SECRETARY'S ADVISORY COMMITTEE ON INFANT MORTALITY (SACIM)

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OBJECTIVES

- Update SACIM on the current AHRQ and DoD collaboration and projects to improve maternal and fetal morbidity and mortality

- Understand the critical importance of Patient Safety on the Labor and Delivery unit
PATIENT SAFETY IN OB

- Childbirth in the United States accounts for 4 million hospitalizations per year.

- Two patients may potentially be injured with every case.

- Perinatal adverse outcomes affect women, children, and families, and can have *lifelong consequences for survivors or lead to premature death.*
INCIDENCE OF SEVERE MATERNAL MORBIDITY TRENDS

Dangerous Deliveries

Major complications for mothers giving birth in U.S. hospitals increased 75% in the decade ended in 2009*. Here are percentage changes for some specific emergencies:

- **Shock**: 100.7%
- **Acute renal failure**: 97.3%
- **Heart attack**: 79.4%
- **Thrombotic embolism**: 71.8%
- **Need for hysterectomy**: 23.7%
- **Anesthesia complications**: -61.3%

*latest data available  †sudden decrease in blood flow to vital organs

Source: Centers for Disease Control and Prevention

The Wall Street Journal
Structured systems help to optimize communication about and response to rapid changes in patient status.

Communication tools and training in principles of crew resource management are critical to ensuring best outcomes.

Drills and simulations are necessary to prepare for emergencies.
Labor and Delivery is the **Unit of Change**

- Improving intrapartum care improves outcomes for mothers and babies
- Mistakes during labor last a lifetime
- Multiple evidence-based strategies are now available to accomplish goals
CURRENT EVIDENCE OVERVIEW

- Simulation:
  - Decrease brachial plexus injuries 4-fold
  - Shorten time to delivery for cord prolapse cases by nearly 10 minutes
  - Better care with eclampsia cases

- OR Safety Checklists
  - Decrease morbidity and mortality by 30-40%

- Teamwork training
  - Improved AOI by 37% (when combined with sim)
  - Decrease in medication and transfusion errors

- Malpractice payments
  - Significant decrease in amount paid and number of Sentinel Events
DoD Initiatives

- Mobile OB Emergencies Simulator
- Safe Cesarean Section Checklist
- TeamSTEPPS & Simulation training
TEAMSTEPPS & SIMULATION IN THE AMEDD

- TeamSTEPPS implemented in Combat Support Hospital
  - Significant decrease in Medical Errors/Communication Errors (Deering, 2011)

- Simulation/TeamSTEPPS now included in Joint Trauma course for physicians prior to deployment

- TeamSTEPPS now mandatory for all Army Hospitals
Comprehensive OB
Patient Safety Programs

- New focus on implementing patient safety programs in a comprehensive manner
- Includes all programs under one umbrella
- Improved oversight and efficacy
# COMPREHENSIVE OB PATIENT SAFETY PROGRAM COMPONENTS

## COMPREHENSIVE OBSTETRIC PATIENT SAFETY PROGRAM COMPONENTS

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<td><strong>Combined Patient Safety Didactics (Physicians &amp; Nurses)</strong></td>
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<td>Real time tracking of Near-Miss events and Adverse Outcomes</td>
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<td><strong>Obstetric Emergencies Simulation Course (Annual Training)</strong></td>
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*Components addressed by simulation*
Comprehensive OB Patient Safety Programs

- Reported a significant decrease in mean annual malpractice payments
  - 27 million to 2.5 million
- Sentinel events decreased
  - 1.04 per 1,000 deliveries to 0.0 per 1,000 deliveries

AHRQ Patient Safety and Medical Liability Grant

- Ascension Health Care System
  - Implemented IHI Perinatal Care Bundles and Simulation training
    - Elective inductions < 39wks decreased to 0%
    - Operative delivery rate fell from 7.4% to 4.8%
    - Birth trauma rate fell from 0.2% to 0.03%
    - Primary cesarean rate remained unchanged at 22.5%
    - No medical liability cases so far in participating hospitals
Fairview Health Services and Premier

Combines 1) perinatal “care bundles,” 2) TeamSTEPPS®, 3) In situ simulation

- A 23% reduction, on average, in preventable birth traumas across all 14 hospitals. (The two participating Fairview hospitals report a 76% reduction in preventable birth traumas.)

- A 38% reduction in preventable newborn intensive care unit admissions of full term babies at the two Fairview hospitals (data are not yet available for the remaining 12 intervention hospitals).

- A 12% reported reduction in the rate of preventable birth-related maternal complications at term for the two Fairview intervention hospitals (data are not yet available for the remaining 12 intervention hospitals).
Perinatal Safety Intervention Program (PSIP)

- Take lessons learned from AHRQ & DoD efforts to spread nationwide
- Geared toward hospital-based L&D healthcare teams
- Designed for use by perinatal teams across various hospital types, geographic locations, and staffing and resource levels.
- Training and implementation support provided
PSIP IMPLEMENTATION

1. Build Core Team
2. Provide Teamwork, Communication, and Safety Training

3. Select PSIP Components
   - General Obstetrical Care for:
     - Electronic Fetal Monitoring
     - Oxytocin and Magnesium Sulfate Administration
     - Safe Performance of C-section
   - Obstetric Emergency Prevention and Response for:
     - Shoulder dystocia
     - Obstetric hemorrhage
     - Tachysystole
     - Seizure
     - Umbilical cord prolapse

IV. Implement PSIP
V. Evaluate and Learn

Outcomes
- Adopted best practices
- Reduced adverse obstetric events and injuries
- Improved unit teamwork and communication
- Increased patient and family satisfaction
- Reduced malpractice costs
FUTURE DIRECTION

- PSIP fielding begins Summer 2013
  - Will include DoD institutions

- Currently recruiting institutions, states, health systems, HENs to participate

- Anticipated PSIP tool kit availability via the web early 2014
SUMMARY

- AHRQ and the DoD are working together to improve outcomes for mothers and babies.

- Focusing on the Labor and Delivery Units will produce the largest return on investment in many areas.
Healthy Mom = Health Baby