Preventing Maternal Mortality and Morbidity

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Acknowledgments

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Overview

1) Maternal morbidity and mortality data

2) Evidence-based prevention strategies

3) Collaboration
Maternal Death Data Trends

The graph shows the maternal mortality rate from 2005 to 2015 for Texas and the United States. The rates are measured per 100,000 live births. The data is prepared by the Office of Program Decision Support, Division for Family and Community Health, Texas Department of State Health Services. The data sources include Centers for Disease Control and Prevention, National Center for Health Statistics. The underlying cause of death and natality public use data from 2005-2015 on CDC WONDER Online Database. MMR computed within 42 days following the end of pregnancy, using ICD-10 codes A34, O00-O09, O98-O99.
Maternal Death Data Trends

MATERNAL MORTALITY RATES BY RACIAL/ETHNIC GROUP, 2006-2015

Prepared by: Office of Program Decision Support, Division for Family and Community Health Services, Texas Department of State Health Services, 07/21/2017.
Data Source: Death and Birth Files, Center for Health Statistics, Texas Department of State Health Services.
MMR - computed within 42 days following the end of pregnancy, using ICD-10 codes A34, O00-O95, O98-O99.
Top Causes of Confirmed Maternal Death: Within 1 Year Following End of Pregnancy

Top Causes of Maternal Death, Occurring During Pregnancy or up to 365 Days Postpartum
Confirmed Maternal Deaths, 2012-2015

- Drug overdose (n=66): 17.0%
- Cardiac event (n=55): 14.4%
- Homicide (n=24): 11.0%
- Suicide (n=23): 8.6%
- Infection/Sepsis (n=22): 8.4%
- Cerebrovascular event (n=27): 7.1%
- DIC/HELLP syndrome (n=20): 5.2%
- Other non-obstetric cause (n=20): 5.2%
- Hypertension/ eclampsia (n=18): 4.7%
Top Causes of Maternal Death: During Pregnancy & Within 7 Days Postpartum

Top Causes of Maternal Death, Occurring During Pregnancy or up to 7 Days Postpartum Confirmed Maternal Deaths, 2012-2015

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percent of maternal deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIC/Hemorrhage (n=15)</td>
<td>19.0%</td>
</tr>
<tr>
<td>Cardiac event (n=14)</td>
<td>17.7%</td>
</tr>
<tr>
<td>Amniotic embolism (n=10)</td>
<td>12.7%</td>
</tr>
<tr>
<td>Cerebrovascular event (n=8)</td>
<td>10.1%</td>
</tr>
<tr>
<td>Hypertension/ eclampsia (n=7)</td>
<td>8.9%</td>
</tr>
<tr>
<td>Pulmonary embolism (n=5)</td>
<td>6.3%</td>
</tr>
</tbody>
</table>
Severe Maternal Morbidity: Top Causes

Severe Maternal Morbidity (SMM) in Texas Overall and Top Causes, 2014

- Texas SMM rate: 19.5 cases per 1,000 deliveries
- Hemorrhage*: 13.0 cases per 1,000 deliveries
- DIC: 2.6 cases per 1,000 deliveries
- Cardiac Event: 2.0 cases per 1,000 deliveries
- Hysterectomy: 1.4 cases per 1,000 deliveries
- Eclampsia*: 0.7 cases per 1,000 deliveries

*AIM Patient Safety Bundle is available for this condition.

Data Source: Hospital Inpatient Discharge Public Use Data File, 2014
Prepared by: Office of Program Decision Support
Maternal Morbidity: With vs. Without All Hypertensive Disorders

Severe Maternal Morbidity Rates vs. Rate of All Hypertensive Disorders

- Hypertensive disorder complicating pregnancy: 115.2 cases per 1,000 deliveries
- Hemorrhage*: 13.0 cases per 1,000 deliveries
- DIC: 2.6 cases per 1,000 deliveries
- Cardiac Event: 2.0 cases per 1,000 deliveries
- Hysterectomy: 1.4 cases per 1,000 deliveries
- Eclampsia*: 0.7 cases per 1,000 deliveries

SMM Rate per CDC definition: 19.5 cases per 1,000 delivery hospitalizations

*AIM Patient Safety Bundle is available for this condition.
†ICD-9 Diagnosis codes 642.xx (hypertension, pre-eclampsia, and eclampsia complicating pregnancy)

Data Source: Hospital Inpatient Discharge Public Use Data File, 2014
Prepared by: Office of Program Decision Support
Maternal Morbidity and Mortality are Preventable

Main et al. Obstet Gynecol 2015;125(4):938-947
Importance of Protocols and Checklists

• ACOG Committee Opinion #629 recommends/encourages the use of checklists and protocols, which are two major features of AIM bundles

• Use of protocols and checklists:
  • Help practitioners perform critical tasks the same way every time, which can reduce error
  • Have been shown to reduce patient harm through improved standardization
  • Have been clearly demonstrated to improve outcomes
Compared hospitals who implemented specific protocols for recognition of PPH, provider notification, and prompt treatment with transfusion.
Mortality Reduction – Hypertension Protocol

- Hospital Corporation of America instituted a protocol of antihypertensive therapy any time specific blood pressure thresholds were exceeded.
- Resulted in 80% reduction in deaths from pre-eclampsia (p=0.02).

AIM Goal
Eliminate Preventable Maternal Mortality and Severe Morbidity in Every U.S. Birth Center

AIM Strategies

• Broad partnership
• Tools & TA
• Implementation training
• Real time data
• Build on existing initiatives
• Incremental bundle adoption
AIM Bundle Particulars

Four Sections or Domains

- READINESS
- RECOGNITION & PREVENTION
- RESPONSE
- REPORTING & SYSTEMS LEARNING

- Developed by official representatives from provider organizations, public health, patient advocates.
- Vetted by the Council on Patient Safety in Women’s Health
- Reviewed semiannually for updates
- Commentaries co-published in journals of the organizations developing bundles
AIM Safety/Quality Improvement Bundles

Safety Bundle
- Obstetric Hemorrhage
- Severe Hypertension in Pregnancy
- Maternal VTE Prevention
- Patient, Family and Staff Support
- Safe Reduction of Primary Cesarean Births

Safety Tools
- Maternal Early Warning Criteria
- SMM Case Review Forms
- Maternal Mental Health

For Every Birth
- Reducing Disparities in Maternity Care Basics
- Postpartum Care Basics
- Interconception Care Coming Soon

Just Out
- Obstetric Care of Women with Opioid Dependence

www.safehealthcareforeverywoman.org
AIM Participation: July 2017

AIM States
Enrolled (11+)
(NPIC, Premier, Trinity)

AIM Impact
Annual Births
1,520,000+
Texas Maternal Health Committee Collaboration

Maternal Mortality and Morbidity Task Force
• Currently focusing on data collection, analysis, reporting, and recommendations

Perinatal Advisory Committee
• Currently focusing on Levels of Maternal Care

Texas Collaborative for Healthy Mothers and Babies
• Performing quality improvement interventions

Healthy Texas Women
• Provides women’s health and family planning services at no cost to eligible women in Texas
Thank you