Why Mothers Die and
Saving Mothers Lives:
Changing policy & practice

Dr M R Oates
Enquiry Maternal deaths
Started 19th century – current form 50 yrs old

Mortality surveillance UK
Descriptive investigation and audit
“open” methodology sensitive change
Confidential and anonymous
Triennial reports
Recommendations
Major influence on practice
Impact delayed
94 / 96 Published 98
97 / 99 in 2001  2000 / 02 in 2004
2003 / 05 in 2007
Separate psychiatric analysis 1994
Psychiatrist member CEMD 1994
Additional ONS case finding 1997
Increased case detail (CEMACH) 2003
Maternal death

Death during pregnancy
year following birth

Classification

Time    pregnancy, within 42 days, late

Cause    direct, indirect, coincidental
Psychiatric death

4 Categories

• Suicide
• Overdose of drugs of abuse
• Medical conditions caused by or mistaken for psychiatric disorder *
• Violence and accidents related to psychiatric disorder *

* described in Chapter 12 but counted elsewhere
The Process

- Deaths reported by Maternity Services, GPs, Primary Care, Pathologists, Coroners, Public Health, etc. To CEMACH Regional Offices (previously DPH)
- MDR I + records searched
- Local key professionals comment
- Anonymised
- Regional Assessors – Midwifery, Obstetrics, Pathology, Anaesthesia, Psychiatry
The Process

Confidential Enquiry into Maternal and Child Health

MATERNAL DEATH NOTIFICATION AND SURVEILLANCE FORM
2009

Date of Notification: ____________________________
Person taking oath: ____________________________________________

Name: ____________________________________________
Position: ____________________________________________
Work Address: ____________________________________________
Telephone Number: ____________________________________________
Email address: ____________________________________________

Surname: ____________________________________________
First name: ____________________________________________

Usual residential address at time of death: ____________________________________________
Postcode: ____________________________________________

For Office Use Only - DATE FOR CASE: ____________
SURNAME: ____________________________
PLACE OF DEATH: ____________________________

Cemach
• Director Enquiry  further stats
• Central Assessors descriptive analysis
• Consensus meetings / writing panel
• ONS search additional deaths
• Peer Review, publication & recommendations
• Dissemination
The Findings
## Maternal Mortality 2003/2005

<table>
<thead>
<tr>
<th>Category</th>
<th>Nos</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternities</td>
<td>2114004</td>
<td></td>
</tr>
<tr>
<td>Direct deaths</td>
<td>132</td>
<td>6.24/00,000</td>
</tr>
<tr>
<td>Indirect deaths</td>
<td>163</td>
<td>7.71/00,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>295</strong></td>
<td><strong>13.95/00.000</strong></td>
</tr>
<tr>
<td>Coincidental</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Late direct</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Late indirect</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Late coincidental</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td><strong>Total “Pregnancy related deaths”</strong></td>
<td><strong>623</strong></td>
<td></td>
</tr>
<tr>
<td>Psychiatric indirect</td>
<td>18 / 163</td>
<td></td>
</tr>
<tr>
<td>Late indirect</td>
<td>25 / 71</td>
<td></td>
</tr>
<tr>
<td><strong>Total Psychiatric deaths</strong></td>
<td><strong>104 / 623</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Timing of Reported Maternal Deaths due to or Associated with psychiatric causes; United Kingdom: 2003-05

<table>
<thead>
<tr>
<th>Timing of death</th>
<th>Suicide</th>
<th>Substance misuse</th>
<th>Physical illness</th>
<th>Violence</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In pregnancy or up to six months after delivery</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before 28 weeks</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>28-33 weeks</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>34-41 weeks</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Up to 42 days after delivery</td>
<td>4</td>
<td>3</td>
<td>11</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td><strong>All Indirect</strong></td>
<td>12</td>
<td>6</td>
<td>18</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td><strong>Over six weeks after delivery</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-12 weeks</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>13-18 weeks</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>19-24 weeks</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Over 24 weeks</td>
<td>14</td>
<td>10</td>
<td>8</td>
<td>3</td>
<td>35</td>
</tr>
<tr>
<td><strong>All Late deaths</strong></td>
<td>21</td>
<td>16</td>
<td>15</td>
<td>6</td>
<td>58</td>
</tr>
<tr>
<td><strong>All assessed</strong></td>
<td>33</td>
<td>22</td>
<td>33</td>
<td>10</td>
<td>98</td>
</tr>
<tr>
<td><strong>Not assessed</strong></td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td><strong>All</strong></td>
<td>37</td>
<td>24</td>
<td>33</td>
<td>10</td>
<td>104</td>
</tr>
</tbody>
</table>
Change

Suicides before 6 wks 2000/02 54%, 2003/05 38%
Suicides before 6 mths 2000/02 79%, 2003/05 46%

Numbers suicides 2000/02 60 2003/05 37
Method of Maternal Suicide: United Kingdom 1997-2005

<table>
<thead>
<tr>
<th>Method of suicide</th>
<th>1997-99</th>
<th>2000-02</th>
<th>2003-05</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n (%)</td>
</tr>
<tr>
<td>Hanging</td>
<td>10</td>
<td>8</td>
<td>14</td>
<td>32 (38)</td>
</tr>
<tr>
<td>Jumping from a height</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>13 (15)</td>
</tr>
<tr>
<td>Cut throat</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>5 (6)</td>
</tr>
<tr>
<td>Intentional road accident</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3 (4)</td>
</tr>
<tr>
<td>Self-immolation</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4 (5)</td>
</tr>
<tr>
<td>Drowning</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4 (5)</td>
</tr>
<tr>
<td>Gunshot</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Railway track</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Overdose of prescribed drugs</td>
<td>3</td>
<td>9</td>
<td>9</td>
<td>21 (25)</td>
</tr>
<tr>
<td><strong>Total stated</strong></td>
<td>26</td>
<td>26</td>
<td>32</td>
<td>85 (100)</td>
</tr>
<tr>
<td>Not stated</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Leading causes of maternal mortality
CEMD 2000/02

- Sepsis
- Early pregnancy
- Haemorrhage
- Embolism
- Cardiac
- Psychiatric

Rate per million maternities

- Direct
- Indirect
- Suicide/open verdict
- Misadventure
- Drug/alcohol
• Suicide 3\textsuperscript{rd} leading cause of maternal death \\
  2\textsuperscript{nd} leading cause ICD10 (1997/02 leading cause) \\
• Wide range of disorders \\
• Serious illness suicides ↓ 2000/02 50\%, 2003/05 34\% \\
• Substance abuse ↑ 2000/02 37\%, 2003/05 55\% \\
• All S.M.I. died within 12 weeks of birth
Lesson (Recommendations)

Patient information and counselling preconception

Identify risk at booking

Manage risk
Lesson 1997/2002
Need revise view of who is at risk

Risk factors for maternal suicide

are       • different
• high for serious postnatal mental illness
• high for early onset

2003/2005
are reducible change
Suicides in psychiatric care 2000/02 54%,
                 2003/05 19%
SMI in psychiatric care 2000/02 98%,
              2003/05 50%
Substance abuse  DAT 2000/02 50%,
              2003/05 33%
• As 1997/2002 majority suicides (64%) and of all psychiatric deaths (81%) had a previous history

• 50% SMI PH severe illness

• Continuing trend reduction PH puerperal psychosis

• Identification and management of risk not improved
However

Constant theme Enquiries 1997 – 2005
54% Suicides 1997 – 2002
37% Suicides 2003 – 2005

• Significant past history (bipolar & serious affective disorder)
• Risk of recurrence/relapse – identification & management
• Onset & death within 3 months birth
• Distinctive abrupt onset & rapid deterioration
• Poor communication & liaison
• Lack adaptation psychiatric services to maternity context
• Lack specialised services
• Violent death
Impact recommendations 1997/2002?

- Maternal suicide reduced
- Reduction deaths early onset psychoses and past history SMI

**BUT**

2003/2005 full details ONS cases

Previous lessons still relevant
Limitations

- confidentiality
- lack denominator data
- outcome known
- no controls
- comparison with previous enquiries
Rare events
1997 – 2005

6.5 million maternities
6 million births
1800 deaths

12,000 Puerperal Psychoses
600,00 PND
180,000 severe DI
170 suicides
? 60 avoidable deaths
Caution

Without improvement in services screening is unethical
Caution

Without education & training
Inappropriate view risk
Inappropriate medicalisation
Overwhelm non-psychiatrists (MW) & services
Perverse outcomes

Women will avoid
Impact on Policy

- SIGN Guidelines
- NICE Antenatal Care Guidelines
- NICE Antenatal & Postnatal Mental health Guidelines
- NSF – Women's Mental Health Strategy
- NSF – Maternity Standard 11
- Health Commission
- Clinical Negligence Standards
- National Specialised Commissioning Group
- RCPsych
- RCOG
Impact on Practice

↑ Specialised services

↑ Consultant Perinatal Psychiatrist

Commissioning “must have”

↑ awareness in Maternity Child Health Services

“Screening” at booking clinic

↑ +++ educational events
BUT

- Changing practice in adult psychiatry
- Resistance to specialisation within psychiatry
- Enquiry Fatigue in Psychiatry
- Competing priorities /policies
- Emphasis on “PND” & non-specialised “low cost” interventions “one size fits all”
- Same words different meanings
- ✓ v quality specifications
- Lack “joined up” thinking & policy
Impact on mortality

Psychiatric cases reported CEMACH
Cases detected by ONS
Suicide
Suicide with PH PN illness
Suicide current psychiatric contact
Suicide within 6/12 & 6/52
BUT

? Effect of increased case ascertainment & clinical detail

too soon to be excited
Learning Points

• Peripartum period
  • Increased incidence of serious affective disorder
  • Increased risk of recurrence of serious disorder
  • Modifies presentation, course and consequences of mental illness
• Risk factors maternal suicide different
• Physical illness can present as, coexist with or result from psychiatric disorder
• Psychiatrists, midwives, obstetricians & GPs must work together & communicate with each other
• Requires special knowledge skills and skills
• Requires different resources and service provision
JFK International terminal men’s restrooms

what would you do?

a) periodically plot spillage area on an X-bar chart, look for special causes (audit)

b) double the size of the fixtures (prevent)

c) hire an attendant to monitor and reprimand “less hygienic” users (supervise)

Source:
Wall Street Journal, used by John Grout, NPSA Seminar, 17 January 2003
JFK International terminal men’s restrooms

d) etch the image of a fly on the porcelain - (Guideline)

Focus
Aim

Source:
Wall Street Journal, used by John Grout, NPSA Seminar, 17 January 2003