



ALLIANCE FOR INNOVATION ON MATERNAL HEALTH **A I M**

Core Partners

American College of Nurse-Midwives (ACNM)
American College of Obstetricians and Gynecologists (ACOG)
Association of Maternal and Child Health Programs (AMCHP)
Association of State and Territorial Health Officials (ASTHO)
Association of Women's Health, Obstetric, and Neonatal Nurses (AWHONN)
California Maternal Quality Care Collaborative (CMQCC)
Health Resources and Services Administration Maternal and Child Health Bureau (HRSA-MCHB)
Society of Maternal-Fetal Medicine (SMFM)

Associate Partners

American Association of Blood Banks (AABB)
American Association of Birth Centers (AABC)
American Academy of Family Practitioners (AAFP)
American Hospital Association (AHA)
National Governor's Association (NGA)
Nurse Practitioners in Women's Health (NPWH)
The Joint Commission (TJC)
Society for Obstetric Anesthesia and Perinatology (SOAP)
Voluntary Hospital Association (VHA)
Patient Advocacy Groups: Amniotic Embolus Foundation, March of Dimes, Preeclampsia Foundation
Government agencies including: Agency for Health Care Quality and Research (AHRQ), Centers for Disease Control (CDC),
Centers for Medicare and Medicaid Services (CMS), Department of Defense (DOD), Indian Health Service (IHS)

AIM PROGRAM OVERVIEW

Our Challenge

The United States now ranks 64th in the world for maternal mortality. The CDC reports that severe maternal morbidities (major birth complications) have risen 50% in the last decade. The proportion of women having a cesarean birth in their first pregnancy has also increased from 21% to 33% in the same time period. A cesarean in the first birth will lead to cesareans for all future births in over 90% of American women. In addition, our system of preparation for pregnancy and interconception care is badly fragmented. The **Alliance for Innovation on Maternal Health (AIM)** will address these major challenges in U.S. maternity care and support national efforts by the Health Resources and Services Administration Maternal Child Health Bureau and other organizations to improve maternal outcomes.

Our goal is to prevent 1,000 maternal deaths and 100,000 cases of severe maternal morbidity nationally by 2018.

This will require a national coordinated effort of maternity provider and hospital organizations, public health groups, and women's support and advocacy organizations. The Council for Patient Safety in Women's Health Care, a coalition of over 16 national provider and health organizations has partnered with the U.S. Department of Health and Human Services/Maternal and Child Health Bureau (MCHB) to form AIM.

Our Approach

AIM will partner with states and major hospital systems to implement maternity safety practices (bundles) in all hospitals for the 3 most preventable causes of maternal death: Obstetric hemorrhage, Severe hypertension, and Venous thromboembolism (blood clots/pulmonary embolism). Additional bundles focus on safely reducing low-risk primary cesarean deliveries and improving postpartum care to enhance interconception care. These maternal safety bundles represent best practices for maternity care supported by national multidisciplinary organizations.

The Plan

Over a 4-year period, AIM will be collaborating with states and hospital systems on a rolling basis across the U.S. to improve a culture of maternal safety through implementation of the safety bundles and data-driven quality improvement. For each state, **AIM will provide intensive technical assistance** as needed through the implementation phase.

Specifically, AIM will assist the states in their efforts to implement the following key elements:

- Develop a state-based multidisciplinary partnership to advance maternal safety
- Develop a data structure to drive continuous quality improvement at state and hospital levels
- Develop a plan for dissemination and implementation of the maternal safety bundles
- Coordinate support from national and state professional organizations for practice change
- Identify opportunities to partner with existing or proposed state projects (i.e. State Perinatal Quality Collaborative, Infant Mortality CoIIN)

Quality improvement and practice change **requires engagement of many partners, hard work and local ownership**. AIM provides important supports for this process. Additionally, as no state collaborative or health system can lead change in all of these topics at once, it is anticipated that each state collaborative will complete a **level of readiness survey** to determine which bundle topic(s) are the most important to address first.

As an important benefit, AIM participants will have the opportunity to learn and **share best implementation practices** in our virtual communities and at our annual national AIM conferences.

The overarching goal of AIM is to reduce severe maternal morbidity and mortality. AIM primary data measures for states to monitor outcomes and performance over the 4 year period are as follows:

- *AIM Outcome Measures*
 - *Maternal Mortality Ratio*
 - *Severe Maternal Morbidity Rate (CDC)*
- *AIM Performance Measures*
 - *Reduction of low risk Primary Cesarean Section Rate*
 - *Improved Uptake of Postpartum Visit*

These measures align with the State Title V Block Grant maternal and women’s health Performance and Outcome measures. Aligning AIM measures with State Title V performance and outcome measures positions States that are involved with AIM to deliver on results, impact, and accountability while reducing burden and maintaining a level of flexibility to address the needs unique to States.

There are additional process measures that will be submitted by hospitals to track adoption of the national safety bundles and demonstrate progress for their implementation. These will be entered directly into the AIM Web portal.

Participation in AIM

There may be variation among states regarding which organization will serve as the state coordinating body. In many states, it is likely to be the State and/or Territory Health Agency, a State Perinatal Quality Collaborative, or a State Hospital Association. The state coordinating body would be responsible for convening a multidisciplinary team, completing a readiness survey, developing a data strategy with partners and assembling the organizational collaborative framework. AIM strongly recommends the development of a team of collaborators with official organizational representation that includes:

Core Participants include: Title V/MCH Program Leadership, MCH epidemiologist working closely with Vital Records, State/Territorial Health Official, State Hospital Association, Perinatal Collaborative, Medical Society or other state Perinatal Groups, and state leadership from ACOG, ACNM, and AWHONN.

Associate Participants include: Representatives from Medicaid, Major Insurers, Hospital Systems, AAFP, NPWH, Obstetric Anesthesia (SOAP), Birth Centers, Healthy Start, Governor’s Office, March of Dimes, and Patient Advocacy Groups.

Maternal Safety Bundles Overview

Background

Obstetric Hemorrhage is the most preventable cause of maternal death and accounts for over half of all severe morbidity in obstetrics. Deaths from severe hypertension, largely preeclampsia, also have a high degree of preventability and account for another 20-25% of the severe morbidity. Venous Thromboembolism is the third most common cause of preventable maternal deaths and has a straightforward approach to prevention. Reviews of deaths and surveys of hospitals indicate that there are widespread opportunities to improve care for these conditions that in turn could have

MATERNAL SAFETY BUNDLES

- OBSTETRIC HEMORRHAGE
- SEVERE HYPERTENSION/PREECLAMPSIA
- MATERNAL PREVENTION OF VENOUS THROMBOEMBOLISM
- SAFE REDUCTION OF PRIMARY C/S : SUPPORT FOR INTENDED VAGINAL BIRTHS
- REDUCTION OF PERIPARTUM RACIAL DISPARITIES
- POSTPARTUM CARE BASICS FOR MATERNAL SAFETY
- PATIENT, FAMILY, AND STAFF SUPPORT AFTER A SEVERE MATERNAL EVENT
- MATERNAL EARLY WARNING SYSTEM (MEWS)
- FACILITY REVIEW (SEVERE MATERNAL MORBIDITY REVIEW)

major impact on outcomes. For these reasons they were chosen for the first national safety bundles. In 2012, The National Partnership for Maternal Safety, a multi-disciplinary maternal safety group began developing national safety bundles covering obstetric hemorrhage, severe hypertension and venous thromboembolism. In addition, they have developed supporting bundles for maternal early warning signs, case review and patient/family/staff support. These have been approved by the Council for Patient Safety in Women's Health Care which is composed of senior leadership from many major organizations representing maternity health care providers and systems who also will use their resources to support dissemination and implementation. Each has or will be published shortly in major society journals including *Obstetrics and Gynecology* and *Journal of Obstetric, Gynecologic and Neonatal Nursing*.

Obstetrics and Gynecology and *Journal of Obstetric, Gynecologic and Neonatal Nursing*.

Major Organizations that represent maternity health care providers and systems

EXAMPLES CAN INCLUDE: PERINATAL QUALITY COLLABORATIVES, RISK MANAGEMENT, PROVIDER GROUPS, INSURER GROUPS, PAYOR GROUPS, HOSPITAL ORGANIZATIONS, AND HOSPITAL SYSTEMS

Contents of these bundles have been 'field tested' in perinatal quality collaboratives across the nation and have been revised based on actual user experiences. Furthermore, they have been formally evaluated and shown to significantly reduce severe maternal morbidity.

Multidisciplinary collaboration and continuous quality improvement is vital to ensuring the sustainability of maternal safety initiatives. Two additional bundles, Support for Intended Vaginal Birth and Postpartum Basics for Maternal Safety, are under development to be completed in the next year.

Quality Improvement Principles

All patient safety organizations and professional societies, including ACOG and AIM Partner organizations, have called for the use of **unit-standard protocols, check lists and drills** for management and prevention of emergency conditions. Adoption has been slower than desired and represents a major improvement opportunity. AIM has identified key quality improvement principles that will be streamlined through all efforts: multidisciplinary leadership and collaboration, patient and safety engagement, and accountability.

Most healthy pregnant women are blessed with good general health, they are able to withstand considerable medical stress (such as blood loss). As a result, many providers have fallen into a trap where concerning signs and symptoms may be passed over until too late. Several large reviews of maternal deaths and severe morbidity have identified a **central role for "denial" and "delay"** and have called for more objective responses for obstetric symptoms and more timely responsiveness. On the other hand, maternity care has become **more "medicalized"** leading to increasing rates of interventions that in turn may also play a role in morbidity. The challenge is to help providers find the right balance.

Studies of maternity care identify **unit culture** as a critical factor for improving safety especially as it impacts **communication, hierarchy, and team function**. Many maternity units are addressing this in more general ways by improving unit-based system processes and enhancing team communication. The Maternal Safety Bundles provide concrete work flow changes that integrate evidence-based implementation strategies into daily practice on the unit. Examples would be structured communications such as huddles around risk assessments, debriefs and multidisciplinary case reviews.

Multi-disciplinary collaboration and leadership is critical for "moving the needle" for complex issues and especially where teamwork is essential. The labor and birth process is dependent on teamwork and many steps of coordinated communication. (i.e. between outpatient to inpatient; between mother and family to providers; within and among different disciplines of providers caring for her). Quality improvement projects need to model multidisciplinary leadership to fully engage each discipline and to be truly effective.

Patient and family engagement has had major impact on quality improvement throughout medical care. But the process does not come naturally to many units and has become a significant part of improving care on all units. The

Council on Patient Safety and the National Partnership for Maternal Safety have engaged patient advocates at all levels of the bundle development process and have profited greatly. Their continued engagement at all levels is strongly encouraged.

Another important driver of quality improvement whether at the state, birth facility or provider level is the use of rapid-cycle feedback of process and outcome metrics. **Data-driven quality improvement** has become a central feature for successful improvement projects. The bundles included in this project include field tested outcome and process metrics for both the state and facility levels. The quickness of data turn-around (feedback) is quite important and technical assistance will be provided both for measure calculation and infrastructure development. We recognize the restraints and burden of data collection within birth facilities and have striven to balance that with collecting administrative data whenever possible. The number of metrics correspondingly has been kept to a minimum.

A protocol for recognizing early warning signs is a cross-over effort that hospitals and clinicians can initiate to improve outcomes. Recognizing and responding to changes in a pregnant patient's vital signs and clinical condition, and developing and using protocols and related tools for responding to changes, such as hemorrhage and preeclampsia, can help to identify and correct systemic deficiencies that prevent optimal care from being rendered.

Maternal Safety Bundle Components

The maternal safety bundles represent a structured framework and overarching checklist of what every birthing unit should have, but allows each facility to make adjustments based on local resources. Detailed and tested examples are provided in cited resources to allow for easy integration. Practical information about implementation is also provided or cited from state perinatal quality collaboratives that have led the way.

All bundles include examples of support for patients, families and staff involved in the events, and follow up for unit education and quality improvement. Each of the maternal safety bundles are constructed with 4 domains:

- **Readiness** – includes development of a multidisciplinary team, risk assessment, drills, specific emergency kits or carts, development of protocols (such as transfusion) and arrangements to transfer to higher level facilities when warranted.
- **Recognition**– includes identification of early warning signs, steps for prevention where appropriate and a facility-wide escalation policy when those signs are identified.
- **Response** – includes a facility-wide unit-standard protocol to address the condition, identification of response team, and support for the patient, family and staff members involved in the event.
- **Reporting/Systems Learning**– includes debriefs and formal analysis of a severe maternal event using a standard assessment tool by a multidisciplinary committee with a focus system analysis, and following of the outcome and process measures to improve system learning.

BENEFITS OF AIM PARTICIPATION

- Alignment of maternal safety efforts on a national, state, and local level
- Access to leading implementation and quality improvement experts for continuous QI support
- Intensive technical assistance for team-based communication, effective collaboration, and harmonized data collection
- Evidence-based implementation resources to streamline adoption of maternal safety bundle components

EXPECTATIONS OF AIM STATES AND BIRTH HOSPITALS

- Collaborate with AIM Leadership to develop a maternal safety bundle implementation workplan
- Collaborate with AIM Leadership to develop state and hospital level data plans
- Share hospital level data to track progress of maternal safety bundles implementation and outcomes
- Participate in monthly scheduled conference calls with AIM Leadership
- Host a state AIM Kickoff Meeting to promote the AIM program in hospitals and the community
- Disseminate AIM resources, including newsletter, to staff in participating hospitals and state organizations
- Assist AIM Leadership in sharing implementation strategies and lessons learned with incoming AIM states
- Send up to 2 state AIM Team representatives to the AIM Annual Meeting