988.8 (inquest adjourned); ICD10 X60-X84, Y10-Y34 excl. Y33.9 (verdict pending))
Context

- 4,500 suicides per year in England
- Suicide is a major contributor to premature mortality in England
- Latest annual rate: 8.5 per 100,000 population
Suicide in mental illness

- Psychological autopsy studies
- Cohort studies
Psychological autopsy studies

(Bertolote & Fleischmann 2002)
## Cohort studies

<table>
<thead>
<tr>
<th>Disorder</th>
<th>SMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>845</td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>1505</td>
</tr>
<tr>
<td>Major depression</td>
<td>2035</td>
</tr>
<tr>
<td>Dysthymia</td>
<td>1212</td>
</tr>
<tr>
<td>Panic disorder</td>
<td>1000</td>
</tr>
<tr>
<td>Alcohol misuse</td>
<td>586</td>
</tr>
</tbody>
</table>
Suicide in mental illness

Avoidable Deaths
December 2006
2. The National Confidential Inquiry - Methods
The National Confidential Inquiry

- A UK wide study
- Based in Manchester since 1996
- Collects national data on suicide and homicide in the general population and more detailed data on those under the care of mental health services at the time of death
- Recommends changes to practice and policy
The National Confidential Inquiry

- All ‘suicide deaths’ from National Statistics
- Include both suicide and undetermined verdicts
Methods

Obtain national data

Determine contact with MH services via NHS Trust/board contact

No contact with services <12 months

Contact with services <12 months

Questionnaire sent to consultant
The National Confidential Inquiry

Questionnaire:
- 25 pages
- 11 sections
- Demographic details
- Clinical details
- Details of management
- Response rate 97%
The National Confidential Inquiry

Why is our response rate so high?

• Been around since 1996
• Procedures and mechanisms well honed (e.g. reminder system)
• System of trust contacts
The National Confidential Inquiry

Why is our response rate so high?

- Clinicians expect the questionnaires
- Clinicians see the value of the data
- No blame
- No individual analysis of cases or presentation of identifiable data
- Part of arrangements for clinical governance (England only)
The National Confidential Inquiry

Approvals

- Ethics
- Data protection and security
- Section 60 approval (allows processing of identifiable information without explicit consent)
The National Confidential Inquiry

Databases

- Operating for 12 years
- 70,000 individuals who have died by suicide on the general population database.
- Detailed clinical data on over 17,000 individuals on the Inquiry database
3. What have we found and has it had any impact?
The National Confidential Inquiry
England and Wales 2001-2004
• General population suicide deaths: 23,477
• Rate: 10.2 per 100,000 per year
• Inquiry cases: 6,397 (27%)
• 1300 deaths per year
Timing of last contact

- Frequency distribution:
  - < 24 hours: 1153
  - 1-7 days: 1802
  - 1-4 weeks: 1430
  - 5-13 weeks: 830
  - >13 weeks: 865

Timing of last contact
Method of suicide for Inquiry cases

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hanging/strangulation</td>
<td>1800</td>
</tr>
<tr>
<td>Self-poisoning</td>
<td>800</td>
</tr>
<tr>
<td>Carbon monoxide poisoning</td>
<td>600</td>
</tr>
<tr>
<td>Jumping/multiple injuries</td>
<td>400</td>
</tr>
<tr>
<td>Drowning</td>
<td>200</td>
</tr>
<tr>
<td>Other</td>
<td>100</td>
</tr>
</tbody>
</table>

Male | Female
Inquiry cases

- High levels of social isolation, self-harm and substance misuse
- 856 (14%) in-patients
- 1271 (20%) died within 3 months of discharge
- 1523 (29%) missed last contact with services
- 4984 (86%) immediate risk estimated as low or absent
- 1017 (19%) thought to be preventable
Inquiry cases

In-patients

• 27% of deaths occurred after patients had left the ward without staff permission
• 22% of deaths occurred in patients under non-routine observation

Post discharge deaths
• Timing
Post-discharge deaths

 Weeks between discharge and suicide
(Week 1 = First week following discharge)
What else might services do?

In-patients
- Reduce absconding
- Improve observation protocols
- Make wards safer

Community patients
- Manage the transition from ward to community
**What else might services do?**

<table>
<thead>
<tr>
<th>Ligature Type:</th>
<th>Number (188)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belt</td>
<td>82</td>
<td>45%</td>
</tr>
<tr>
<td>Sheet, towel, etc.</td>
<td>29</td>
<td>16%</td>
</tr>
<tr>
<td>Shoelaces</td>
<td>18</td>
<td>10%</td>
</tr>
<tr>
<td>Clothing (tie, scarf, tights, etc.)</td>
<td>19</td>
<td>10%</td>
</tr>
<tr>
<td>Item brought in specifically (e.g. rope)</td>
<td>4</td>
<td>2%</td>
</tr>
<tr>
<td>Other specified (e.g. cable cord, curtains)</td>
<td>29</td>
<td>16%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ligature Point:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hook or Handle</td>
<td>42</td>
<td>23%</td>
</tr>
<tr>
<td>Door</td>
<td>32</td>
<td>18%</td>
</tr>
<tr>
<td>Window</td>
<td>23</td>
<td>13%</td>
</tr>
<tr>
<td>Bed head</td>
<td>18</td>
<td>10%</td>
</tr>
<tr>
<td>Other rail (e.g. toilet rail, wardrobe rail)</td>
<td>10</td>
<td>6%</td>
</tr>
<tr>
<td>Pipes</td>
<td>9</td>
<td>5%</td>
</tr>
<tr>
<td>Shower fixtures (e.g. shower head, tap)</td>
<td>8</td>
<td>4%</td>
</tr>
<tr>
<td>Bed curtain rail</td>
<td>6</td>
<td>3%</td>
</tr>
<tr>
<td>Other specified (e.g. light fixture, radiator)</td>
<td>33</td>
<td>18%</td>
</tr>
</tbody>
</table>
What else might services do?

In-patients
- Reduce absconding
- Improve observation protocols
- Make wards safer

Community patients
- Manage the transition from ward to community
Has the Inquiry had an impact?

![Graph showing suicide rates over years]

- General population suicide rate per 100,000 population
- Inquiry suicide rate per 100,000 population
Has the Inquiry had an impact?

• In-patients
Has the Inquiry had an impact?


In-patient rate per 100,000 bed days

Year of death

Has the Inquiry had an impact?

Rate of in-patient and post-discharge suicide, England 1997-2003

- In-patient rate per 100,000 bed days
- Post-discharge rate per 10,000 admissions

Year of death
Has the Inquiry had an impact?

Priority groups
- Psychiatric in-patients
- Those who die within 3 months of discharge from in-patient care
- Those under CPA
- Those who are non-compliant at the time of death
- Those who missed their last appointment with services
Has the Inquiry had an impact?

Number of priority groups that an individual belongs to

% change in suicide from 1997 to 2004

-60 -40 -20 0 20 40 60

0 1 2 3 4+
Has the Inquiry had an impact?

Number of deaths following loss of treatment

Year

Frequency

Has the Inquiry had an impact?

Inquiry recommendations:
• Removal of ligature points
• Assertive community teams
• Risk management training
• Individual care plans
• Easy access in crisis
• Services for dual diagnosis patients
• Post-discharge follow up
• Information sharing
• Post-incident review
Has the Inquiry had an impact?

Number of Trusts

Number of implemented recommendations in 1998
Has the Inquiry had an impact?
Policy impact of the NCI

- Definitive figures on suicide
- Contributed to the National Service Framework (NSF) Standard 7 (suicide prevention)
- Clinical recommendations in the NHS plan (e.g. assertive outreach teams, and improving access in crisis)
- Safety standards adopted by the NHS Clinical Negligence Scheme for Trusts (CNST)
Policy impact of the NCI

- Specific recommendations on patient safety, such as: the removal of ligature points on in-patient wards, early follow-up of post-discharge psychiatric patients.
- A safety checklist for mental health services incorporated into the National Suicide Prevention Strategy (NSPS) (“12 points to a Safer Service”)
- Data to individual NHS trusts to support clinical governance
4. What else can we do?
Controlled studies

Psychiatric in-patients: a case control study

- 23% died within the first week of admission
- Risk factors included self-harm, life events, symptoms at last contact, more than one psychiatric diagnosis, being off the ward without staff agreement.
- Unemployment was protective
Contact with other services

GP Contacts

Contacts with the GP in the 12 months prior to death

Emergency Department Contacts

Contacts with ED in the 12 months prior to death
Contact with other services

“Always a feeling of desperation in (GP area), that whatever you try to get sorted always seems to be stonewalled by whoever you try to get through to. So knowing that he felt suicidal and trying to get him seen… and he knew that it was going to be a waste of time and we knew that it was going to be a waste of time, so together we were feeling a feeling of desperation”
Trends

Suicide rates among young people in the UK

- Overall rate: 35% in 1997, 28% in 1999
- Males: Increasing trend
- Females: Decreasing trend
Subgroups

Young people
- Suicide rates higher in males, higher in 15-19 year olds
- Low rate of contact
  - 14% (overall)
  - 12% (males)
  - 20% (females)

Ethnic minority groups
- Suicides characterised by violent methods, schizophrenia, recent non-compliance, previous violence, unemployment
Other outcomes

- Homicide
- Sudden Unexplained Deaths on psychiatric wards
- Overdose deaths and medical management
Suicide away from home—Mortality risk ratios

- Observed/expected ratio
  - 2.00-4.60 (n=11)
  - 1.00-1.99 (n=27)
  - 0.50-0.99 (n=31)
  - 0.00-0.49 (n=26)

MAP: Counties in England color-coded by observed/expected ratio of suicide out of home.

- Dark brown: 2.00-4.60 (11 counties)
- Dark red: 1.00-1.99 (27 counties)
- Orange: 0.50-0.99 (31 counties)
- Yellow: 0.00-0.49 (26 counties)

Notable areas:
- East Sussex, Brighton, and Hove
- Avon
Suicide away from home

- 12% all suicide deaths are ‘away from home’
- These individuals: younger, homeless, unemployed, BME, SCZ, inpatient status
- Methods: CO, drowning, jumping
- Location was associated with method of death – e.g. drowning in coastal areas, jumping among non-residents in hot spot areas
Cross-national comparisons
Scotland

- 5,054 general population suicides
  - 18.7 per 100,000 population per year
- 1,373 patient deaths (Inquiry cases)
- 28% of all suicide deaths in Scotland
- 229 per year
Rate of in-patient suicide

Rate per 100,000 bed days

Year

1998 1999 2000 2001 2002 2003 2004

0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6

1.2 1.06 1.38 0.94 0.97 1.28 0.72
Rate of post-discharge suicide

![Graph showing the rate of post-discharge suicide per 100,000 bed days from 1998 to 2004.]
## Comparisons with England and Wales

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<tr>
<th></th>
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<tbody>
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<td>18.2</td>
<td>10.2</td>
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<td>(Schizophrenia)</td>
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<td>91%</td>
<td>86%</td>
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<td>11%</td>
<td>19%</td>
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<td>In-patients</td>
<td>9%</td>
<td>14%</td>
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General population suicide profile for Scotland compared to England and Wales

Age bands

Scotland
EW 2000-2005
## Comparisons with England and Wales

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<td>14%</td>
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</tbody>
</table>
Comparisons with England and Wales

- Alcohol dependence: Scotland 17, E & W 8
- Alcohol misuse: Scotland 58, E & W 44
- Drug dependence: Scotland 9, E & W 3
- Drug misuse: Scotland 39, E & W 30
Recommendations

Community services

• Better training and services for the management of drug and alcohol misuse – including dedicated services for dual diagnosis

• Specialist community mental health teams providing outreach for patients at risk of losing contact

• Early follow-up following hospital discharge
Recommendations

In-patient units

• More intensive supervision of patients recently admitted to hospital

• Removal of ligature points from in-patient wards

• Prevention of absconding from wards

• Careful assessment of risk during periods of leave leading up to discharge
Recommendations

General

• Positive clinical attitudes to the prevention of risk as part of a more understanding dialogue with the public

• Further study of the higher suicide rates in Scotland
National Confidential Inquiry into Suicide

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