Maternal Mortality Review Committees: The New Jersey and Philadelphia Experience

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Member, New Jersey Department of Health, Maternal Mortality Review
Table 1. Maternal Mortality Rates (per 100,000 births)
New Jersey, 1917–2003

<table>
<thead>
<tr>
<th>Year</th>
<th>Maternal Deaths</th>
<th>Births</th>
<th>Maternal Mortality Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>N</td>
<td>New Jersey</td>
</tr>
<tr>
<td>1917</td>
<td>411</td>
<td>73,309</td>
<td>560.6</td>
</tr>
<tr>
<td>1930</td>
<td>390</td>
<td>68,282</td>
<td>571.2</td>
</tr>
<tr>
<td>1940</td>
<td>172</td>
<td>59,328</td>
<td>289.9</td>
</tr>
<tr>
<td>1950</td>
<td>70</td>
<td>97,734</td>
<td>71.6</td>
</tr>
<tr>
<td>1960</td>
<td>44</td>
<td>132,594</td>
<td>33.2</td>
</tr>
<tr>
<td>1970</td>
<td>38</td>
<td>120,168</td>
<td>31.6</td>
</tr>
<tr>
<td>1980</td>
<td>5</td>
<td>96,438</td>
<td>5.2</td>
</tr>
<tr>
<td>1990</td>
<td>11</td>
<td>122,979</td>
<td>8.9</td>
</tr>
<tr>
<td>2000</td>
<td>12</td>
<td>115,542</td>
<td>10.4</td>
</tr>
<tr>
<td>2003</td>
<td>12</td>
<td>116,823</td>
<td>10.3</td>
</tr>
</tbody>
</table>

History of New Jersey Maternal Mortality Review (MMR)

- 1931 Medical Society of New Jersey begins to review maternal deaths
- 1974 Formal review Medical Society of New Jersey and the Department of Health
- 1977 MMR process receives approval from public health council; non-disclosable statute
- 1980 annual presentation at NJ ObGyn Society Annual meeting
- 1999 major revision of the process to conform with definition revision by CDC, ACOG and HRSA Maternal Child Health Bureau
Modern Members of the NJ Multidisciplinary MMR Team

- Obstetrician/Gynecologists
- Maternal Fetal Medicine
- Perinatal/Pediatric Pathologist
- Critical Care
- Anesthesiologist
- Psychiatrist/Psychologist
- Perinatal Addictions Specialist
- Obstetric nurse
- Nurse Midwife
- Medical Examiner/Pathologist
- Health Care Administrator
- Risk Manager
- Public Health Officer
- EMT/Paramedic
- Social worker
- Nutritionist
- Family Planning
- Minority Advocate
- Consumer Advocate
- Clergy
- NJ Dept of Health
- Central NJ MCH Consortium
Modern MMR Process in NJ

- Verification of maternal death
  - Electronic birth certificate
  - Death certificate
  - Hospital discharge data
  - Direct report

- Comprehensive review of hospital records

- Obtain information from other sources
  - Autopsy report
  - RIME
  - EMS record
  - ER/In-Patient/Out-Patient Visit records

- Prepare case summary; template >250 data fields
Modern Role of NJ MMR Team

- Review case summary
- Identify gaps in service, barriers to care, systemic service delivery problems/issues

Goal: To make recommendations to improve the system of care for pregnant women, infants, children and families and to identify topics for professional and/or consumer education
Challenges to the MMR Process

- Lack of prenatal record
- Incomplete medical record “read between the lines”
- Conflicting documentation
- Types of medical records, i.e. electronic charts vs. paper
- No access to certain records including office chart, outpatient/treatment facilities, etc.
- **Funding**; volunteerism

**HR 4216 – Maternal Health Accountability Act**

- **Public health surveillance**: state vs federalism issues (Birth vs Death Certificate usage compliance)
Enhanced MMR in NJ

Table 2. Maternal Mortality Surveillance
New Jersey, 1999–2004

<table>
<thead>
<tr>
<th>Year</th>
<th>Births</th>
<th>Death Certificate</th>
<th>Mortality Review with Enhanced Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>N Rate</td>
<td>N Rate</td>
</tr>
<tr>
<td>1999</td>
<td>113,810</td>
<td>4 3.5</td>
<td>14 12.3</td>
</tr>
<tr>
<td>2000</td>
<td>115,542</td>
<td>12 10.4</td>
<td>17 14.7</td>
</tr>
<tr>
<td>2001</td>
<td>115,769</td>
<td>9  7.8</td>
<td>20 17.3</td>
</tr>
<tr>
<td>2002</td>
<td>114,642</td>
<td>7  6.1</td>
<td>16 14.0</td>
</tr>
<tr>
<td>2003</td>
<td>116,823</td>
<td>12 10.3</td>
<td>18 15.4</td>
</tr>
<tr>
<td>2004</td>
<td>113,652</td>
<td>24 21.1</td>
<td>13 11.4</td>
</tr>
<tr>
<td>Total</td>
<td>690,238</td>
<td>68 9.9</td>
<td>98 14.2</td>
</tr>
</tbody>
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#1: Evaluation of women in the ER

- All women of childbearing age should be tested for pregnancy during ER visits.
- Necessary treatment and diagnostic testing should not be withheld due to pregnancy.

#2: Universal screening for postpartum depression

- All women who experience a termination of pregnancy, either elective or spontaneous, need to be assessed for postpartum depression.

#3: Treatment of pregnant women who are incarcerated

- A pregnant woman receiving prenatal care while in jail should receive a referral to continue prenatal care with a provider who is accessible to her upon release.
- Incarcerated pregnant women with opioid addiction should receive methadone maintenance to improve fetal outcomes.
#4: Treatment of pregnant women on methadone
- There needs to be a plan in place for continuing methadone maintenance following delivery.

#5: Treatment of women w/chronic disease or history of malignancy
- Healthcare providers should assess pregnancy intendedness for all women of childbearing age and provide appropriate guidance.

#6: Education for providers to improve outcomes
- Education for EMS and ER staff on perimortem cesarean section
- Importance of simulation training
- Deep vein thrombosis (DVT) prophylaxis for all c-section patients.
- Recommend routine testing for hemoglobinopathies for pregnant women
#7: Education for consumers to improve outcomes
  • Cardiopulmonary resuscitation.
  • Seatbelt use for pregnant women

#8: Treatment of pregnant or postpartum women with non-obstetric medical conditions
  • Medical consults for pregnant women who have non-pregnancy related issues
  • Co-management by obstetricians, gynecologist, and appropriate specialists of critically ill obstetrics patients
MMR in Philadelphia

- History of MMR in Philadelphia
- Current definitions
- Published statistics
- New Maternal Mortality Review Committee
- Membership, charge, process
- Plan for public release
• 1919 US census bureau recorded 73 maternal deaths per 10,000 deliveries but Philadelphia census only recorded 63 maternal deaths

• 1927 there was a similar discrepancy 76 vs 67 maternal deaths per 10,000 live births

• George Muller, President of the Philadelphia Health League and Philadelphia County Medical Society appointed the Committee on Maternal Welfare

• Committee reviewed cases from 1931-1933 and reported their finding in 1934
The Committee had 18 members from all 30 hospitals providing Obstetrical services in the city of Philadelphia (only 6 hospitals in 2014 !!!)

- Reviewed the medical records
- Interviewed the physician/midwife and family
- Classification as Obstetrical vs Non Obstetrical
- Preventable vs Non-Preventable and assigned responsibility to the physician or midwife or to the patient
Four “Avoidable Factors”

1) Lack of prenatal care
2) Negligence of the patient or her family/friends
3) Error in judgment
4) Error in technique
Five leading causes

- Septic abortion: 25.3%
- Puerperal sepsis: 18.6%
- Eclampsia: 13.3%
- Accidents of labor: 12.4%
- Hemorrhage: 9.7%

57% deemed preventable by physician
43% due to the patient lack of cooperation
Committee report was rigorous and standardized the procedure for Maternal Mortality reviews

The Obstetrical Society of Philadelphia was charged with the annual review of puerperal morbidity and mortality in each hospital

Established a speakers bureau to educate the medical profession and the lay public

Reduced the maternal mortality rate by 30% over the next year

Origin of the monthly maternal mortality review meeting which continued for 40 years
Support HR 4216 - Maternal Health Accountability Act

- Provides funding to States to establish a standardized, mandatory reporting and review system for pregnancy-related deaths.
- Disseminates findings and recommendations.
- Goes beyond maternal mortality to also address severe maternal morbidity (near-miss events) by authorizing HHS:
  - to develop a research plan to identify and monitor severe maternal morbidity in the US, and
  - in consultation with national stakeholder organizations:
    - Research disparities in maternal care, risks, and outcomes, and improve the capacity of the performance measures to measure disparities,
    - Expand access to services that have been demonstrated to improve the quality and outcomes of maternity care for vulnerable populations, and
    - Compare the effectiveness of various interventions to reduce maternal health disparities.
A small group of thoughtful, committed people can change the world; indeed, it’s the only thing that ever has!

- Margaret Mead