Maternal and Child Death Reviews and their Role in Strengthening Public Health, Clinical and Community Partnerships

Child Death Review-Maternal Mortality Review Programs Summit
Honolulu, HI, June 15, 2016

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Stanford University
Key points

- Fatality reviews as sentinel events
  - Moving from data to action to improvement
- Understanding and incorporating a social determinants of health framework
- Success = Partnerships
  - public health + health care + payers/purchasers + community
DEFINITIONS

Maternal Mortality Rate
Number of women who die from pregnancy-related causes within 42 days postpartum/the number of live births in that year) x 100,000 (identified as “O-codes” on death certificates

Pregnancy-Related Deaths
Death of a woman within one year postpartum related to pregnancy or aggravated by the pregnancy or its management

Pregnancy-Associated Deaths
Death of a woman within one year postpartum from any cause

Not-Pregnancy-Related Deaths
Death of a woman within one year postpartum unrelated to pregnancy or its management

Transforming Maternity Care
“The most surprising thing...”

• It is very difficult to identify maternal deaths at the population level
  • Organizational definitions (vital statistics vs. surveillance)
  • Temporal and causal relationship to pregnancy
  • Multiple etiologies

• Under-funded public health agencies
  • State reviews have multiple (or no) funding sources
  • National Center for Health Statistics has not reported U.S. MMR since 2007
Maternal mortality

...sentinel health event

...indicator of social and economic values

...requires political commitment
Maternal Mortality Rate, California and United States; 1999-2010

SOURCE: State of California, Department of Public Health, California Birth and Death Statistical Master Files, 1999-2010. Maternal mortality for California (deaths ≤ 42 days postpartum) was calculated using ICD-10 cause of death classification (codes A34, O00-O95, O98-O99) for 1999-2010. United States data and HP2020 Objective were calculated using the same methods. U.S. maternal mortality rates are published by the National Center for Health Statistics (NCHS) through 2007 only. Rates for 2008-2010 were calculated using NCHS Final Birth Data (denominator) and CDC Wonder Online Database for maternal deaths (numerator). Accessed at http://wonder.cdc.gov/ucd-icd10.html on Apr 17, 2013 8:00:39 PM. Produced by California Department of Public Health, Center for Family Health, Maternal, Child and Adolescent Health Division, April, 2013.
Major Recognition of the Problem

Issue 44, January 26, 2010

Preventing Maternal Death

Spring 2010

Amnesty International

Where Is the “M” in Maternal-Fetal Medicine?

Mary E. D’Alton, MD

December 2010

Obstetrics & Gynecology

Transforming Maternity Care
Maternal Mortality Reviews

Essential surveillance and improvement tools to reduce preventable death and injury

Although deaths are rare (~700 per year)

Maternal complications occur at 50-100 times the rate of mortality
Maternal Mortality Ratios, United States 2005-2010 and State Maternal Mortality Reviews

CDC WONDER

Transforming Maternity Care

Compiled from ACOG & Amnesty International
Rising Maternal Mortality and Morbidity: We All Have Work to Do
CMQCC
California Maternal Quality Care Collaborative

- Formed in 2006 in partnership with CA Dept of Public Health, to explore rise in maternal mortality and morbidity, and implement quality improvement initiatives using SOCIO-MEDICAL LENS
- CMQCC is located at Stanford University, School of Medicine, Department of Pediatrics, Division of Neonatal and Developmental Medicine
The Conceptual Framework of Complex Innovation Implementation

Components of effective implementation

1) Management Support
2) Financial Resource Availability
3) Implementation Policies and Practices
4) Implementation Values Fit
5) Champions

(Helfrich et al 2007)
Implementation Policies, Values Fit, & Champions

- Build a common purpose
  - Through shared basic assumptions
- Create QI collaborative structure
  - Embody values
  - Utilize collective intelligence
- One of the core shared assumptions was that clinicians want to do good work and provide safe care.
Underlying Assumptions 1

Clinicians deeply care about providing high quality maternity care, but...

- Their time and resources are limited
- Leadership is often missing
- There is little ability to compare practices & outcomes

Opportunities for improvement are present:

- Maternal outcomes have worsened
- Large practice variation among hospitals and physicians
- Evidence-based research is available as a model for improvement
Underlying Assumptions 2

Transformation (change) is not easy
Champions are essential

- Need to work at state and local levels
- Champions need support, data, training, role models
- We need to be in it for the long haul

Collaboration is critical for our success

- Maximizes resources of time, money and knowledge
- Increases peer support and peer learning
- Creates synergy and increased capacity
- “The whole is greater than the sum of its parts”
Racial-Ethnic Disparities in Maternal Mortality

- African-American women die from pregnancy-related causes more often than women in other racial-ethnic groups
  - >4-fold higher risk of maternal death overall
  - Independent of age, parity or education
FIG. 1. Socioecological model of African American women and sexual and reproductive health influences and outcomes.
<table>
<thead>
<tr>
<th>Clinical Cause of Death</th>
<th>Chance to Alter Outcome (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strong/Good</td>
</tr>
<tr>
<td>Obstetric hemorrhage</td>
<td>14 (70%)</td>
</tr>
<tr>
<td>Preeclampsia/eclampsia*</td>
<td>21 (60%)</td>
</tr>
<tr>
<td>Deep vein thrombosis/pulmonary embolism</td>
<td>10 (50%)</td>
</tr>
<tr>
<td>Sepsis/infection</td>
<td>7 (50%)</td>
</tr>
<tr>
<td>Cardiomyopathy and other cardiovascular causes*</td>
<td>14 (29%)</td>
</tr>
<tr>
<td>Cerebral vascular accident</td>
<td>3 (19%)</td>
</tr>
<tr>
<td>Amniotic fluid embolism</td>
<td>0</td>
</tr>
<tr>
<td>All other causes of death</td>
<td>15 (76%)</td>
</tr>
<tr>
<td><strong>Total (%)</strong></td>
<td><strong>84 (41%)</strong></td>
</tr>
</tbody>
</table>

- Two deaths lacked sufficient records to make determination (one from each cause of death).
California Pregnancy Associated Mortality Reviews
- Missed triggers/risk factors: abnormal vital signs, pain, altered mental status/lack of planning for at risk patients
- Underutilization of key medications and treatments
- Difficulties getting physician to the bedside
- “Location of care” issues involving Postpartum, ED and PACU

University of Illinois Regional Perinatal Network
- Failure to identify high-risk status
- Incomplete or inappropriate management

California Pregnancy-Associated Mortality Review (CA-PAMR)
Quality Improvement Review Cycle

1. Identification of cases
2. Information collection, review by multidisciplinary committee
3. Cause of Death, Contributing Factors and Quality Improvement (QI) Opportunities identified
4. Strategies to improve care and reduce morbidity and mortality
5. Evaluation and Implementation of QI strategies and tools

Statewide QI Collaboratives

Toolkits Developed:
• Hemorrhage
• Preeclampsia
• CVD (in development)
• VTE (in development)
Improving Health Care Response to Obstetric Hemorrhage v2.0

THIS COLLABORATIVE PROJECT WAS DEVELOPED BY:
THE OBSTETRIC HEMORRHAGE TASK FORCE
THE MATERNTAL QUALITY IMPROVEMENT PANEL
CALIFORNIA MATERNTAL QUALITY CARE COLLABORATIVE
MATERNAL, CHILD AND ADOLESCENT HEALTH DIVISION; CENTER FOR FAMILY HEALTH
CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

Improving Health Care Response to Preeclampsia

THIS COLLABORATIVE PROJECT WAS DEVELOPED BY:
THE PREECLAMPSIA TASK FORCE
CALIFORNIA MATERNTAL QUALITY CARE COLLABORATIVE
MATERNAL, CHILD AND ADOLESCENT HEALTH DIVISION; CENTER FOR FAMILY HEALTH
CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

www.CMQCC.org
Transforming Maternity Care
All pregnant women deserve the best care we can provide.

How can we learn from their deaths?

How can we honor their lives?

Rosa Maria Larios Gomez
September 5, 1977 – August 20, 2008
Rosa Maria (Tootsie) Larios Gomez passed away giving birth to her son, Phoenix Alexander Larios Gomez, in San Francisco, on August 20, 2008 at the age of 30.

She was the beloved wife of Mauricio and the loving and amazing mother of Brandon. She now rests in peace with her father, Rene. She is survived by her moms, Vilma and Lety; brothers and sisters; Sandra, John, Ramiro, Indira, Michi, Jonathan, William and Rene.

Rosa earned her high school diploma in El Salvador, Associates Degree at Skyline College and was one year from earning two Bachelor’s degrees from San Francisco State University.

We will miss her enthusiasm for life, laughter and her loving nature. God now has one more angel. We love you Rosa.

Friends may visit Friday, August 29, from 4 p.m. to 7 p.m. and attend a Vigil Service at 7 p.m. at Duggan’s Serra Mortuary, 500 Westlake Ave. Daly City, CA. A Funeral Mass will be celebrated Saturday, August 30th, at 10 a.m. at Holy Angels Church, 107 San Pedro Rd., Colma. Committal will be at Cypress Lawn Cemetery, Colma CA. immediately following the Funeral Mass.

Donations may be made towards the education of Phoenix Alexander and Brandon Mauricio Larios Gomez, 32 Montebello Dr. Daly City, CA 94015.
CMQCC Key Partner/Stakeholders

State Agencies
- MCAH, Dept Public Health | OSHPD Healthcare Information Division | Office of Vital Records (OVR) | Regional Perinatal Programs of California (RPPC) | DHCS, Medi-Cal

Public and Consumer Groups
- California HealthCare Foundation | March of Dimes (MOD) | Kaiser Family Foundation | Patient Advocacy Groups

Professional Groups
- ACOG | AWHONN | ACNM | SOAP | AAFP | AAP | AND MORE

Key Medical and Nursing Leaders
- University and Hospital Systems

Hospital Associations
- California Hospital Association / Hospital Quality Institute

Payers
- Aetna | Anthem Blue Cross | Blue Shield | Cigna | Health Net

Purchasers
- CALPERS | Medi-Cal HMOs | Pacific Business Group on Health/ Silicon Valley Employers Forum | Covered California (our ACA entity)

PARTNER with everyone you can think of!
Maternal Mortality Rate, California and U.S. 1999-2013


Transforming Maternity Care
Lessons from CMQCC history

- Common Purpose: Women’s lives matter; Providing good quality care matters
- Collaborate!
- Strategic Choices
  - Partnerships / Collaborations
  - Quality Improvement Topics
- Persistence
- Stay true to your vision = Data ↔ Action
- Sustain the gains
Thank you

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