SAFE MOTHERHOOD INITIATIVE

Reducing Maternal Mortality: A Consensus Plan in NYS

Iroquois Healthcare Alliance / Association
BOARD OF DIRECTORS
Wednesday, December 4, 2013

Donna Montalto, MPP
Executive Director
ACOG District II New York
Global Maternal Health: A Call to Action

THE LANCET, JULY 13, 1985

Maternal Health

MATERNAL MORTALITY—A NEGLECTED TRAGEDY
Where is the M in MCH?

ALLAN ROSENFIELD  DEBORAH MAINE

Center for Population and Family Health, Faculty of Medicine, Columbia University, 60 Haven Avenue, New York, NY 10032, USA
International Movement to Reduce Maternal Mortality

- 1987, Global Safe Motherhood Conference, Nairobi, Kenya

- 2000, United Nations' 8 Millennium Development Goals
  **Target #5:** Reduce the maternal mortality ratio by 75% from 1990-2015

Global Maternal Mortality: Progress

- Comprehensive analysis funded by Bill and Melinda Gates Foundation
- Yearly rate of decline of global MMR since 1990 was 1.3%
- Gates' pledge of $1.5 billion toward maternal, newborn, and child health over 5 years

US Maternal Mortality Ratio: What is the Trend?


*Note: Number of pregnancy-related deaths per 100,000 live births per year.

*Changes in the National Vital Statistics System may have improved ascertainment of maternal death

MATERNAL MORTALITY
PER 100,000 LIVEBORN INFANTS

Source: NLWC from Center for Disease Control and Prevention, National Center for Health Statistics 1999-2006
# Interval from End of Pregnancy to Death for Pregnancy Related Deaths, NYC, 2001-2005

<table>
<thead>
<tr>
<th>Interval</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antepartum</td>
<td>26</td>
<td>16.2</td>
</tr>
<tr>
<td>0-1 day</td>
<td>54</td>
<td>33.5</td>
</tr>
<tr>
<td>2 days – 1 week</td>
<td>27</td>
<td>16.8</td>
</tr>
<tr>
<td>&gt;1 week – 1 month</td>
<td>35</td>
<td>21.7</td>
</tr>
<tr>
<td>&gt;1 month – 1 year</td>
<td>16</td>
<td>8.9</td>
</tr>
<tr>
<td>Unknown</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Total</td>
<td>161</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: NYC DOH, New York City Maternal Mortality Review Project Team
## Pregnancy-Related Deaths by Cause, NYC, 2001-2005

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embolism</td>
<td>28</td>
<td>17.4</td>
</tr>
<tr>
<td>Hemorrhage</td>
<td>27</td>
<td>16.8</td>
</tr>
<tr>
<td>Pregnancy-induced hypertension</td>
<td>23</td>
<td>14.3</td>
</tr>
<tr>
<td>Infection</td>
<td>23</td>
<td>14.3</td>
</tr>
<tr>
<td>Cancer</td>
<td>4</td>
<td>2.5</td>
</tr>
<tr>
<td>Anesthesia complications</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Injury</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Other cause of death</td>
<td>50</td>
<td>31.1</td>
</tr>
<tr>
<td>Total</td>
<td>161</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: NYC DOH, New York City Maternal Mortality Review Project Team
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The Problem:

- Approximately 50% of all maternal deaths are considered to be preventable!

- Over the last 20 years, the US maternal mortality ratio has **doubled** to 14.5 per 100,000.

- Cause: changes in National Vital Statistics System may have improved the ascertainment of maternal deaths (& “sicker” pts??).
Risk Factors For Maternal Mortality in New York City: 2001-2005

- Maternal age
  Women older than 40 were 2.6 times more likely to suffer maternal death.

- Obesity
  49% of women who died from pregnancy-related causes were obese.

- Comorbid conditions
  56% of women had a chronic health condition.

- Racial disparities

Source: NYC DOH MH New York City Maternal Mortality Review Project Team
Safe Motherhood Initiative

Maternal Risk Factors

- Maternal age
- Obesity
- Cesarean delivery
- More pregnancies in women with significant chronic medical conditions
  - Hypertension
  - Pregestational diabetes
  - Congenital heart disease
  - Organ transplant
Strategies to reduce maternal mortality

High risk women:

- Timely identification and referral of patients for appropriate level of care

Strategies to reduce maternal mortality

Low risk women:

• Comprehensive national effort to educate all providers on the prevention and treatment of obstetrical complications
Maternal Early Warning System (MEWS)

- Modeled on UK early obstetric warning system (MEOWS)
- Research has found these parameters to be highly sensitive and specific
- Obstetric centers should utilize an early warning system to detect abnormal physiologic parameters that precede critical illness
Maternal Early Warning System (MEWS)

If a pregnant or postpartum patient develops any of the following findings a prompt evaluation by a clinician is required:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic BP; mmHg</td>
<td>&lt;90 or &gt;160</td>
</tr>
<tr>
<td>Diastolic BP; mm Hg</td>
<td>&gt;100</td>
</tr>
<tr>
<td>Heart rate; beats per minute</td>
<td>&lt;50 or &gt;120</td>
</tr>
<tr>
<td>Respiratory rate; breaths per minute</td>
<td>&lt;10 or &gt;30</td>
</tr>
<tr>
<td>Oxygen saturation; %</td>
<td>&lt;95</td>
</tr>
<tr>
<td>Oliguria</td>
<td>&lt;30mL/hr for 2 hours</td>
</tr>
<tr>
<td>Maternal agitation, confusion, or unresponsiveness</td>
<td></td>
</tr>
</tbody>
</table>
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A Call to Action

Current Commentary

Preventing Maternal Death
10 Clinical Diamonds

Steven L. Clark, MD, and Gary D. V. Hankins, MD
Where Is the “M” in Maternal–Fetal Medicine?

Mary E. D’Alton, MD

In contrast to the generally encouraging trend regarding global maternal mortality, there has been an apparent increase in the maternal mortality ratio in the United States. Although maternal death remains a relatively rare adverse event in this country, programs to reduce maternal mortality also will result in a reduction in maternal morbidity, which is a far more prevalent problem. Progress in the field of maternal–fetal medicine over the past several decades has been largely attributable to improvements in fetal and neonatal medicine. We need to develop an organized, national approach focused on reducing maternal mortality and morbidity. The goal will be to outline a specific plan for clinical, educational, and research initiatives to put the “M” back in maternal–fetal medicine.

(Obstet Gynecol 2010;116:1401–4)
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Consensus in US
Physicians, department chairs and hospitals across New York State have been meeting quarterly since January 2013

Consensus building for 3 clinical bundles

National Partnership for Maternal Safety: goal to use bundles for all birthing facilities in US. “3 Bundles in 3 Years”

Role out in NY - March 2014
Safe Motherhood Initiative
Consensus in New York State

WINTHROP
University Hospital

ST. JOSEPH'S
Hospital Health Center

MAIMONIDES
Medical Center

NEW YORK
DOWNTOWN
HOSPITAL

MOUNT SINAI
SCHOOL OF
MEDICINE

UNIVERSITY OF
ROCHESTER
MEDICAL CENTER

North Shore LIJ

Albert Einstein College of Medicine
OF Yeshiva University

Albany Medical Center

JAMAICA HOSPITAL
MEDICAL CENTER

UPSTATE
MEDICAL UNIVERSITY

HHC

NYU Langone
MEDICAL CENTER

The Brooklyn
Hospital Center

Beth Israel

Glens Falls Hospital

St. Luke’s Roosevelt

Columbia University
Medical Center

Continuum Health Partners, Inc.
Safe Motherhood Initiative

Focus Population

• 131 New York State Obstetric Hospitals
  • 52 Level 1s
  • 28 Level 2s
  • 34 Level 3s
  • 17 RPCs
• Ob-Gyn; Nursing, Anesthesia, Pediatrics, Critical Care, Cardiology, Family Practice, Midwifery, Hospital Administration
• Liaison members: all major hospital associations
Recommendations for reducing maternal mortality in New York State

- Implement Obstetric Bundles in every NY birthing facility to **standardize** the management of:
  1. Obstetric Hemorrhage
  2. Severe Hypertension in Pregnancy
  3. Venous Thromboembolism Prevention
Reasons for standardization of 3 bundles:

1) most common reasons leading to maternal death
2) most of these deaths have preventable causes

| Obstetric Hemorrhage | Severe Hypertension in Pregnancy | Venous Thromboembolism (VTE) |
The Institute for Healthcare Improvement (IHI) developed the concept of bundles to help healthcare providers more reliably deliver the best possible care for patients.

IHI defines a bundle as a structured way of improving the processes of care and patient outcomes: a small, straightforward set of evidence-based practices—generally three to five—that, when performed collectively and reliably, have been demonstrated to improve patient outcomes.
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Implementation Tools

“BUNDLES”
= guidelines + protocols + checklists + trigger tools + best practices + easy access to specialists statewide + education

Bundle Goal: clinical adoption and maximal compliance
Bundles Contain Specific Protocols

Protocols:

- Derived from evidence-based medical data
- Define the standard of care
- Minimize variability
- Reduce the need to rely on memory
- Enhance patient safety
- Reduce duplication of effort
Success of Perinatal Protocols

The American College of Obstetricians and Gynecologists
Women's Health Care Physicians

COMMITTEE OPINION
Number 475 • February 2011
(Replaces No. 402, March 2008)

Committee on Obstetric Practice
This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed.

Antenatal Corticosteroid Therapy for Fetal Maturation

ACOG
PRACTICE BULLETIN
CLINICAL MANAGEMENT GUIDELINES FOR
OBSTETRICIAN-GYNECOLOGISTS
NUMBER 80, APRIL 2007
(Replaces Practice Bulletin Number 1, June 1998)

Premature Rupture of Membranes
Preterm delivery occurs in approximately 12% of all births in the United States and is a major factor contributing to perinatal morbidity and mortality (1, 2). Despite extensive research in this area, the rate of preterm birth has increased
SMI CONSENSUS PLAN

Comprehensive educational plan

HTN/PEC  Hemorrhage  Thromboembolism

Development of STANDARDIZED Tool Kits/Bundles

Protocols/Triggers/Drills  Checklists/Risk assessment tools

Statewide Hospital Enrollment

Hospital adoption of protocols  Standardization of care
Supported by *Merck for Mothers* grant
May 1, 2013-April 30, 2016

- ACOG District II
  - Funded for implementation of educational program
  - Clinical outcomes will be tracked as part of this initiative
Focus Population

- 131 Obstetric Hospitals
  - 52 Level 1s
  - 28 Level 2s
  - 34 Level 3s
  - 17 RPCs
  - 75% participation rate

Ob-Gyns, OB nursing, anesthesia, pediatrics, critical care medicine, cardiology, family practice, midwifery, hospital administration

Liaison members: all major hospital associations
Number of hospitals in New York State by delivery volume (births in 2010)

- <500 births: 29 hospitals
- 501-1000 births: 25 hospitals
- 1001-2000 births: 32 hospitals
- 2001-3000 births: 26 hospitals
- 3001-4000 births: 9 hospitals
- 4001-5000 births: 8 hospitals
- >5000 births: 6 hospitals

N total = 135

Source: http://hospitals.nyhealth.gov/
Year 1: Activities

• Collect / Review hospital protocols in 3 areas
• Determine physician/nurse understanding of the use of 3 protocols
• Engage 3-person SMI “teams” from each hospital: ob-gyn, nurse, admin
• Financial compensation to hospitals
• Develop initial process for data tracking, collection & analysis
• PR campaign for hospitals as an incentive
Year 2: Activities

• Continued participating hospital education
  – web conferences
  – regional teaching days
  – monthly conference calls

• Hospital staff to standardize data entry processes

• Data collection via a private, encrypted web portal

• On-site hospital visits for chart reviews

• PR campaign continues
Year 3: Activities

• Review hospital compliance with implementation of new measures
• Conduct rigorous data analysis
• PR campaign
• Post-initiative KAP survey
• Suggested recommendations for further improvements
National Scalability

• As these 3 “bundles” are developed, validated and integrated into routine care, the facility level cost for project continuation should be marginal.

• Educational materials and protocols may be applicable to, and duplicated in, obstetric settings across the country.
“Between the health care we have and the health care we could have lies not just a gap, but a chasm.”

Crossing the Quality Chasm, IOM, 2001