Alliance for Innovation on Maternal Health (AIM)

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Conduct detailed review deaths to get complete and comprehensive data on maternal deaths to prioritize efforts.

Provide the vision and essential supports to monitor/assess and implement efforts to improve the health and well-being of mothers and infants.

Mobilize state networks to implement quality improvement initiatives aimed at increasing safety and improving the health and well-being of mothers and infants.
State PQCs and MMRCs*

• PQCs and MMRCs function to improve maternal and perinatal health (investing in the mother’s health leads to a healthier birth/pregnancy outcome)

• Roles and Functions
  PQCs: Focus on efforts during the maternal and perinatal periods intended to improve birth outcomes and strengthen perinatal systems of care for mothers and infants
  MMRCs: Focus on reviewing maternal and pregnancy-associated deaths (pregnancy through 1 year after delivery) to identify gaps in health services and make actionable recommendations to prevent future deaths, improving maternal and perinatal health

• Lessons learned over time have resulted in the national recommendation (CDC) for states to intentionally and strategically align the review efforts (MMRC) with the action/QI efforts (PQC), creating a “culture of safety”

*Maternal Mortality Review Committees
What is AIM?

• AIM is a national data-driven maternal safety and QI initiative based on proven implementation approaches to improving maternal safety and outcomes in the U.S.

• AIM works through state teams and health systems to align national, state, and hospital level QI efforts to improve maternal and perinatal health outcomes

• Any U.S. hospital in a participating AIM state or hospital system can join the growing AIM community of multidisciplinary healthcare providers, public health professionals, and cross-sector stakeholders
  • Access to 12 “safety bundles”
  • Access to Patient Safety Tools
  • Access to the AIM Community of States
What is a Bundle?

• Standardized evidence-informed processes to reduce variation in response to maternal care
• Developed by multidisciplinary work groups of experts in the field representing each of the Alliance partners and specialty organizations
• Consists of four parts
  • Readiness
  • Recognition and Prevention
  • Response
  • Reporting/Systems Learning
AIM Bundles

• Twelve Bundles Available

• Short List
  • Maternal Mental Health: Depression and Anxiety
  • Postpartum Care Basics for Maternal Safety
    • Transition from Maternity to Well-Woman Care
  • Reduction of Peripartum Racial/Ethnic Disparities
  • Severe Hypertension in Pregnancy
Readiness: Every Unit

• Standards for early warning signs, diagnostic criteria, monitoring and treatment of severe preeclampsia/eclampsia (include order sets and algorithms)
• Unit education on protocols, unit-based drills (with post-drill debriefs)
• Process for timely triage and evaluation of pregnant and postpartum women with hypertension including ED and outpatient areas
• Rapid access to medications used for severe hypertension/eclampsia: Medications should be stocked and immediately available on L&D and in other areas where patients may be treated. Include brief guide for administration and dosage.
• System plan for escalation, obtaining appropriate consultation, and maternal transport, as needed

Recognition & Prevention: Every Patient

• Standard protocol for measurement and assessment of BP and urine protein for all pregnant and postpartum women
• Standard response to maternal early warning signs including listening to and investigating patient symptoms and assessment of labs (e.g. CBC with platelets, AST and ALT)
• Facility-wide standards for educating prenatal and postpartum women on signs and symptoms of hypertension and preeclampsia
Response: Every Case of Severe Hypertension/Preeclampsia

- Facility-wide standard protocols with checklists and escalation policies for management and treatment of:
  - Severe hypertension
  - Eclampsia, seizure prophylaxis, and magnesium over-dosage
  - Postpartum presentation of severe hypertension/preeclampsia

- Minimum requirements for protocol:
  - Notification of physician or primary care provider if systolic BP =/> 160 or diastolic BP =/> 110 for two measurements within 15 minutes
  - After the second elevated reading, treatment should be initiated ASAP (preferably within 60 minutes of verification)
  - Includes onset and duration of magnesium sulfate therapy
  - Includes escalation measures for those unresponsive to standard treatment
  - Describes manner and verification of follow-up within 7 to 14 days postpartum
  - Describe postpartum patient education for women with preeclampsia
  - Support plan for patients, families, and staff for ICU admissions and serious complications of severe hypertension

Reporting/Systems Learning: Every Unit

- Establish a culture of huddles for high risk patients and post-event debriefs to identify successes and opportunities
- Multidisciplinary review of all severe hypertension/eclampsia cases admitted to ICU for systems issues
- Monitor outcomes and process metrics
Participation Phases

• Phase 1: Building
  • Lack of a timely data reporting infrastructure
  • Lack of an active MMRC or PQC
  • Planning Stage

• Phase 2: Positioning
  • In process of establishing leadership, implementation teams, and data infrastructure
  • Active engagement with the AIM State Team Leads to align state and birth hospital efforts to move towards onboarding

• Phase 3: Onboarding
  • Enrolled in AIM
Timeline

Enrollment in AIM: December 2019
Selection of AIM Bundle: February/March 2020
Preparation for Launch: April-June 2020
Launch of AIM Bundle: July/August 2020
Key MMRC Findings
Informing AIM Bundle Selection
Definitions

• **Pregnancy-Associated Death**: The death of a woman while pregnant or within one year of the termination of pregnancy, regardless of the cause. These deaths make up the universe of maternal mortality; within that universe are pregnancy-related deaths and pregnancy-associated, but not related deaths.

• **Pregnancy-Related Death**: The death of a woman during pregnancy or within one year of the end of pregnancy, from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy.

• **Pregnancy-Associated, but not Related Death**: The death of a woman during pregnancy or within one year of the end of pregnancy, from a cause that is not related to pregnancy.
Key Findings (2016-2017)*

• Total Reviewed Cases: 36
• Pregnancy-Related: 9
• Pregnancy-Associated, but not Related: 22
• Pregnancy-Associated, but not able to determine relatedness: 6

• Pregnancy-Related Deaths
  • Most occurred within 42 days of the end of pregnancy
  • Entered care in 1st trimester

• Causes of Death
  • Cardiovascular Conditions
  • Suicide/Depression
  • Chronic Hypertension
  • Disseminated Intravascular Coagulation (DIC)-Hemorrhage
  • Preeclampsia
  • Embolism-Thrombotic
  • Lupus

*3 2017 cases are outstanding and will be reviewed in early 2020
### Preventable Deaths: Primary & Secondary Causes

<table>
<thead>
<tr>
<th>Condition</th>
<th>Count</th>
</tr>
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<tbody>
<tr>
<td>DIC</td>
<td>2</td>
</tr>
<tr>
<td>Suicide</td>
<td>1</td>
</tr>
<tr>
<td>Embolism</td>
<td>1</td>
</tr>
<tr>
<td>Psychiatric Conditions</td>
<td>2</td>
</tr>
<tr>
<td>Chronic Hypertension/Preeclampsia</td>
<td>3</td>
</tr>
<tr>
<td>Cardiovascular Conditions</td>
<td>5</td>
</tr>
<tr>
<td>Cardiomyopathy</td>
<td>2</td>
</tr>
</tbody>
</table>

*N = 8*

*8 of the 9 PR deaths were determined to be preventable*
Pregnancy-Related Age at Death

- 25-19: 3
- 30-34: 3
- 35-39: 1
- 40 and Over: 2

N = 9
Employment Status-Pregnancy Related Deaths

- Not in Workforce: 2
- Employed: 7

N = 9
Insurance Status

- Private: 56%
- Medicaid: 33%
- Unknown: 11%

N = 9

- Black, NH: 25% (6.8% Pregnancy-Related Death, 18.2% Population)
- Multi-Racial: 13% (16.3% Pregnancy-Related Death, 2.7% Population)
- Hispanic: 25% (3.4% Pregnancy-Related Death, 21.6% Population)
- White, NH: 69.7% (38% Pregnancy-Related Death, 31.7% Population)
- AI/AN: 0.5% (0.5% Pregnancy-Related Death, 0.5% Population)
- Asian/PI: 3.4% (0% Pregnancy-Related Death, 3.4% Population)

N = 9
PA-Unable to Determine Relatedness

- Seizure Disorder, Cerebrovascular Accident
- Motor Vehicle Accident
- Suicide
- Sickle Cell Crisis
- Pulmonary Embolism
- Homicide
PR & PAU Combined: Insurance

N=15

- Private: 40%
- Medicaid: 53%
- Unknown: 7%
- Total: N=15
PR & PAU Combined: Education

- Less than High School: N=5
- HS Diploma: N=4
- Some College: N=4
- Master's Degree: N=2
PR & PAU Combined: Age

N=15

- 18-24: 4.5
- 25-29: 4.0
- 30-34: 3.5
- 35-39: 0.5
- 40 and Over: 1.5
Racial/Ethnic Breakdown of Pregnancy-Related and Pregnancy-Associated Unable to Determine Relatedness Deaths Combined

N=15

- Bi-Racial: 13%
- Black: 40%
- Hispanic: 27%
- White, non-Hispanic: 20%
Next Steps and Questions

Joint KMMRC & KPQC Meeting

Bundle Selection

Recruit QI and Clinical Champions
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