PNQIN MPQC Meeting

June 23, 2020

MPQC Massachusetts Perinatal Quality Collaborative

neoQIC

COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

PN QIN OF MASSACHUSETTS
PERINATAL-NEONATAL QUALITY IMPROVEMENT NETWORK

BETSY LEHMAN CENTER for Patient Safety

MASBIRT Asking questions. Improving health.

MARCH OF DIMES

PNQIN_MPQC "State of the Union"

Today's Overview

1:00 - 1:05: Welcome/Introductions

1:05 – 2:05: MPQC Project Updates

- 1:10-1:25 AIM Bundles
- 1:25-1:40 Equity Initiatives
- 1:40-1:55 Severe Morbidity and Mortality Data Reports with The Betsy Lehman Center for Patient Safety
- 1:55-2:10 Levels of Maternal Care

2:10-2:30: Breakout Sessions & Closing Comments

- AIM OUD Wave 1 Re-engagement and Updates
- AIM OUD Wave 2 Teams Re-Engagement and Updates

Webinar Housekeeping

- Welcome! We will take attendance in the chat box– please comment with your name and hospital
- Please mute your lines and avoid placing us on hold, as we will hear your hold music – sometimes beautiful, but also distracting
- Please feel free to use the chat box to ask questions
- **We are recording the meeting and will upload the recording and meeting slides to our website**

Alliance for the Innovation of Maternal Health (AIM) Bundles

AIM Bundles

- AIM is a national data-driven maternal safety and quality improvement initiative with a focus on implementation of ”safety bundles” to improve maternal care, reduce morbidity and prevent mortality
- MPQC AIM Initiative Launched April 2019
- Current focus - Obstetric Care for Women with Opioid Use Disorder (OUD)
- Future Bundles
  - Reduction of Peripartum Racial and Ethnic Disparities (Fall 2020 - Across All Bundles)
  - Obstetric Hemorrhage (Fall 2020/Winter 2021)
  - Severe Hypertension in Pregnancy (TBD)

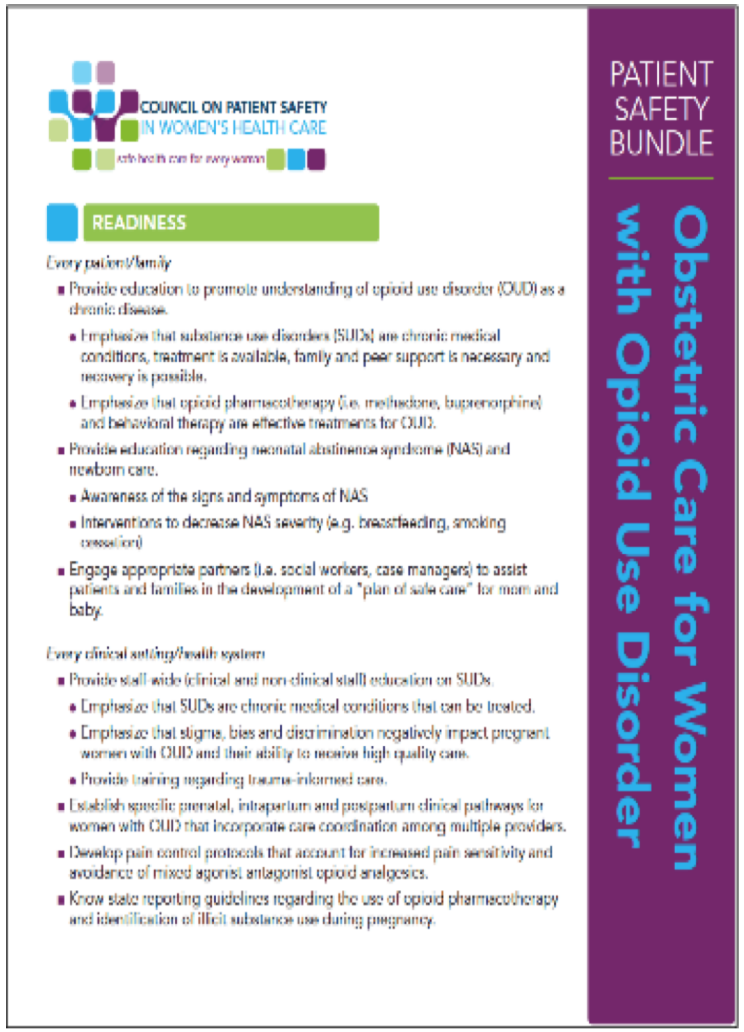
Our Massachusetts Partners

Our AIM Partners

Bundle Implementation

- **Multidisciplinary** team
- **Agreement** on Aims
- **Implement** Bundle Component
- Follow Process and Balancing **Measures**
- **Incorporate** into the EMR
- **Education/Simulations**
- Incorporate into **Policy**

Bundles



COUNCIL ON PATIENT SAFETY IN WOMEN'S HEALTH CARE

safe health care for every woman

PATIENT SAFETY BUNDLE

Obstetric Care for Women with Opioid Use Disorder

READINESS

Every patient/family

- Provide education to promote understanding of opioid use disorder (OUD) as a chronic disease.
  - Emphasize that substance use disorders (SUDs) are chronic medical conditions, treatment is available, family and peer support is necessary and recovery is possible.
  - Emphasize that opioid pharmacotherapy (i.e. methadone, buprenorphine) and behavioral therapy are effective treatments for OUD.
- Provide education regarding neonatal abstinence syndrome (NAS) and newborn care.
  - Awareness of the signs and symptoms of NAS
  - Interventions to decrease NAS severity (e.g. breastfeeding, smoking cessation)
- Engage appropriate partners (i.e. social workers, case managers) to assist patients and families in the development of a "plan of safe care" for mom and baby.

Every clinical setting/health system

- Provide staff-wide (clinical and non-clinical staff) education on SUDs.
  - Emphasize that SUDs are chronic medical conditions that can be treated.
  - Emphasize that stigma, bias and discrimination negatively impact pregnant women with OUD and their ability to receive high quality care.
  - Provide training regarding trauma-informed care.
- Establish specific prenatal, intrapartum and postpartum clinical pathways for women with OUD that incorporate care coordination among multiple providers.
- Develop pain control protocols that account for increased pain sensitivity and avoidance of mixed agonist-antagonist opioid analgesics.
- Know state reporting guidelines regarding the use of opioid pharmacotherapy and identification of illicit substance use during pregnancy.

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PATIENT SAFETY BUNDLE

Obstetric Hemorrhage

READINESS

Every unit

- Hemorrhage cart with supplies, checklist, and instructions ready for use (balloon, balloon and compression sticks)
- Immediate access to hemorrhage medications (IV or equivalent)
- Establish a response team – who to call when help is needed (blood bank, advanced gynecologic surgery, other support and tertiary services)
- Establish massive and emergency release transfusion protocols (type-O negative/uncrossmatched)
- Unit education on protocols, unit-based drills (with post-drill debriefs)

RECOGNITION & PREVENTION

Every patient

- Assessment of hemorrhage risk (prenatal, on admission, and at other appropriate times)
- Measurement of cumulative blood loss (formal, as quantitative as possible)
- Active management of the 3rd stage of labor (department-wide protocol)

RESPONSE

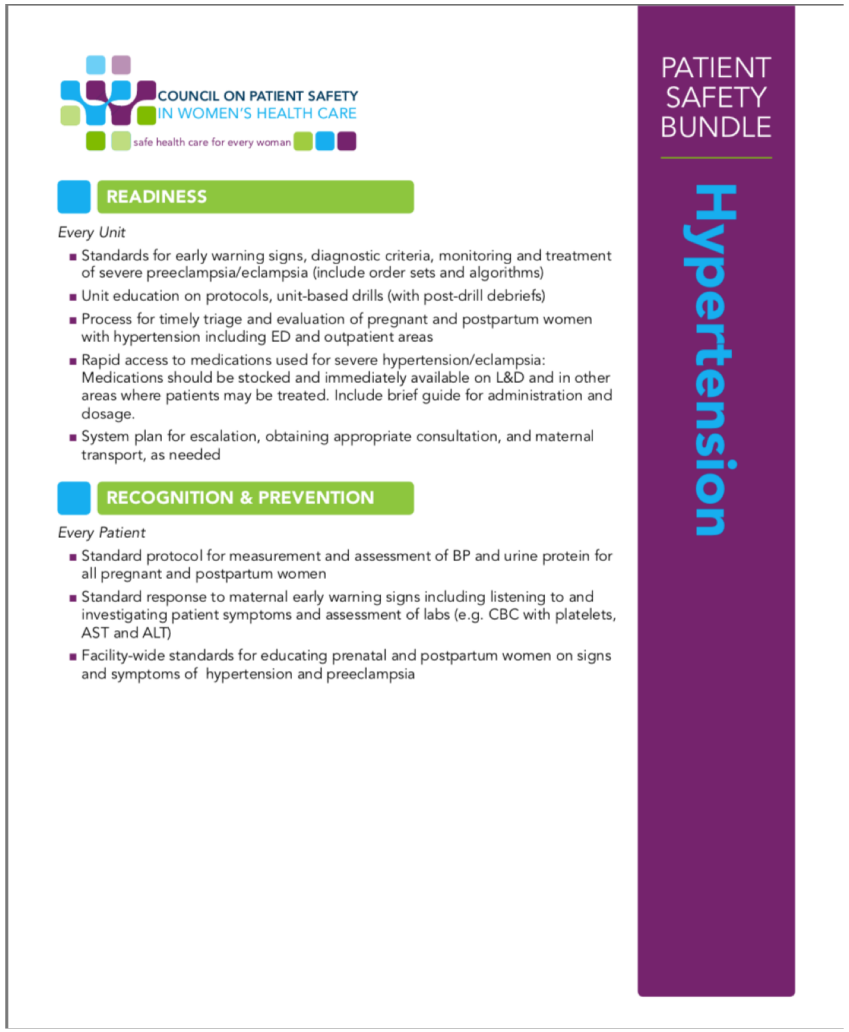
Every hemorrhage

- Uniform standard, stage-based, obstetric hemorrhage emergency management plan with checklists
- Support program for patients, families, and staff for all significant hemorrhages

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 serious hemorrhages for systems issues
- Monitor outcomes and process metrics in perinatal quality improvement (QI) committee



COUNCIL ON PATIENT SAFETY IN WOMEN'S HEALTH CARE

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PATIENT SAFETY BUNDLE

Hypertension

READINESS

Every Unit

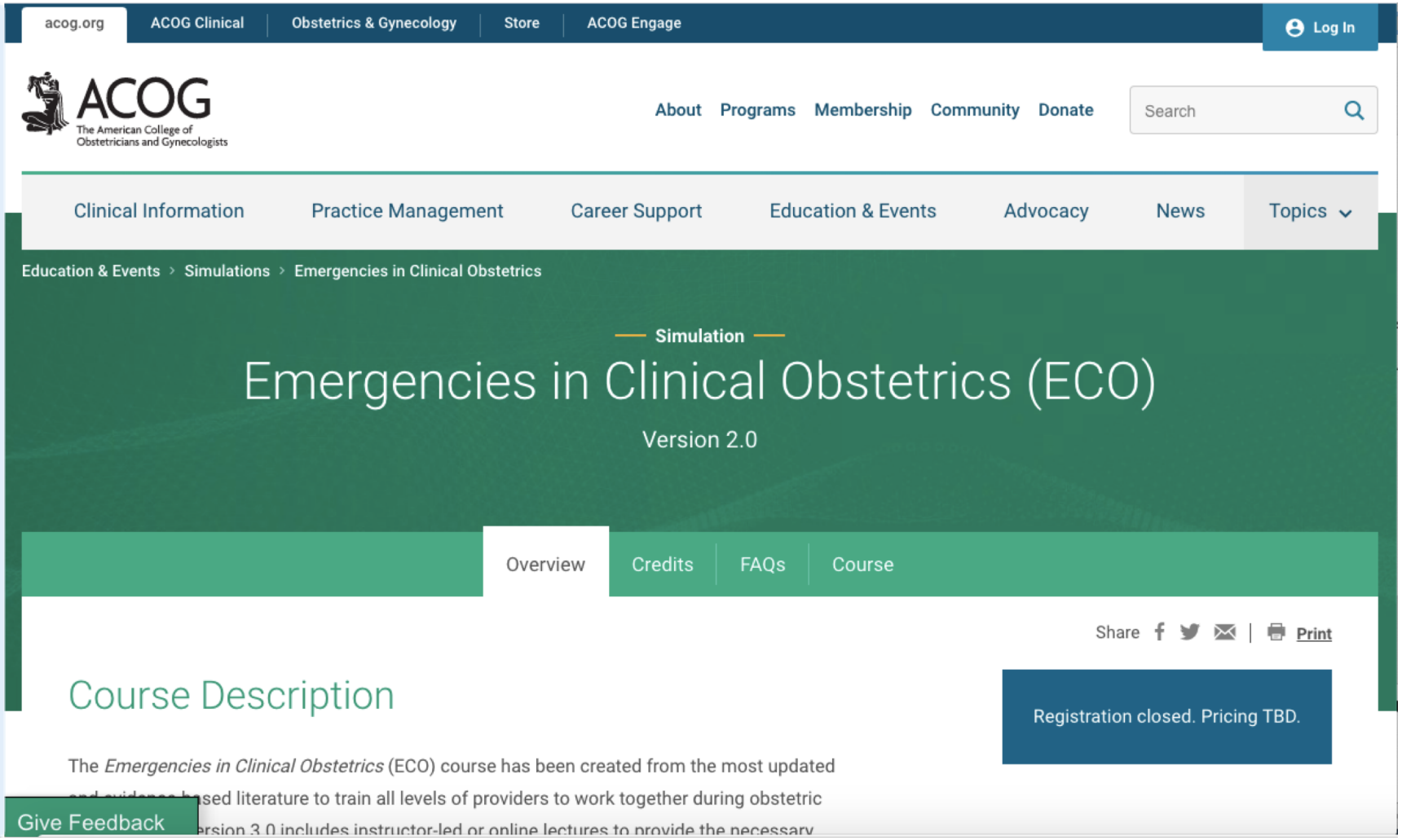
- Standards for early warning signs, diagnostic criteria, monitoring and treatment of severe preeclampsia/eclampsia (include order sets and algorithms)
- Unit education on protocols, unit-based drills (with post-drill debriefs)
- Process for timely triage and evaluation of pregnant and postpartum women 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

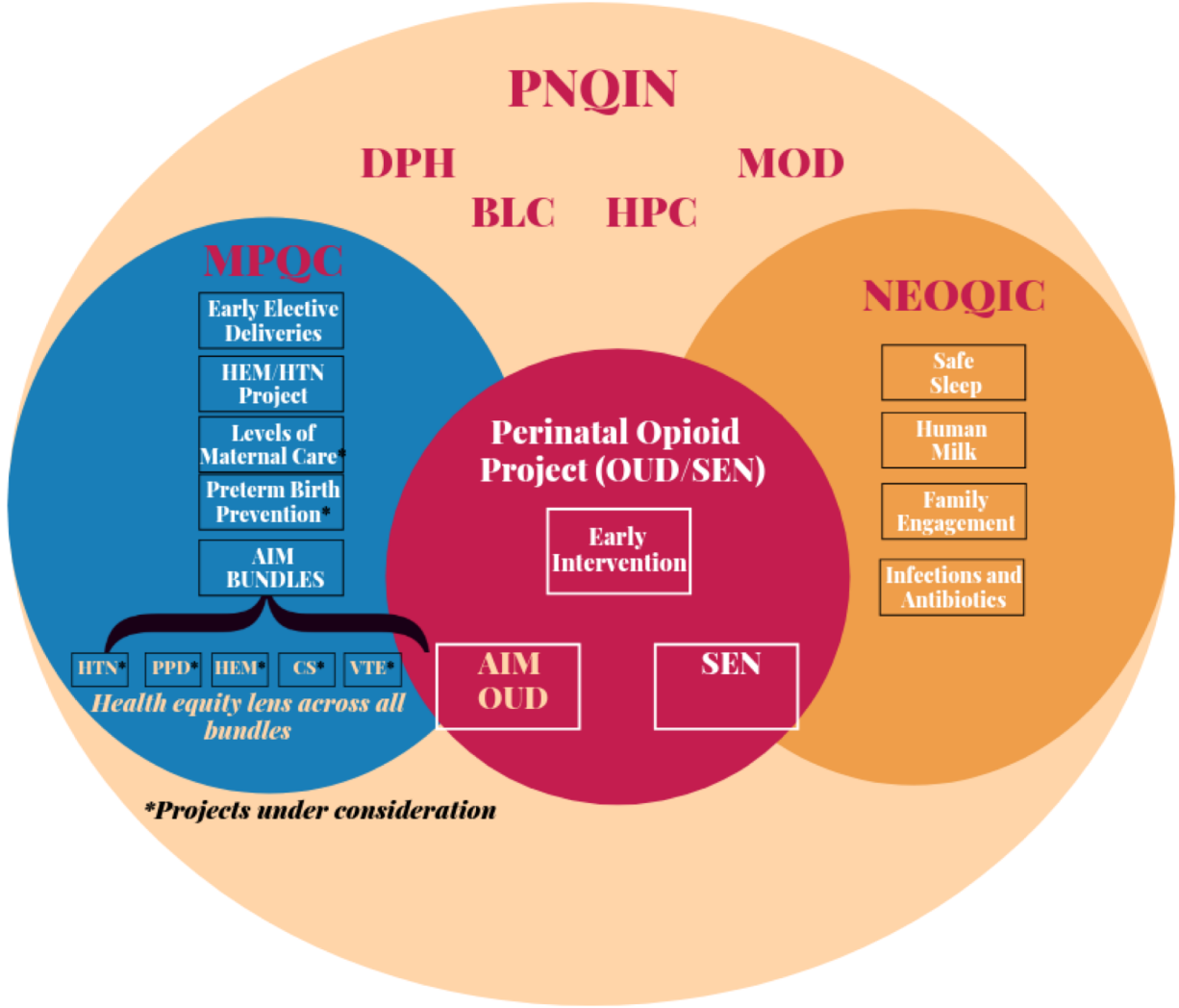
- Standard protocol for measurement and assessment of BP and urine protein for all pregnant and postpartum women
- Standard response to maternal early warning signs including listening to and investigating patient symptoms and assessment of labs (e.g. CBC with platelets, AST and ALT)
- Facility-wide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

Hemorrhage Bundle



Hospital Engagement

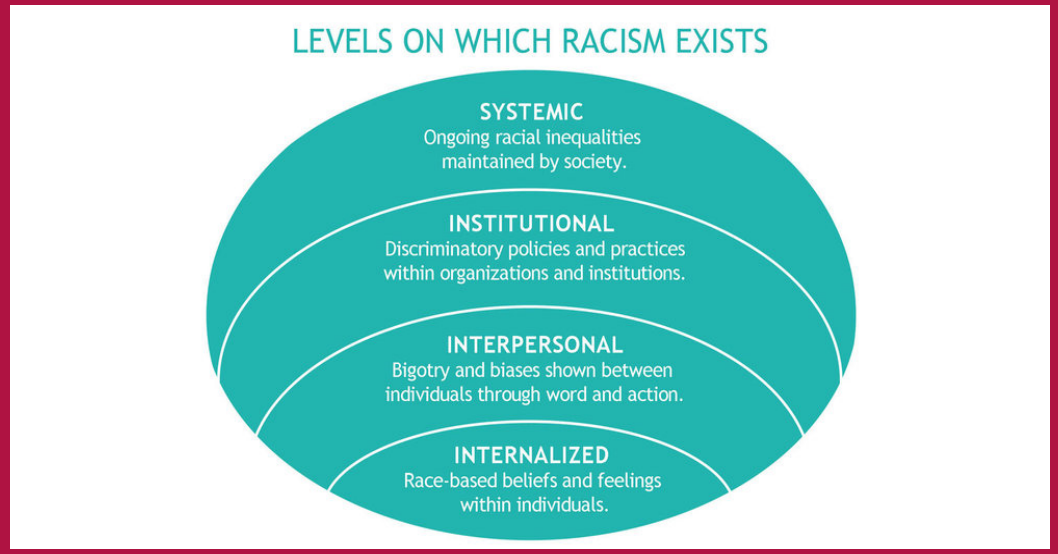
- AIM OUD Bundle enhancement of PNQIN Opioid Project
- Tool used to increase obstetrical involvement in current efforts
- Wave 1: June 2019- 22 hospitals
- Wave 2: June 2020- approx 20 hospitals



PNQIN_MPQC
Equity Initiatives

Focus

1. Raise Awareness
2. Collect and Stratify Data by Race/Ethnicity
3. Implement Programs and Trainings
4. Implement AIM Equity Bundle Components



(1) Raise Equity Awareness

Timoria McQueen Saba

Maternal Health Advocate

Candice Belanoff, ScD, MPH

Clinical Associate Professor

Department of Community Health Sciences

Boston University School of Public Health

Allison Bryant, MD MPH

VC, Quality, Equity and Safety, Dept Ob/Gyn

Massachusetts General Hospital

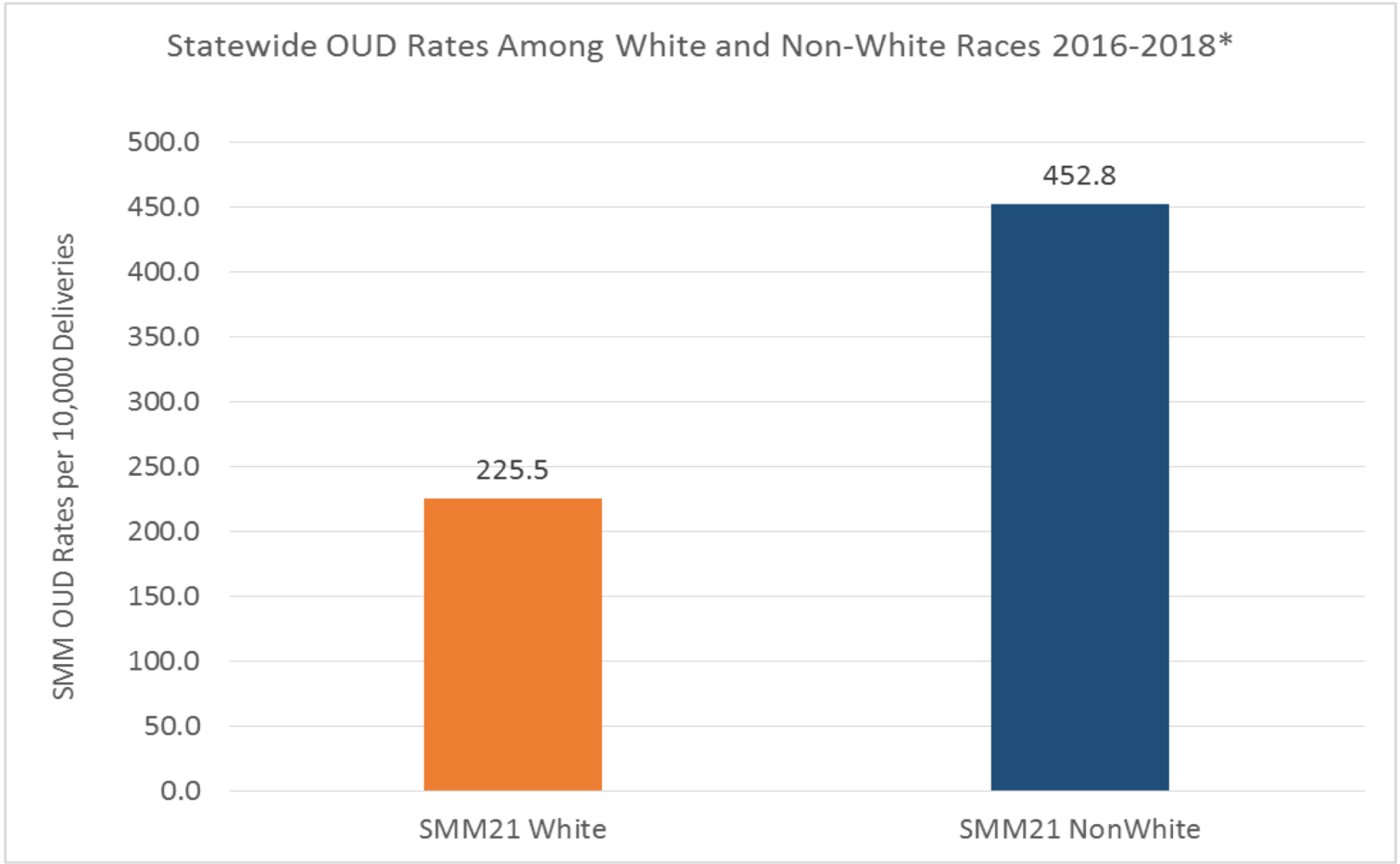
Joia Crear-Perry, MD

National Birth Equity Collaborative

Hafsatou Fifi Diop, MD, MPH

Massachusettets Department of Public Health

(2) Collect and Stratify Data by Race /Ethnicity

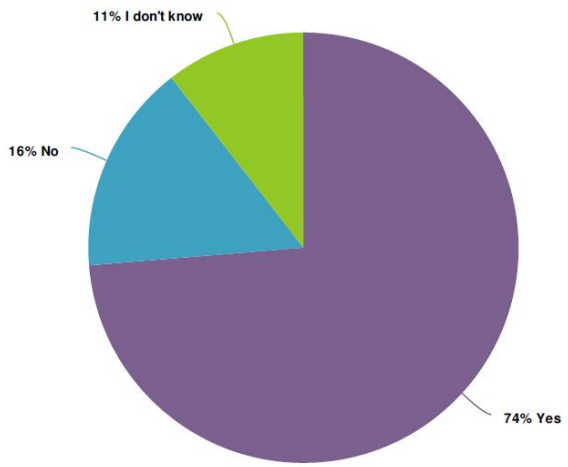


*first 3 quarters of 2018

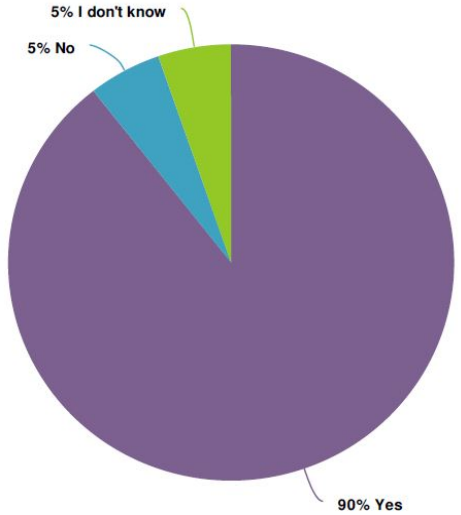
(2) AIM Baseline Survey

- Does your site collect data on race, ethnicity, language, gender in your EHR/EMR?

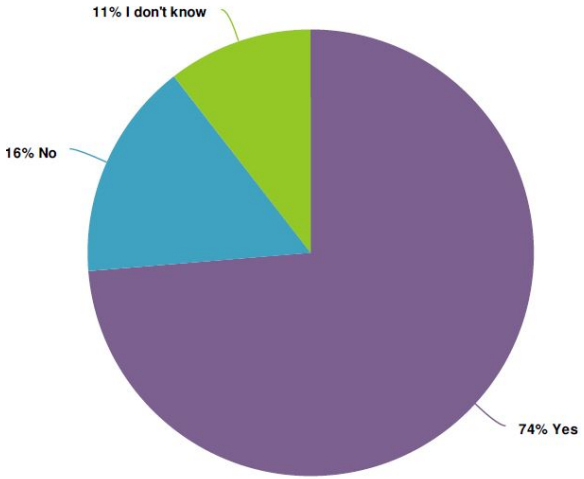
Race



Language



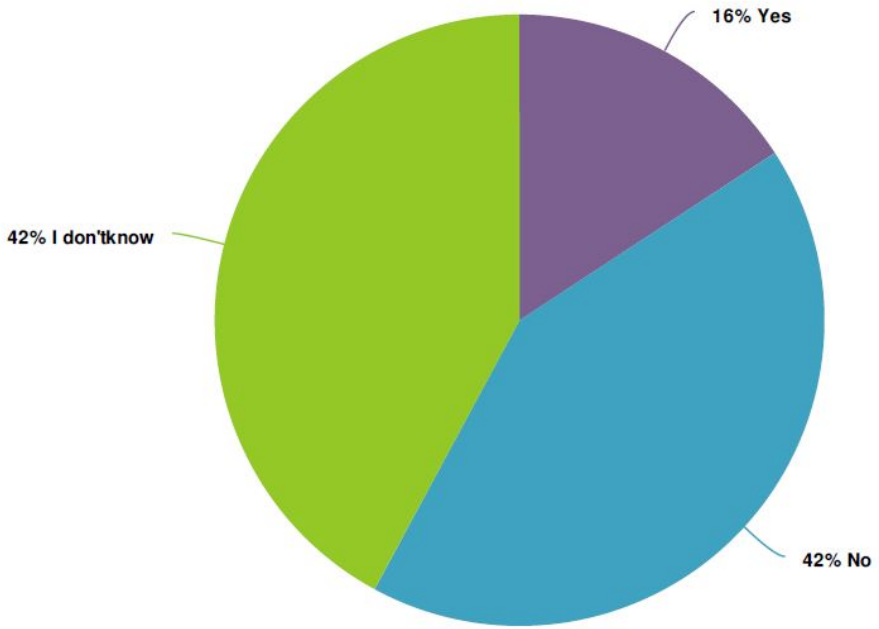
Gender



(2) AIM Baseline Survey

Does your site have an equity dashboard?

A healthcare dashboard is defined as a modern analytics tool to monitor healthcare Key Performance Indicators in a dynamic and interactive way, including patient statistics in real-time. Health equity dashboards include REAL (race, ethnicity, and language) data.



(3) Nursing education on racial bias in care and how to improve

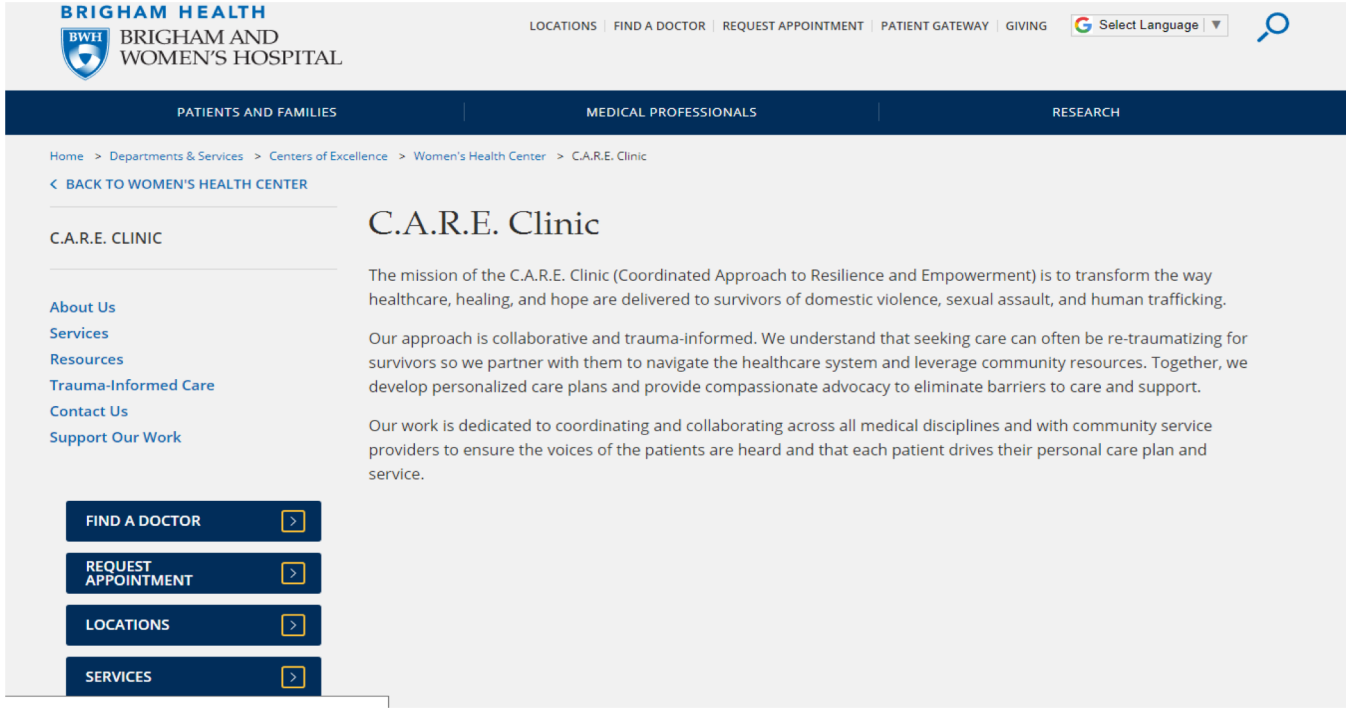
INSTITUTE FOR PERINATAL QUALITY IMPROVEMENT

Speak Up for Black Women

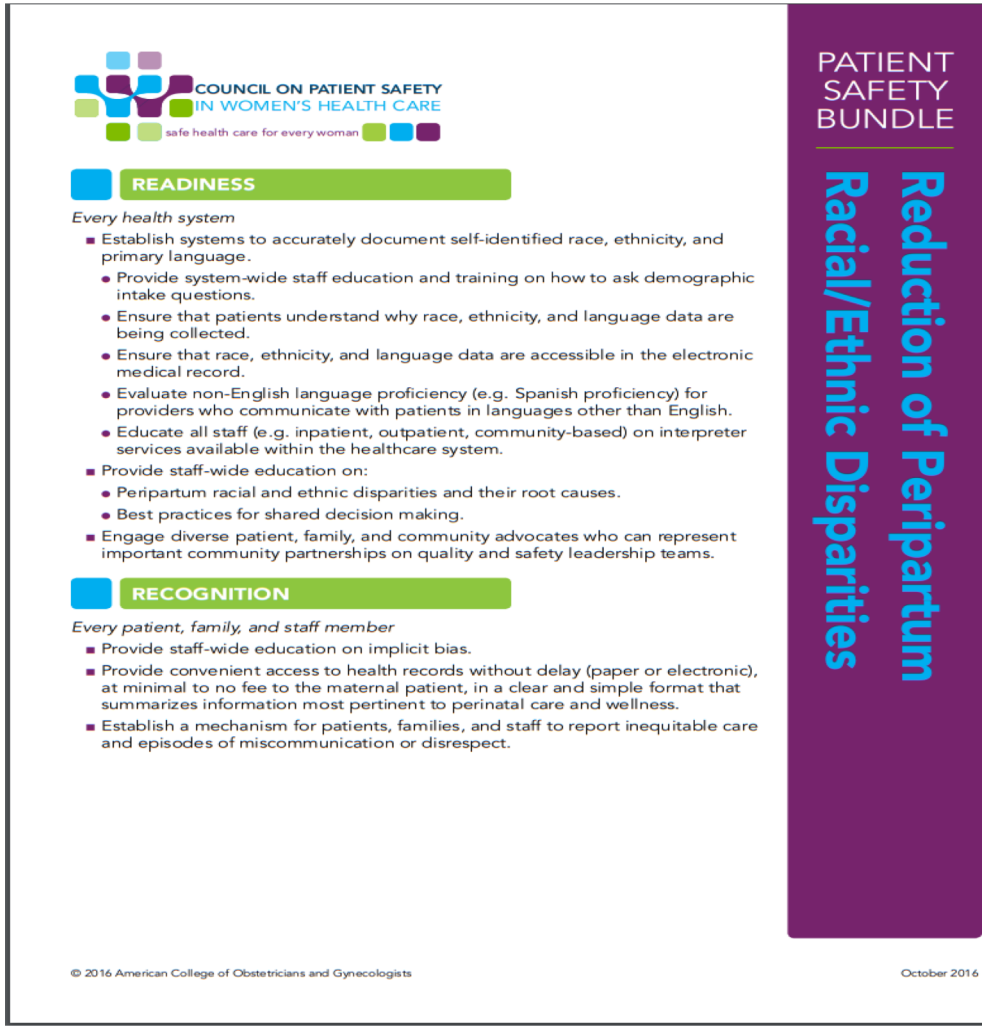
Strategies to Dismantle Racism, Provide Quality Equitable Care, and Eliminate Perinatal Disparities

(3) Trauma Informed Care, Stigma and Bias Trainings

- Brigham & Womens Hospital CARE Program
  Coordinated Approach to Resilience and Empowerment (CARE)
- Led by Dr Annie Lewis-O'Connor
- PNQIN POP Summit Trainings
- Team TIC Trainings
  - June to September 2020
  - 2 hours
  - Team focused
  - Interactive



(4) Implement Equity Across all Bundles



COUNCIL ON PATIENT SAFETY IN WOMEN'S HEALTH CARE
safe health care for every woman

PATIENT SAFETY BUNDLE

Reduction of Peripartum Racial/Ethnic Disparities

READINESS

Every health system

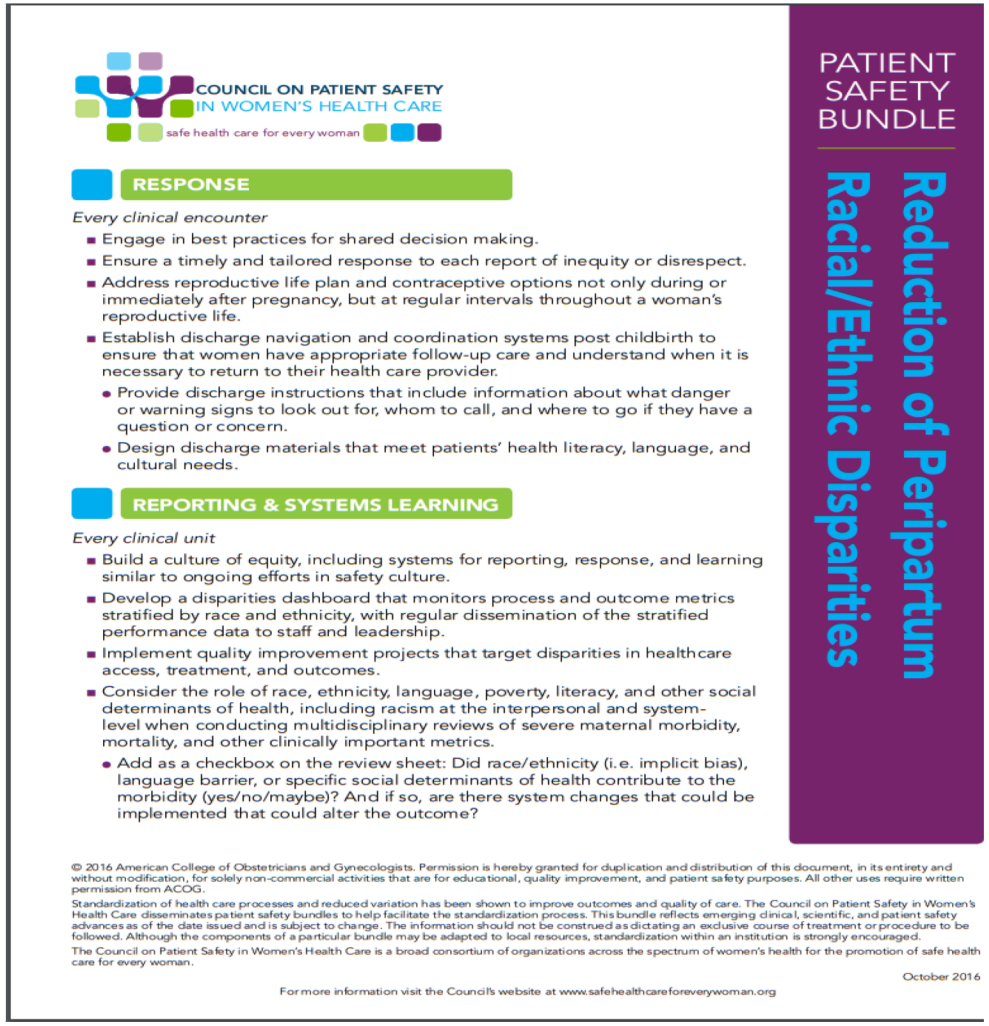
- Establish systems to accurately document self-identified race, ethnicity, and primary language.
  - Provide system-wide staff education and training on how to ask demographic intake questions.
  - Ensure that patients understand why race, ethnicity, and language data are being collected.
  - Ensure that race, ethnicity, and language data are accessible in the electronic medical record.
  - Evaluate non-English language proficiency (e.g. Spanish proficiency) for providers who communicate with patients in languages other than English.
  - Educate all staff (e.g. inpatient, outpatient, community-based) on interpreter services available within the healthcare system.
- Provide staff-wide education on:
  - Peripartum racial and ethnic disparities and their root causes.
  - Best practices for shared decision making.
- Engage diverse patient, family, and community advocates who can represent important community partnerships on quality and safety leadership teams.

RECOGNITION

Every patient, family, and staff member

- Provide staff-wide education on implicit bias.
- Provide convenient access to health records without delay (paper or electronic), at minimal to no fee to the maternal patient, in a clear and simple format that summarizes information most pertinent to perinatal care and wellness.
- Establish a mechanism for patients, families, and staff to report inequitable care and episodes of miscommunication or disrespect.

October 2016



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PATIENT SAFETY BUNDLE

Reduction of Peripartum Racial/Ethnic Disparities

RESPONSE

Every clinical encounter

- Engage in best practices for shared decision making.
- Ensure a timely and tailored response to each report of inequity or disrespect.
- Address reproductive life plan and contraceptive options not only during or immediately after pregnancy, but at regular intervals throughout a woman's reproductive life.
- Establish discharge navigation and coordination systems post childbirth to ensure that women have appropriate follow-up care and understand when it is necessary to return to their health care provider.
  - Provide discharge instructions that include information about what danger or warning signs to look out for, whom to call, and where to go if they have a question or concern.
  - Design discharge materials that meet patients' health literacy, language, and cultural needs.

REPORTING & SYSTEMS LEARNING

Every clinical unit

- Build a culture of equity, including systems for reporting, response, and learning similar to ongoing efforts in safety culture.
- Develop a disparities dashboard that monitors process and outcome metrics stratified by race and ethnicity, with regular dissemination of the stratified performance data to staff and leadership.
- Implement quality improvement projects that target disparities in healthcare access, treatment, and outcomes.
- Consider the role of race, ethnicity, language, poverty, literacy, and other social determinants of health, including racism at the interpersonal and system-level when conducting multidisciplinary reviews of severe maternal morbidity, mortality, and other clinically important metrics.
  - Add as a checkbox on the review sheet: Did race/ethnicity (i.e. implicit bias), language barrier, or specific social determinants of health contribute to the morbidity (yes/no/maybe)? And if so, are there system changes that could be implemented that could alter the outcome?

Standardization of health care processes and reduced variation has been shown to improve outcomes and quality of care. The Council on Patient Safety in Women's Health Care disseminates patient safety bundles to help facilitate the standardization process. This bundle reflects emerging clinical, scientific, and patient safety 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. Although the components of a particular bundle may be adapted to local resources, standardization within an institution is strongly encouraged.

The Council on Patient Safety in Women's Health Care is a broad consortium of organizations across the spectrum of women's health for the promotion of safe health care for every woman.

October 2016

For more information visit the Council's website at www.safehealthcareforeverywoman.org

https://safehealthcareforeverywoman.org/patient-safety-bundles/#tab-maternal

Severe Morbidity and Mortality (SMM) Data Reports

BETSY LEHMAN CENTER
for Patient Safety

Severe Maternal Morbidity Reports in Partnership with PNQIN

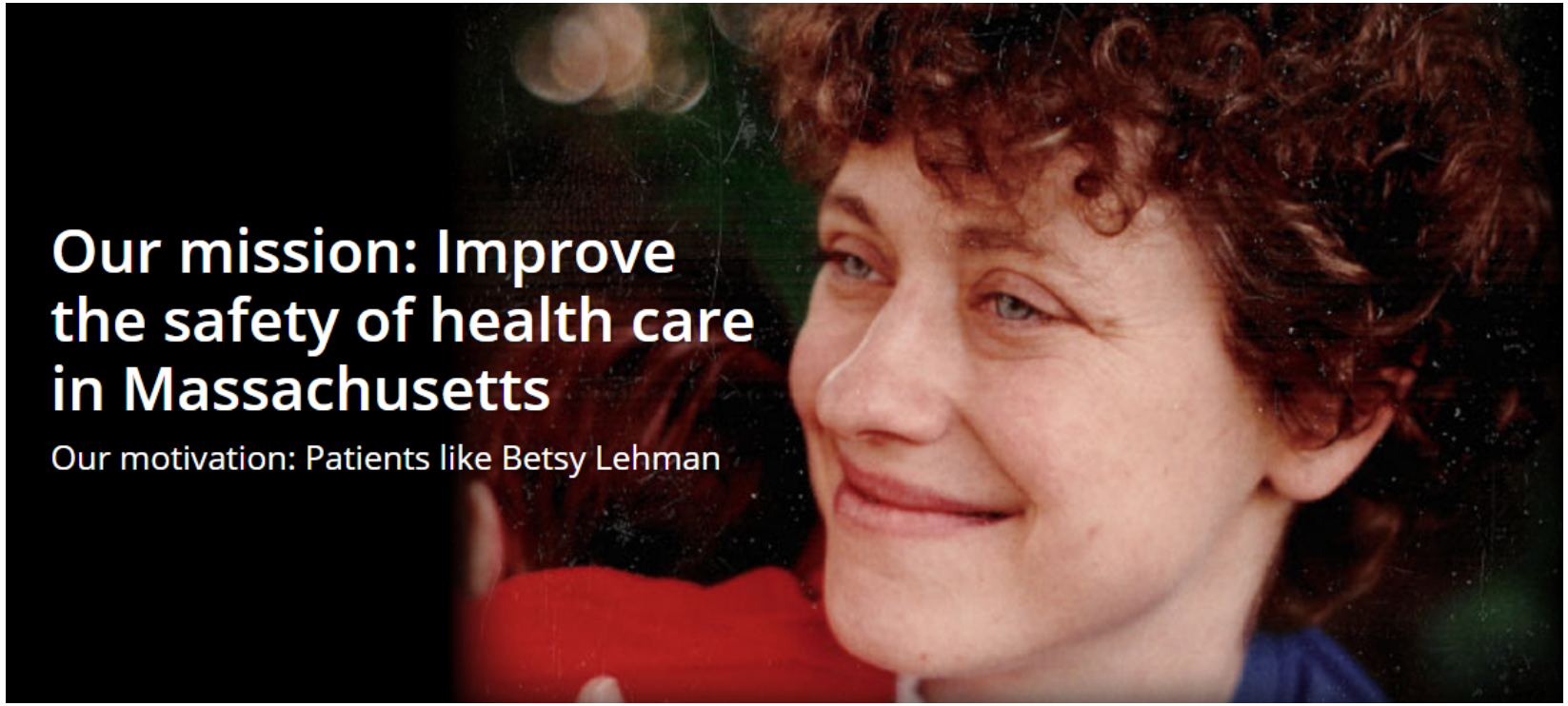
MPQC State of the Union Meeting

June 23rd, 2020

About The Betsy Lehman Center:

BETSY LEHMAN CENTER for Patient Safety

We are a small non-regulatory government agency dedicated to conducting research and analysis in patient safety for the Commonwealth of Massachusetts in an effort to bring attention to and prevent medical errors.



Quality Improvement: Severe Maternal Morbidity

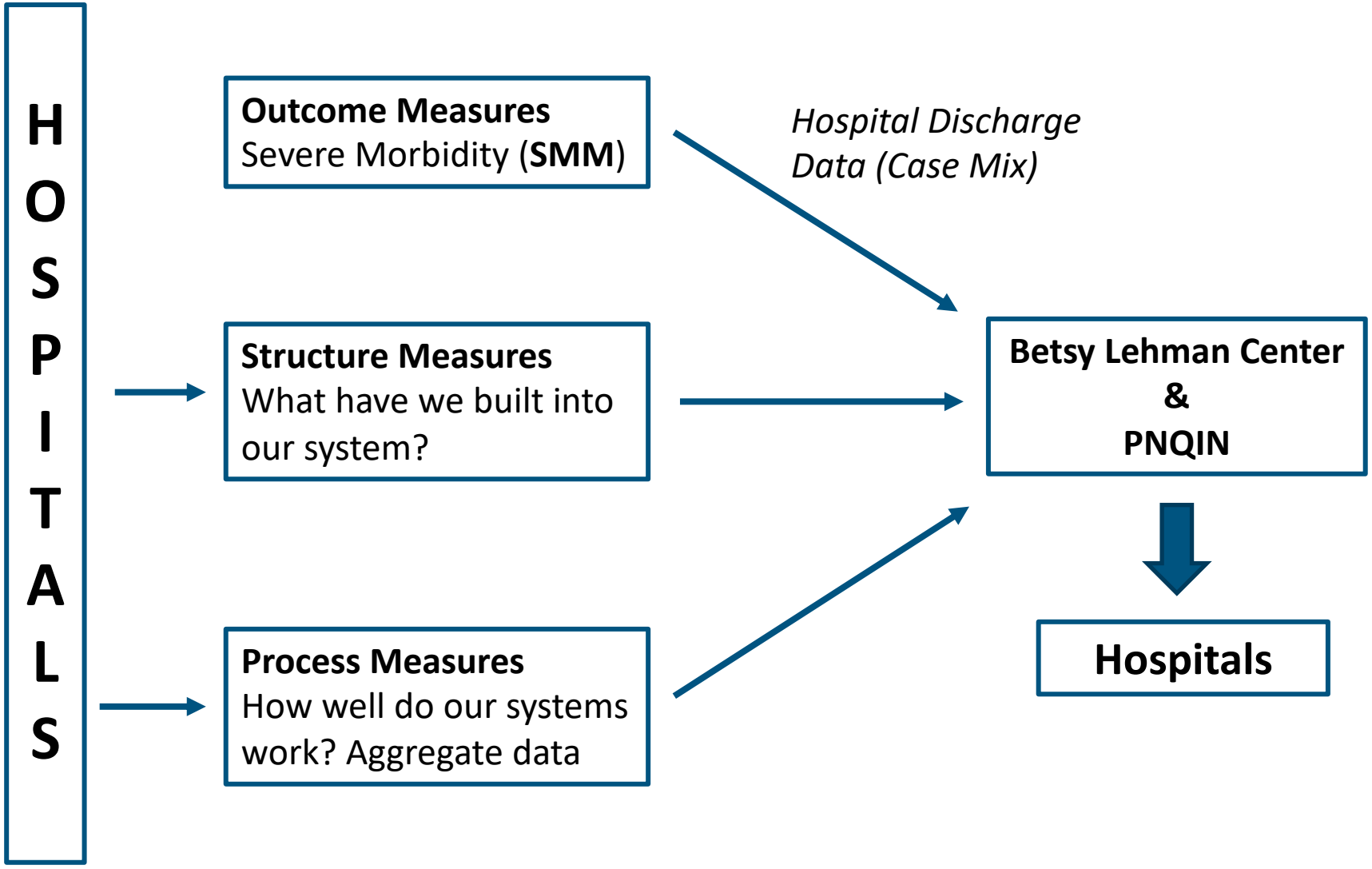
BETSY LEHMAN CENTER for Patient Safety

GOAL: Improve maternal labor/delivery health outcomes in Massachusetts

APPROACH: Share aggregate and hospital level data with hospitals to drive changes in their policies and programs

OUTCOME MEASURES: Identify cases of severe maternal morbidity (SMM) among deliveries and calculate their rates

Comprehensive Approach to Maternal Health Improvement



Severe Maternal Morbidity (SMM)

BETSY LEHMAN CENTER for Patient Safety

Unexpected outcomes in labor and delivery that result in significant short or long term consequences to maternal health

Listed here are 21 unexpected outcomes:

1. Acute myocardial infarction
2. Aneurysm
3. Acute renal failure
4. Adult respiratory distress syndrome
5. Amniotic fluid embolism
6. Cardiac arrest/ventricular fibrillation
7. Conversion of cardiac rhythm
8. Disseminated intravascular coagulation
9. Eclampsia
10. Heart failure/arrest during surgery or procedure
11. Puerperal cerebrovascular disorders
12. Pulmonary edema/Acute heart failure
13. Severe anesthesia complications
14. Sepsis
15. Shock
16. Sickle cell disease with crisis
17. Air and thrombotic embolism
18. Hysterectomy
19. Temporary tracheostomy
20. Ventilation
21. Blood transfusion

SMM21 *counts transfusions*
SMM20 *ignores transfusions*

https://www.cdc.gov/reproductivehealth/maternalinfanthealth/smm/severe-morbidity-ICD.htm

Data Source and Analysis:

Data Source:

- Health Claims Hospital Discharge Dataset (HDD) from each fiscal year; 2016 and after (*ICD10* codes only)

Metrics:

SMM Rates calculated per 10,000 deliveries = $\left(\frac{\#\text{ of SMM cases}}{\text{Deliveries}}\right)$*10,000

Code follows *national standard algorithm* capturing SMM and deliveries:

- Flag ICD10 codes representing deliveries
- Flag and sum ICD10 codes for SMM outcomes; count cases among SMM20 and SMM21
- Data prepared for each birthing hospital & for state-wide aggregate (biannual and by race)
- Future data will focus on rates specific to deliveries with hypertension, hemorrhage and OUD

Race/Ethnicity Algorithm:

Variables used to code patient race/ethnicity:

- *Race1*
- *Ethnicity1*
- *Hispanic Indicator*
- *Race2*
- *Ethnicity2*

[If data missing/unknown for any one variable, defer to remaining variables]

Prioritized any indication of Black, Hispanic or Other/Multiple races/ethnicities *over* White race/ethnicity.

Hierarchy of coding:

1. Black (Non-Hispanic)
2. Hispanic
3. Other/Multiple (Non-Hispanic)
4. White (Non-Hispanic)

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SMM Hospital Reports

Key Takeaways

- Trends continue to increase in SMM, especially in more recent years
- Racial disparities exist in Massachusetts' SMM rates:
  - *Black women* are 2 times more likely to have SMM compared to *White women*
  - *Hispanic women* are nearly 1.5 times as likely to have SMM compared to *White women*
  - *Black women* are nearly 1.5 times more likely to experience SMM compared to their *Hispanic counterparts*

Ongoing and Future SMM Work

- Hospital engagement – reviewing SMM reports
- Preparing analysis for OUD (outpatient) and hemorrhage (inpatient) bundles
- Eventually… hypertension analysis

BETSY LEHMAN CENTER for Patient Safety

QUESTIONS?

COMMENTS?

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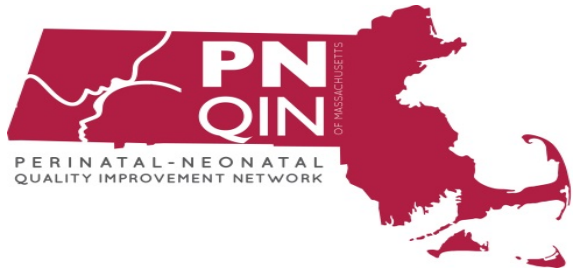
Perinatal Neonatal Quality Improvement Network

Levels of Maternal Care

Sarah Rae Easter MD



Levels of Maternal Care

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Society for Maternal-Fetal Medicine
High-risk pregnancy experts

SMFM Special Report

smfm.org

Obstetric Care Consensus, Number 9: Levels of Maternal Care

(Replaces Obstetric Care Consensus Number 2, February 2015)

The American Association of Birth Centers; the American College of Nurse-Midwives; the Association of Women's Health, Obstetric and Neonatal Nurses; the Commission for the Accreditation of Birth Centers; and the Society for Obstetric Anesthesia and Perinatology endorse this document. The American Academy of Family Physicians supports this document. The American Society of Anesthesiologists has reviewed this document. This document was developed jointly by the American College of Obstetricians and Gynecologists and the Society for Maternal-Fetal Medicine in collaboration with Sarah J. Kilpatrick, MD, PhD; M. Kathryn Menard, MD, MPH; Christopher M. Zahn, MD; and the Centers for Disease Control and Prevention's representative William M. Callaghan, MD, MPH.

Levels of maternal care. Obstetric Care Consensus No. 9. American College of Obstetricians and Gynecologists. Obstet Gynecol 2019;134:e41–55.

Examples of Levels of Care

Level	Patient	Hospital
Birth Center	Term, singleton, vertex Low-risk mother	Licensed midwives Transfer relationship
Level I (Basic Care)	Term twins Uncomplicated cesarean “Mild” term preeclampsia TOLAC / VBAC	Cesarean delivery Anesthesia available
Level II (Specialty Care)	Term severe preeclampsia Previa, no prior surgery	Basic imaging Med/Surg consultants
Level III (Subspecialty Care)	Previa, prior surgery Suspected accreta Preterm preeclampsia Adult respiratory syndrome	MFM OB anesthesia Med/Surg subspecialists Advanced imaging
Level IV (Regional Center)	Severe maternal cardiac Organ failure / transplant Neuro or cardiac surgery	Subspecialty surgeons Critical care obstetrics Subspecialty leadership

Regionalized Care in Obstetrics

SPECIAL ARTICLE

NEWBORN INTENSIVE CARE AND NEONATAL MORTALITY IN LOW-BIRTH-WEIGHT INFANTS

A Population Study

NIGEL PANETH, M.D., M.P.H., JOHN L. KIELY, M.A., M.PHIL.,
SYLVAN WALLENSTEIN, PH.D., MICHELE MARCUS, M.P.H., JEAN PAKTER, M.D., M.P.H.,
AND MERVYN SUSSER, M.B., B.CH., D.P.H., F.R.C.P.(E.)

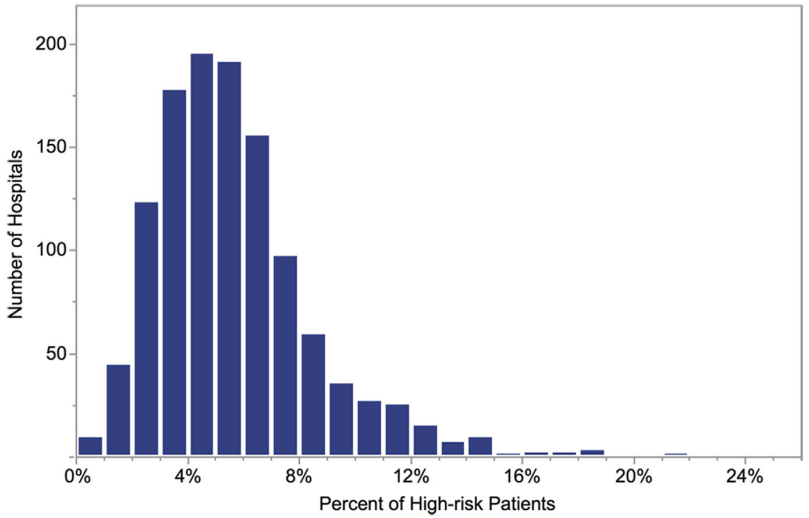
Abstract We examined the neonatal mortality rates of low-birth-weight infants (501 to 2250 g) born between 1976 and 1978 in three kinds of hospitals in New York City: those with newborn-intensive-care units (Level 3), those with capabilities for the care of most premature infants (Level 2), and those without any special facilities for premature newborns (Level 1).

Among 13,560 singleton low-birth-weight infants, the adjusted neonatal mortality rate for Level 3 hospitals was 128.5 per thousand live births — significantly lower ($P<0.001$) than the rates for both Level 2 (168.1) and Level 1 units (163.0).

The association of level of care with mortality could not be accounted for by differences between groups in social or demographic status, in prenatal care, or in medical complications of pregnancy. We infer that birth at a Level 3 center lowers neonatal mortality in low-birth-weight infants. However, only 34 per cent of the patients in this study were born in such units. (N Engl J Med. 1982; 307:149-55.)

What is the Evidence?

FIGURE 2
Distribution of hospitals based on the percent of high-risk delivering patients



The distribution of hospitals by their annual percentage of high-risk patients relative to their overall delivery volume.

Clapp et al. Hospital acuity and maternal morbidity. Am J Obstet Gynecol 2018.

TABLE 2
Adjusted risk ratios for severe maternal morbidity by patient risk status at low- and high-acuity hospitals

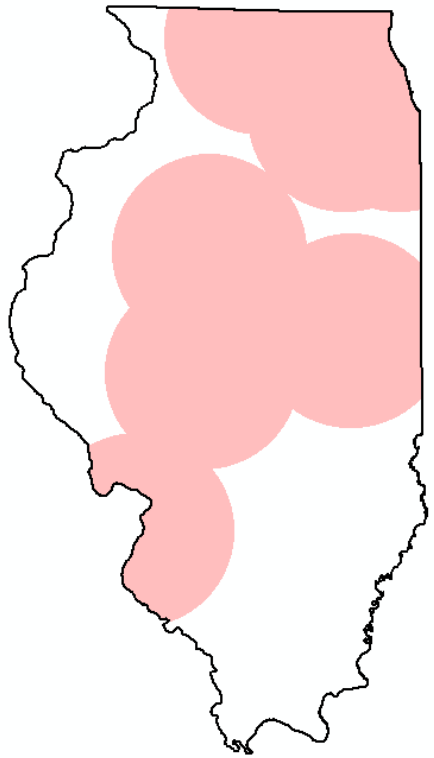
	Hospital, adjusted risk ratio (95% confidence interval)	
Patient comorbidity risk	Low acuity	High acuity
Low	Reference	Reference
High	9.55 (6.83–13.35)	6.50 (5.95–7.09)

code, urban-rural designation of the patient's county of residence, hospital ownership, hospital teaching status, and the number of deliveries per hospital. All probability values for the adjusted odds ratios listed in the table are <.001.

Clapp et al. Hospital acuity and maternal morbidity. Am J Obstet Gynecol 2018.

What are the Goals?

Shaded areas within 50 miles of a Level III/IV Facility

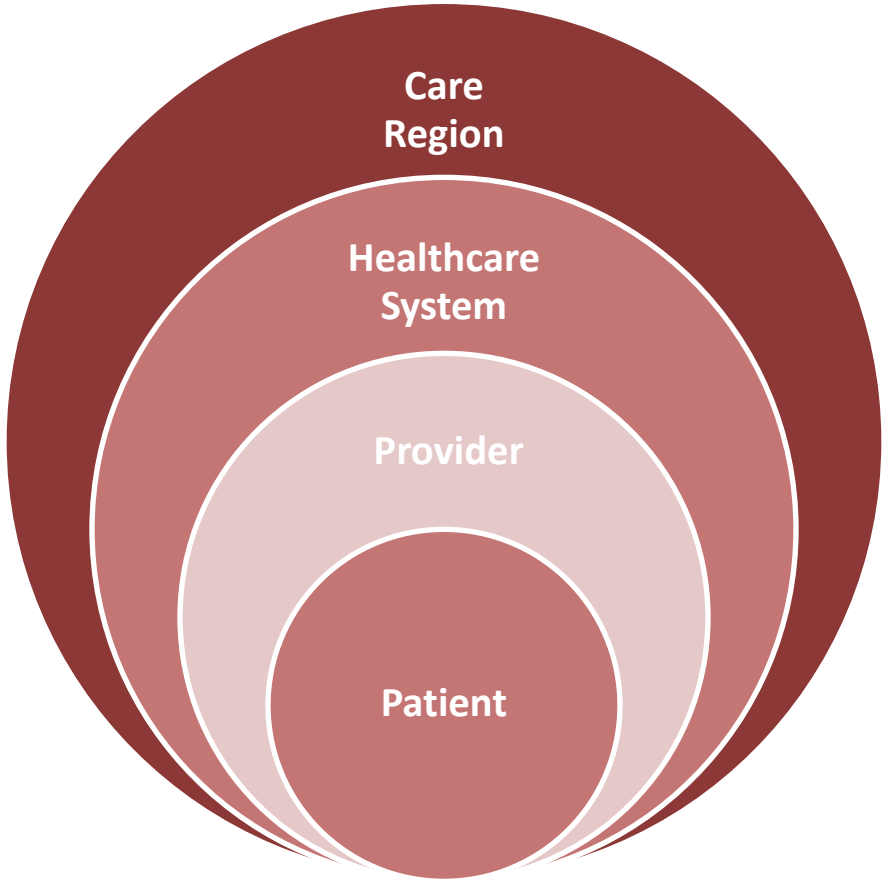


Data from LOCATe Courtesy of CDC & IL-PQC

- Address mortality
- Uniform designations
- Complementary but distinct from NICU
- Standardized nomenclature
- Consistent guidelines
- Equitable geographic distribution
- Proactive integration
- Risk-appropriate services

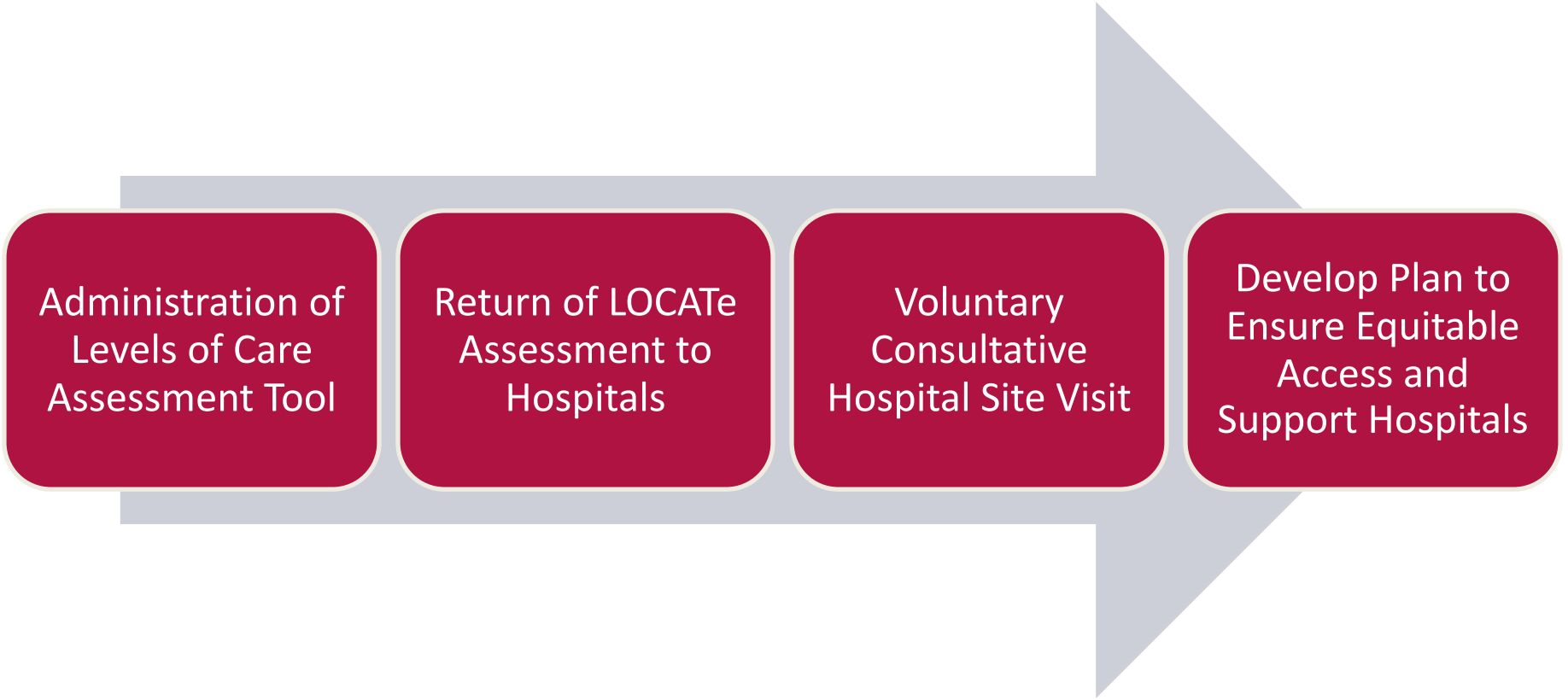
What are the Barriers?

- Lack of Evidence
- Burden of Implementation
- Psychosocial Considerations
- Equitable Access
- Financial Impact
- Provider Skill
- Medicolegal Implications
- Geography
- Population Health



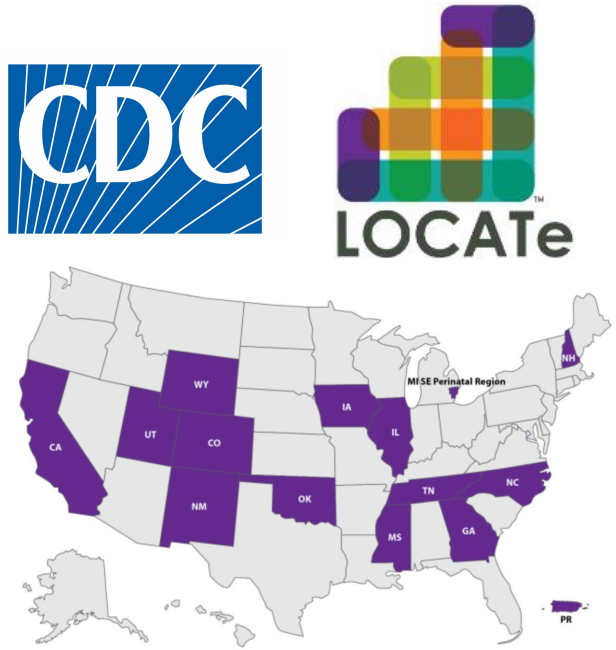
Review of Massachusetts Collaborative Process

Designating Levels of Care in Massachusetts



Level of Care Assessment Tool (LOCATe)

- CDC-designed survey for algorithm-based assessment of level of maternal care
  - CDC algorithm suggests LoMC
  - 50% agreement with self-assessment
- Administration of electronic survey through Betsy Lehman Center
  - Sent to OB and nursing leadership
  - Requires acknowledgement of intended use at onset of survey
  - Data analyzed with support of CDC
  - Prioritizing 100% participation



Rationale Informing Voluntary Site Visits

- Concordance between LOCATe tool and on site assessment in only 50% of centers
- Informal feedback session mutually beneficial
- State-specific creative solutions to provision of care.

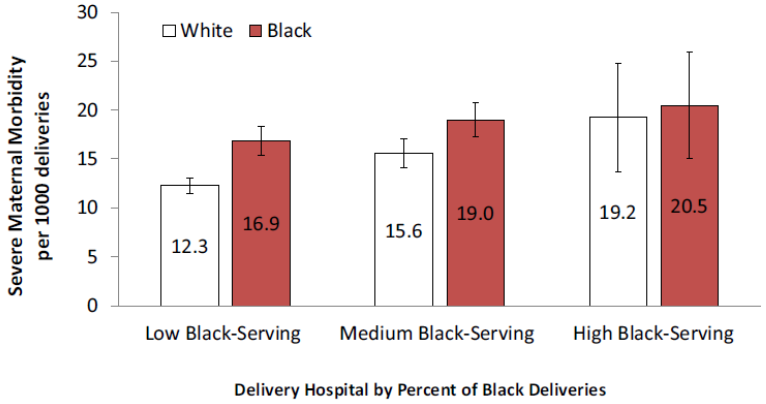
Fig. 1. Summary of steps involved in the development and implementation of the levels of maternal care verification program.

Zahn. Levels of Maternal Care Verification Pilot. Obstet Gynecol 2018.

Improving Equitable Access to Care

- Massachusetts-specific additions to LOCATe survey
- Enquire about recommended components of Disparities Bundle
- Targeted education through PNQIN to address identified needs

FIGURE
Risk-adjusted severe maternal morbidity rates for black and white deliveries by site of care



Adjusted rates of severe maternal morbidity for black and white women by black-serving hospital status.

Howell et al. Racial differences in site of care and maternal morbidity. Am J Obstet Gynecol 2016.

Questions and Feedback

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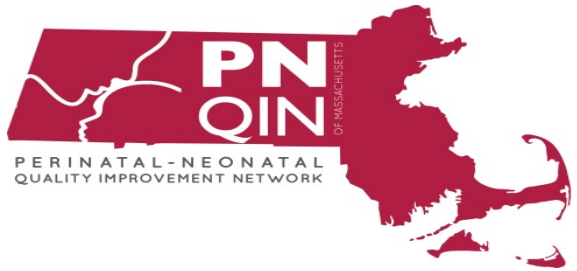

Questions or Concerns?