Massachusetts Department of Public Health

DPH

The Maternal Mortality and Morbidity Review Committee

May 13, 2026

PNQIN 2026 Spring Summit

Allison Bryant, Laura Kattan & Brooke LaMere

Moment of silence

Agenda

What is the Maternal Mortality and Morbidity Review Team

- Purpose
- Team composition
- Community Engagement
- Case Example

Data and other key findings

- How data have informed policy, funding decisions, or program design
- Emerging trends or areas of concern

Learning Objectives

01

Become familiar with how the Massachusetts Maternal Mortality and Morbidity Review Committee works

02

Review the data to help inform recommendations for action

03

Find something in this presentation to bring back to your practice

Purpose & Importance

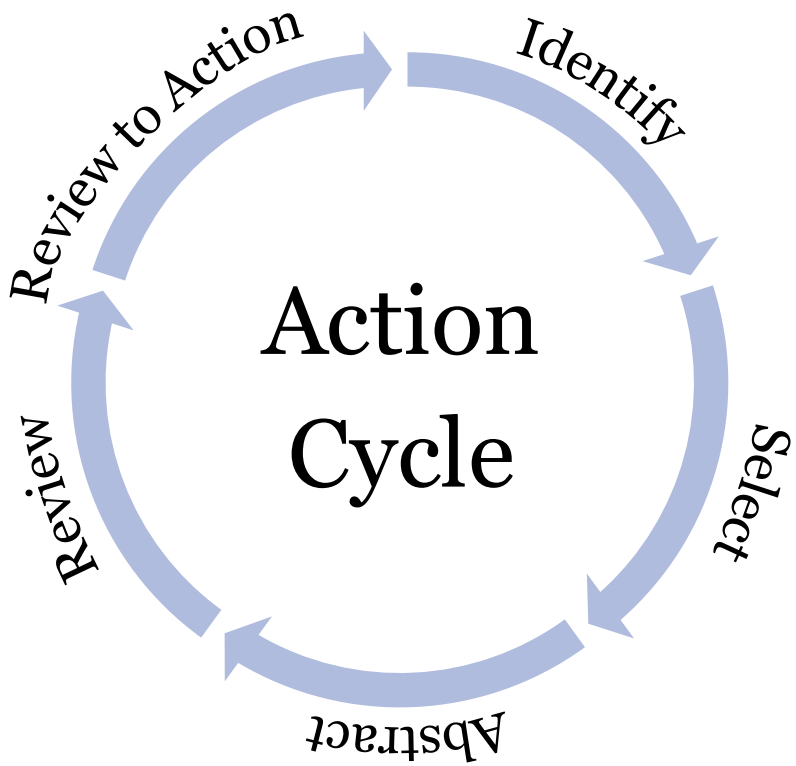
Committees (MMRCs):

The Gold Standard for State-Based Data on Maternal Mortality

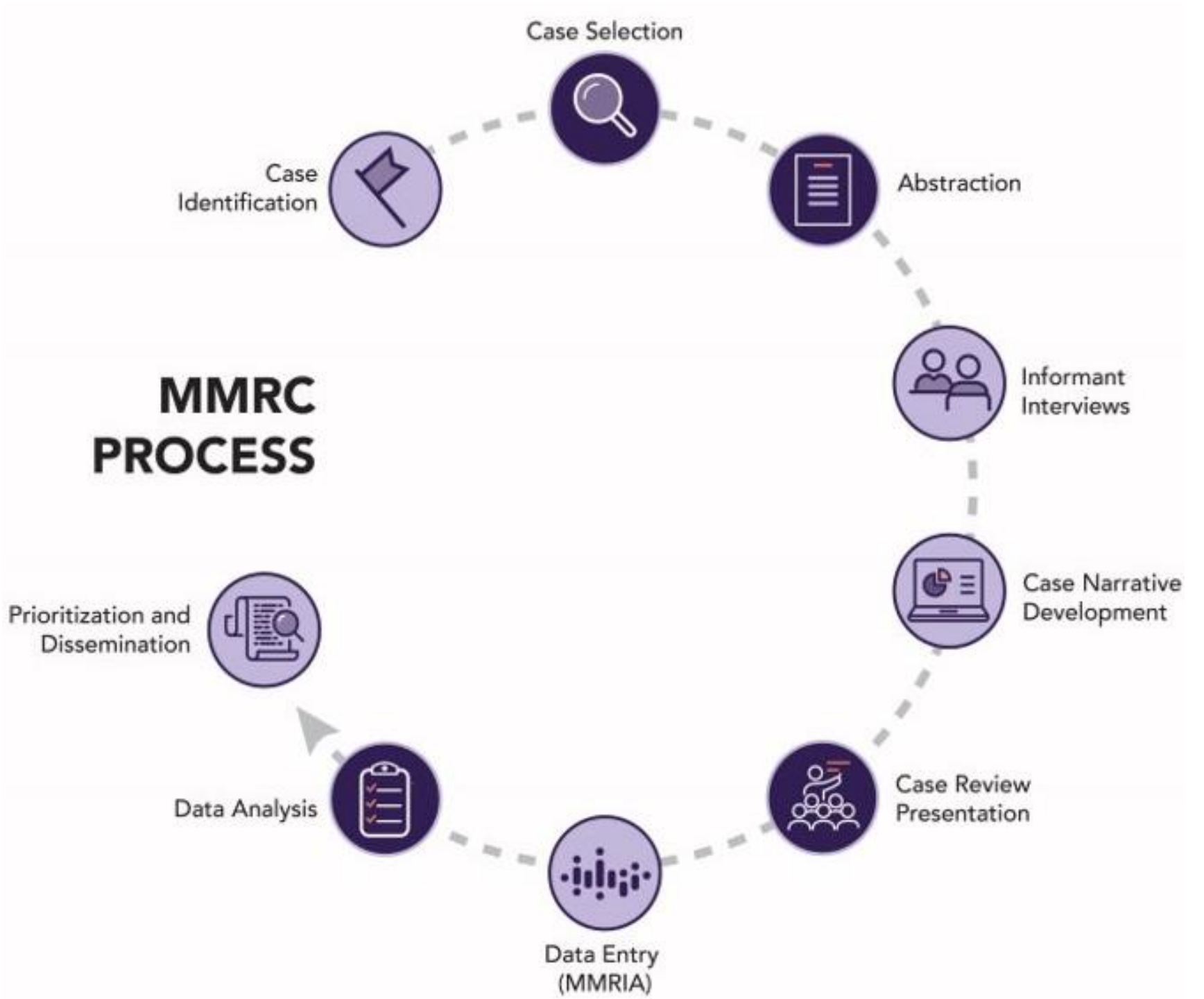
Part of an ongoing quality improvement cycle

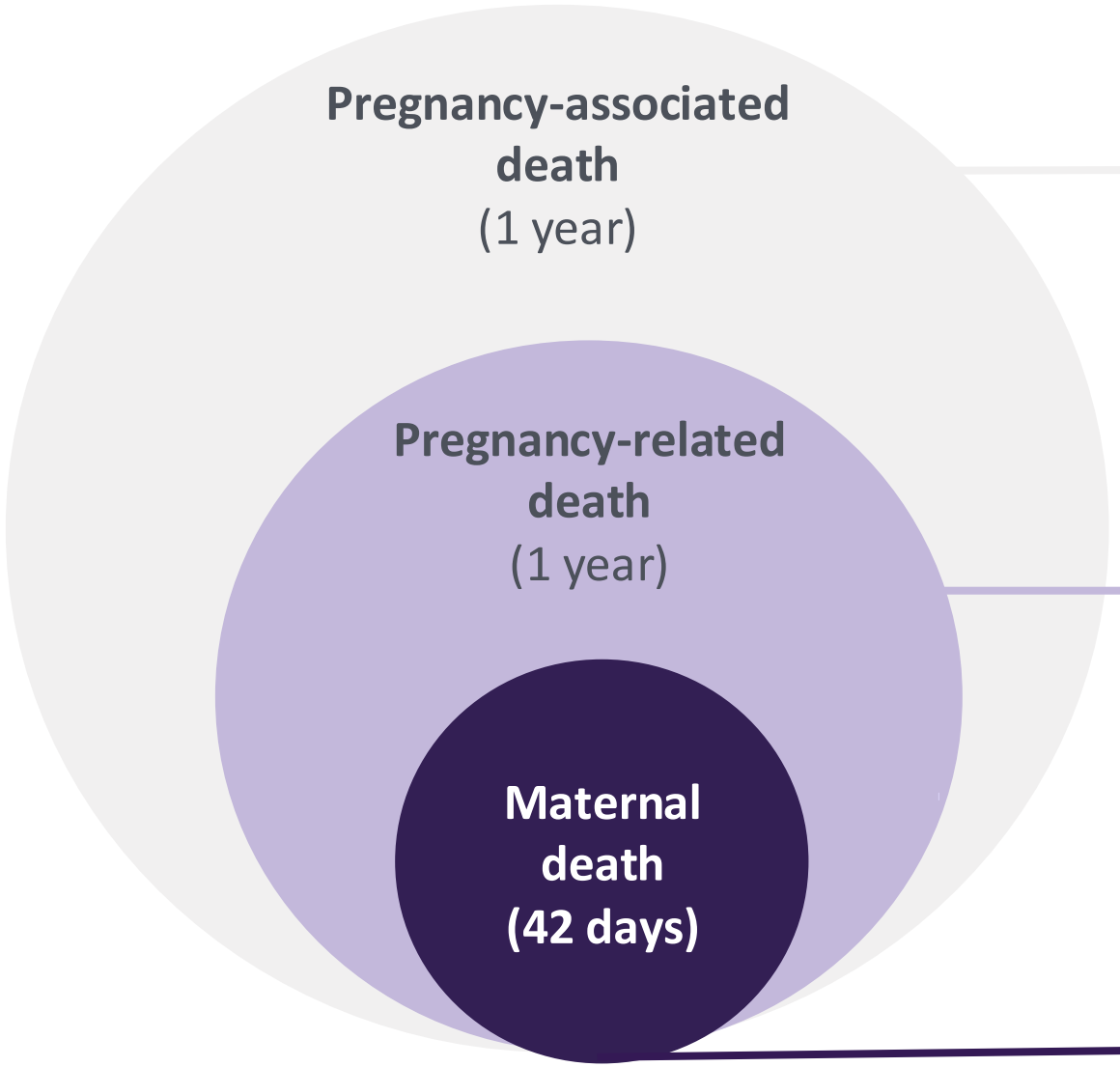
Incorporates multidisciplinary expertise, typically staffed by/hosted by public health agency

Leads to understanding of the drivers of a maternal death and determination of what interventions will have the most impact at patient, provider, facility, system, and community levels to prevent future deaths



Massachusetts MMMRC Process





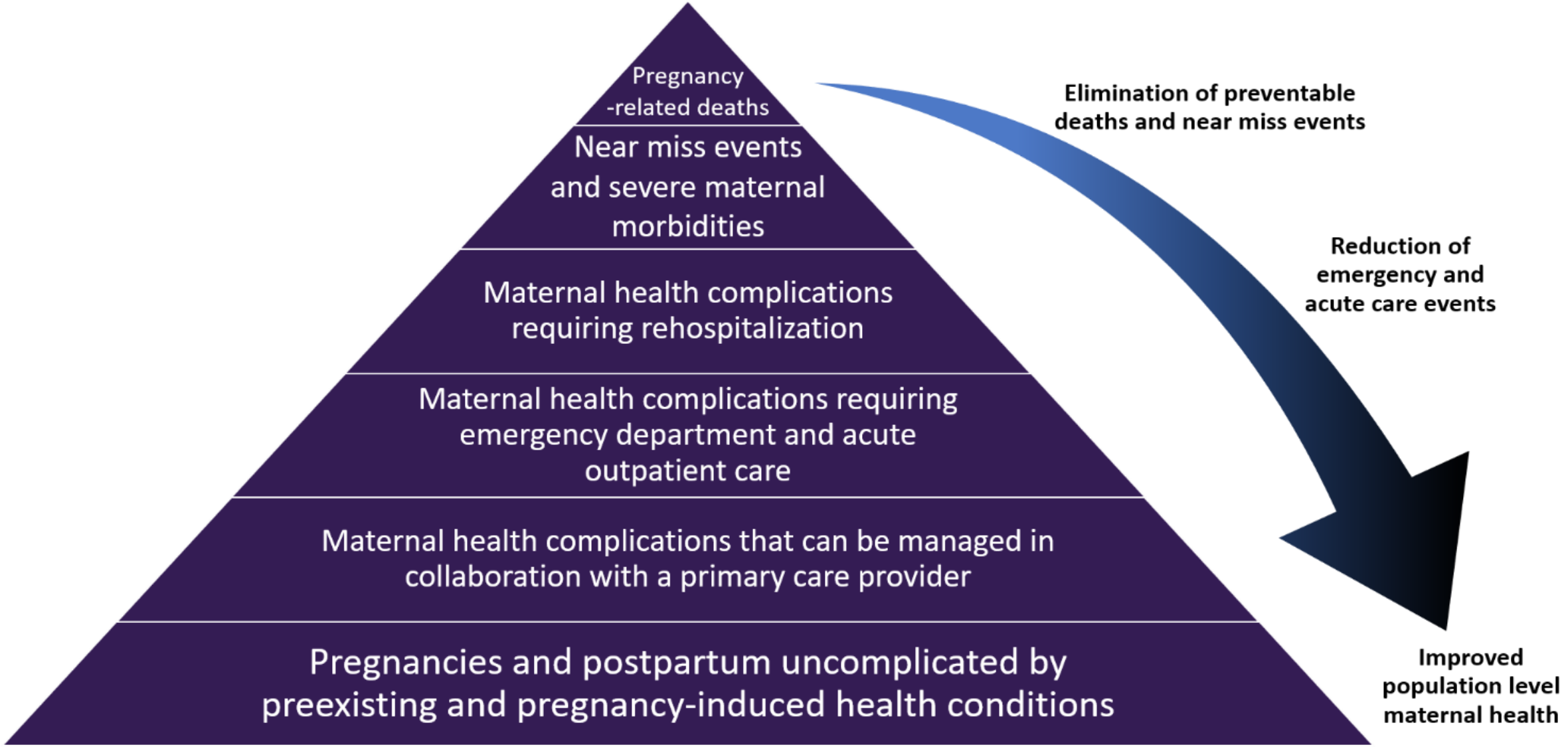
Pregnancy-associated death:
Death during or within 1 year of pregnancy, regardless of the cause

Pregnancy-related death:
Death during or within 1 year 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

Maternal death:
Death of a women while pregnant or within 42 days of termination of pregnancy, regardless of the duration or site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental causes

Slide adapted with permission from Eugene Declercq https://www.commonwealthfund.org/publications/issue-brief-report/2020/dec/maternal-mortality-united-states-primer

Potential Impact of Review Committee Actions



Courtesy of CDC's Maternal and Infant Health Branch, ERASE MM Site Visit, July 2024.

Massachusetts MMMRC

History of MMMRC in MA

1941 – Committee on Maternal Welfare of the MA Medical Society initiated case reviews of maternal deaths

1997 – High profile deaths led to establishing DPH led MMMRC. MMMRC composition mostly clinical and review medical focus.

2019 – MA collaborated with CDC through Enhancing Reviews and Surveillance to Eliminate Maternal Mortality

2023 – MA MMMRC written into legislation and received state funding to support the work

2024 – Maternal Health Bill expanded legal authority to ask for records that are essential in reviewing cases and to interview families.

Maternal Mortality and Morbidity Review Team

Leadership:
- Mahsa Yazdy
- Sarah L. Stone

Committee Chair:
- Allison Bryant

MMMRT Coordinator:
- Leigha Mills

Abstractors:
- Barbara Schultz
- Laura Kattan
- Jean MacBarron

Community Engagement Specialist:
- Kristen Graser

MMMRT Epidemiologist:
- Brooke LaMere

Fellows:
- Parker Polston
- Eve Estrada

Emergency Department Training Project Lead:
- Katrina Plummer

MA MMRC Makeup

Health care specialties
- OB/neonatal
- Cardiology
- Pathology
- Family medicine training
- Psychiatry
- Anesthesiology
- Maternal fetal medicine/perinatology

Maternal health organizations
- The American College of Nurse Midwives
- Association of Women's Health, Obstetric and Neonatal Nurses
- American College of Obstetrics and Gynecology

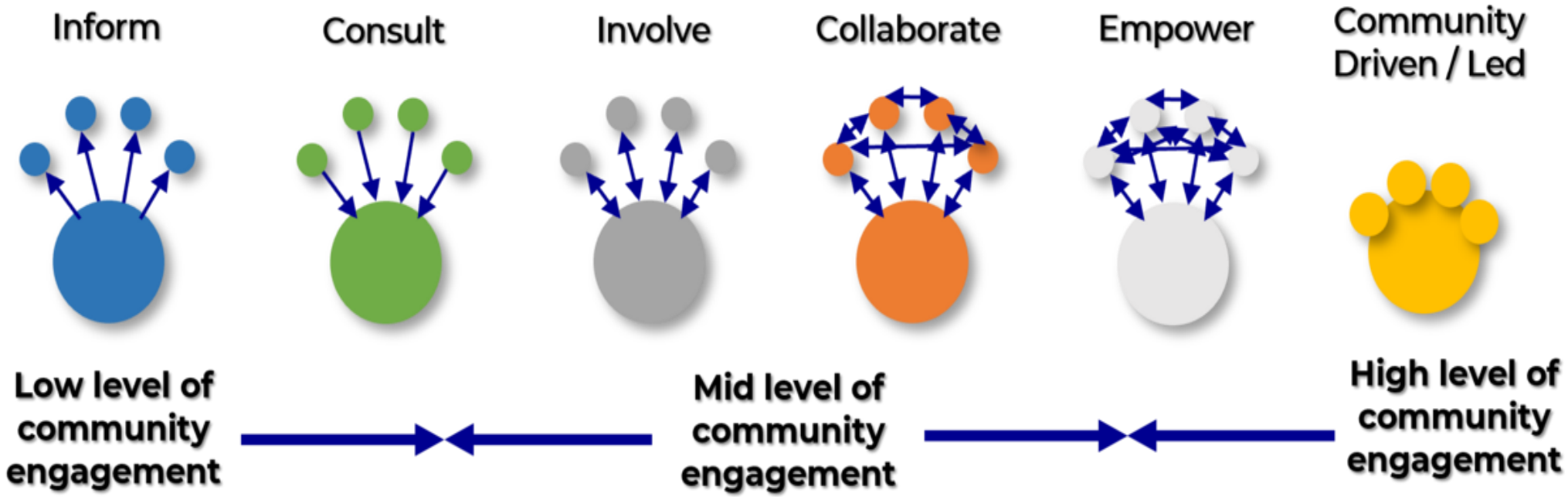
Family & community support
- Community members with lived experience
- Doulas
- Healthy Start programs
- Community-based organizations

Law enforcement

Academia

Mental health and substance use support
- Substance use prevention and treatment
- Psychology, social work, or other mental health professionals

State and public health agencies
- MassHealth
- Department of Children and Families
- Health Policy Commission
- Perinatal-Neonatal Quality Improvement Network of MA
- Chief Medical Examiner



MMMRT Community Engagement Efforts

- Including Family Interview in the MMMRC process.
- Listening sessions during MMMRC meetings. (Open Meeting Law)
- Supporting members of the community with lived experience who currently sit on the MMRC.
- Working with tribes to bring tribal representation to MMMRC and collaborate with tribal efforts to form their own MMMRC.
- Discussing ways to make data accessible to community organizations for community-driven change.
- Broaden awareness about our work through social media and website.

Case Example #1

Case Example 1: Background Information

Background:

- 32-year-old female, non-Hispanic White Female, publicly insured, works part time in food service
- 3 prior births, 6 prior pregnancies
- Family has custody of her children
- Patient sees her children on a regular basis
- Patient has history of childhood physical and sexual abuse & being in Department of Children and Families (DCF) care herself as well as DCF involvement for her children

*This is a composite case based on many cases we see at meetings. This person is fictional.

Case Example 1: Background Information

- Unstable housing, living between family & shelter
- Partner not involved with the pregnancy
- Lives in rural area with limited public transportation
- 15-year history of Substance Use Disorder (opioids)
- Mental health profile: Depression, Anxiety, Post-Traumatic Stress Disorder
- History of mild asthma

Case Example 1: Prenatal Care

Timeline:

- Pregnancy diagnosed in the Emergency Room at about 8 weeks gestation following the patient being brought in for an overdose
- Patient referred to prenatal care
- Started Medication Assisted Therapy at 11 weeks gestation following hospital admission to assist with withdrawal symptoms
- Care occurred in a rural setting, patient missed 6 prenatal appointments due to transportation issues
- Met with a therapist and had a recovery coach during pregnancy
- Patient stopped using substances for the remainder of the pregnancy

Case Example 1: Birth-6 weeks postpartum

Delivery:

- Patient had an uncomplicated vaginal birth, met with Social Work postpartum
- Discharged to shelter with infant
- Patient reports at 6 week postpartum visit that she has lost her job due to not having childcare
- Screen positive for Depression at 6 week visit
- Infant in care of patient's mother as patient feels she cannot care for child due to work and emotional challenges
- Lost housing due to not having infant in her care
- Had stopped seeing therapist after birth, referred to re-start therapy

Case Example 1: Postpartum Period 6-12 weeks

Postpartum:

2 ED visits postpartum for depression at 9 and 12 weeks postpartum

Reports recent relapse of substance use

Denies suicidality

- Has not seen therapist due to transportation issues
- **Patient left without clear plan of action**
- **No coordination of care from ED to OB or psych provider**

Case Example 1: Terminal Event 4 months postpartum

Terminal event:

- 4 months postpartum, found not breathing by her romantic partner with a needle in her arm in his bathroom
- Partner searched the home for previously prescribed Narcan and was unable to find it and called 911
- EMS arrived, provided CPR in the field, but were unable to get a pulse back
- Post-mortem Toxicology found lethal level of fentanyl and cocaine
- Family held memorial services for the patient

Case Example 1: Family Interview

- Family interview with DPH Community Engagement Specialist with Decedent's Mother:
  Reported that she had struggled with postpartum depression and accessing treatment
- Struggled financially after losing her job
- Difficulty with housing
- Limited transportation in rural area, no public transit and no access to car most days
- Relapsed about one months prior to terminal event

Key Questions

- Was the death pregnancy-related?
- Was the death preventable?
- What factors contributed to the death?
- What public health and/or clinical strategies might prevent future deaths?

Case example 1: Committee recommendations

- **System:** The Executive Office of Housing and Livable Communities should **ensure that homeless shelters prioritize pregnant and postpartum individuals.**
- **Provider/Facility: All healthcare providers should offer Harm Reduction Kits** including Narcan, fentanyl test strips, safe injection items. Each of these items should affixed with a sticker with the number to call 800-327-5050 or text "HOPE" to 800327 (The Massachusetts Substance Use hotline).
- **System/Facility:** Hospitals and prenatal offices should offer **support services in perinatal care, including patient advocates, patient navigators, and peer counselors**. This support should be extended to the postpartum period and include frequent check-ins.

*This is a composite recommendations based on many cases we see at meetings.

Case Example #2

Case Example 2: Background

Background

- 24 year old, Black female, publicly insured
- Works providing childcare for a family from her church
- Primary language is Haitian Creole
- Moved from Haiti one year prior to the pregnancy
- No past medical/surgical history

*This is a composite case based on many cases we see at meetings.
This person is fictional.

Case Example 2: Prenatal Care

Timeline:

- Normal prenatal care course with a midwife
- Attended visits with cousin who interprets for birthing person per her request
- Written in chart that patient does not require medical interpretation
- Diagnosed with gestational diabetes in the 3rd trimester
- Required medication for glycemic control

Case Example 2: Birth

Delivery:

- Induction of labor at 39 weeks for Gestational Diabetes
- Emergency C-Section for non-reassuring fetal heart tones
- No interpreter for care on Labor and Delivery or for C-Section
    - listed in chart as not requiring medical interpretation
- Husband present- Haitian-Creole speaking with some English
- Viable term male infant born

Case Example 2: Immediate Postpartum

- Patient has a hemorrhage of 1100cc during C-Section
- Responds to medications to stop the bleeding while in the operating room
- Patient stable in the PACU following C-Section
- Able to breastfeed and bond with baby
- Moved to postpartum unit at 2 hours after the birth

Case Example 2: Postpartum 2-4 Hours

- Patient began **reporting pain**- no medical interpreter used for postpartum care
- 3-hours postpartum patient stills reports pain in her abdomen
- Nurse notes:
  - **Fast pulse of 130's**
  - **Low Blood Pressures around 90/50**
  - Minimal vaginal bleeding noted on exam

Case Example 2: Postpartum 2-4 Hours

- Nurse contacts physician who orders a liter of IV fluid and states that the patient is most likely dehydrated, no labs and imaging ordered
- Patient continues reporting pain, physician writes:
  - " *Patient had been smiling when moved to postpartum floor*."

Case Example 2: Postpartum 4-6 Hours

- Patient collapses at 4 hours and 47 minutes postpartum on her bathroom floor
- Code is called; CPR is performed with Return-of-Circulation (Heartbeat) after 20 minutes of CPR
- First labs are drawn that show significant blood loss shown (at least 2 liters)
- Patient has gone into DIC (Disseminated Intravascular Coagulation)
- Imaging shows abdomen filled with blood

Case Example 2: Terminal Event Postpartum 4-6 hours

Patient taken to the operating room and was diagnosed with a surgical injury from her C-Section

Team unable to replace blood products and the patient passes away on the operating table

A social worker and the hospital chaplain provided bereavement support to the family

Key Questions

- Was the death pregnancy-related?
- Was the death preventable?
- What factors contributed to the death?
- What public health and/or clinical strategies might prevent future deaths?

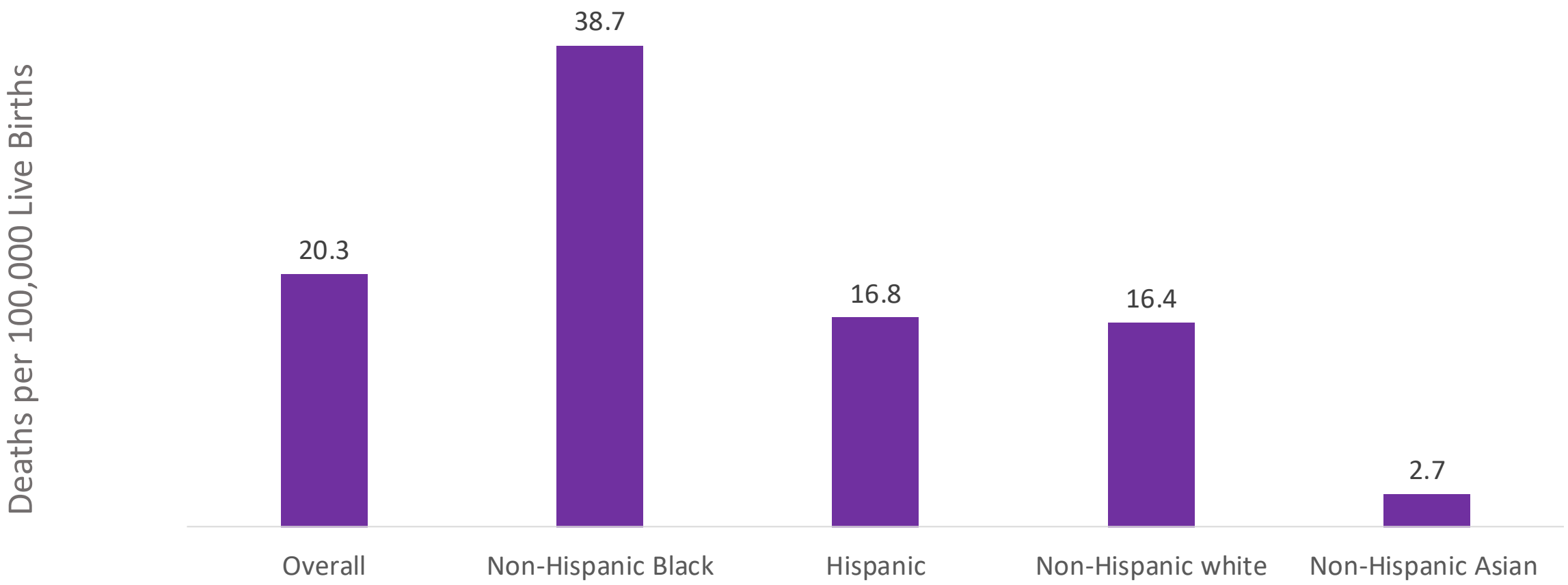
Case example 2: Committee recommendations

- **Facility: All L&D floors should adopt the practice of assessing each patient's risk of hemorrhage upon admission** and update this as appropriate, documenting the risk level at shift change and/or with interventions
- **Providers:** All providers should use **utilize official medical interpretation services to communicate with non-English speaking patients during healthcare visits**. Facilities should adhere to (and document the use of) Joint Commission accreditation standards utilization of official interpreter services regularly for all non-English speaking patients.

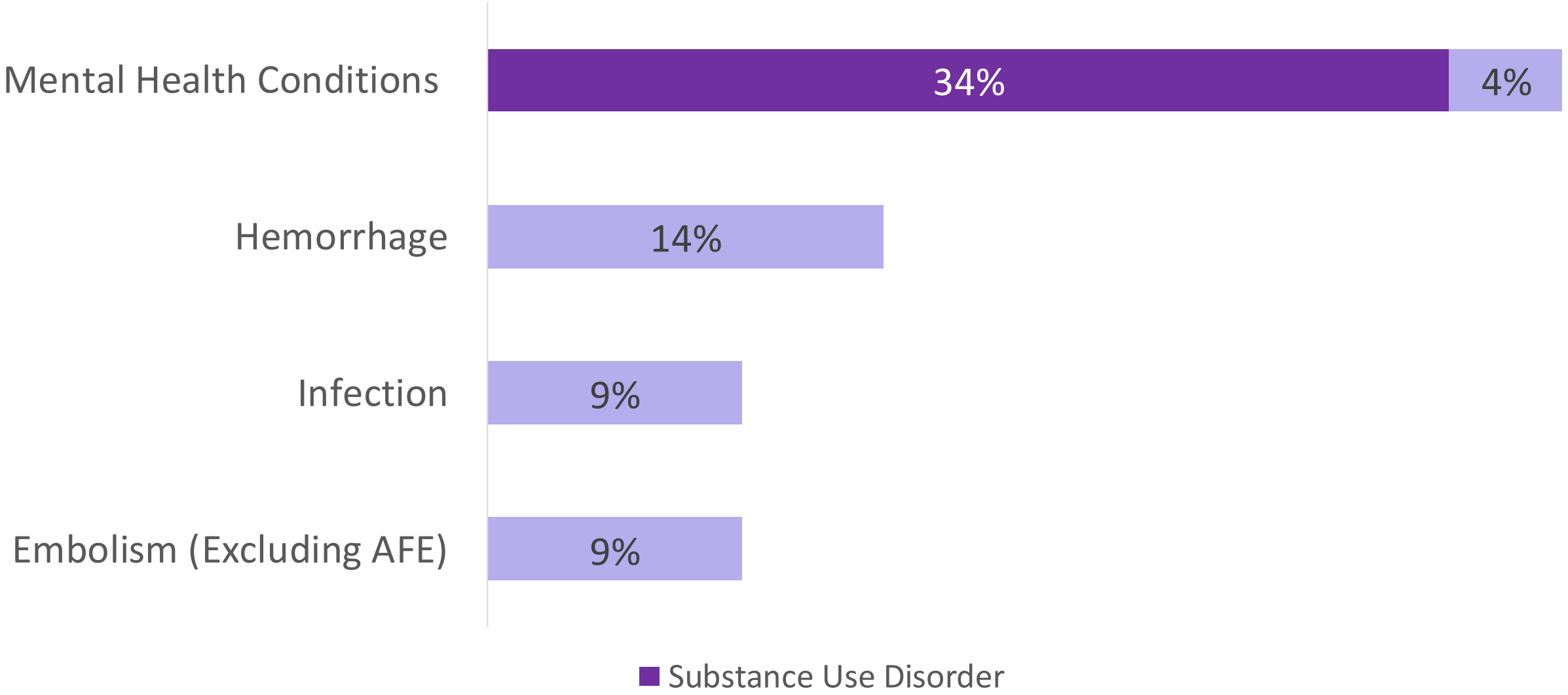
*This is a composite recommendations based on many cases we see at meetings.

Key findings and recommendations

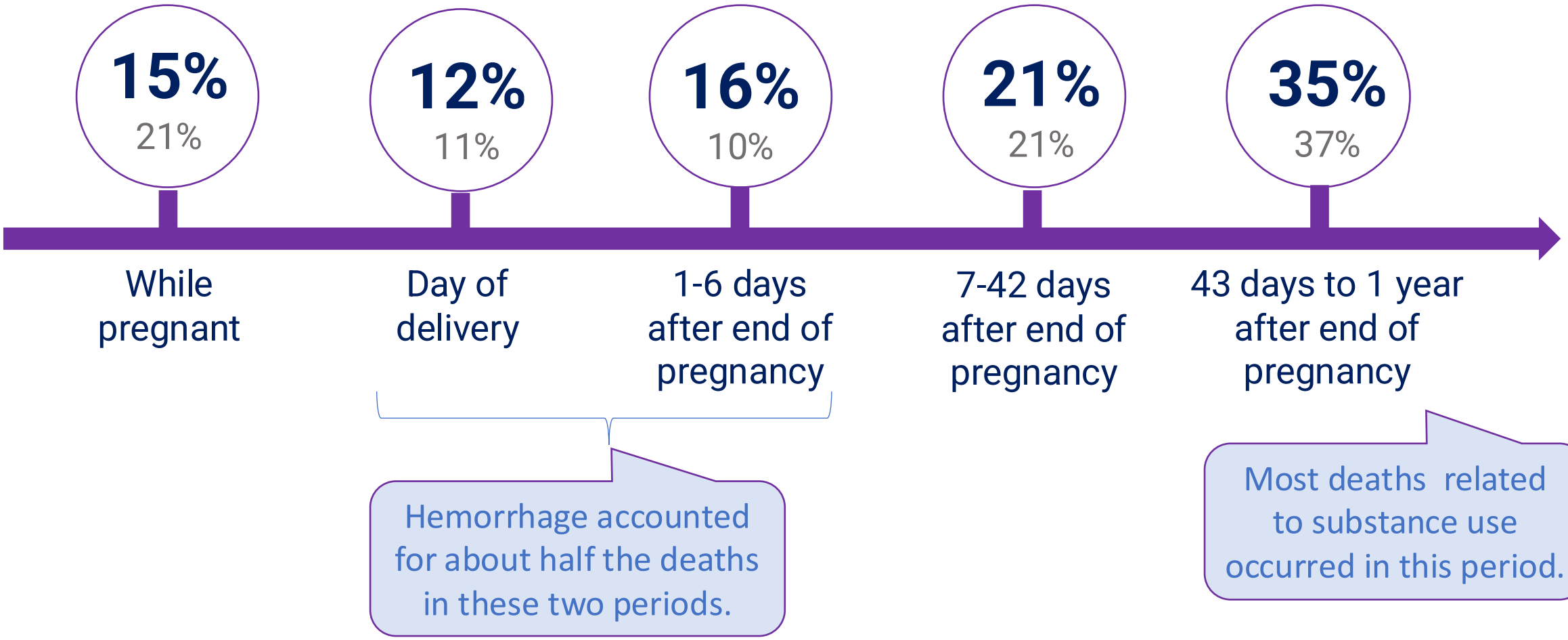
Pregnancy-related mortality ratios by race & ethnicity, MA, 2019-2024



Most frequent underlying cause of pregnancy-related deaths, MA, 2019 - 2024

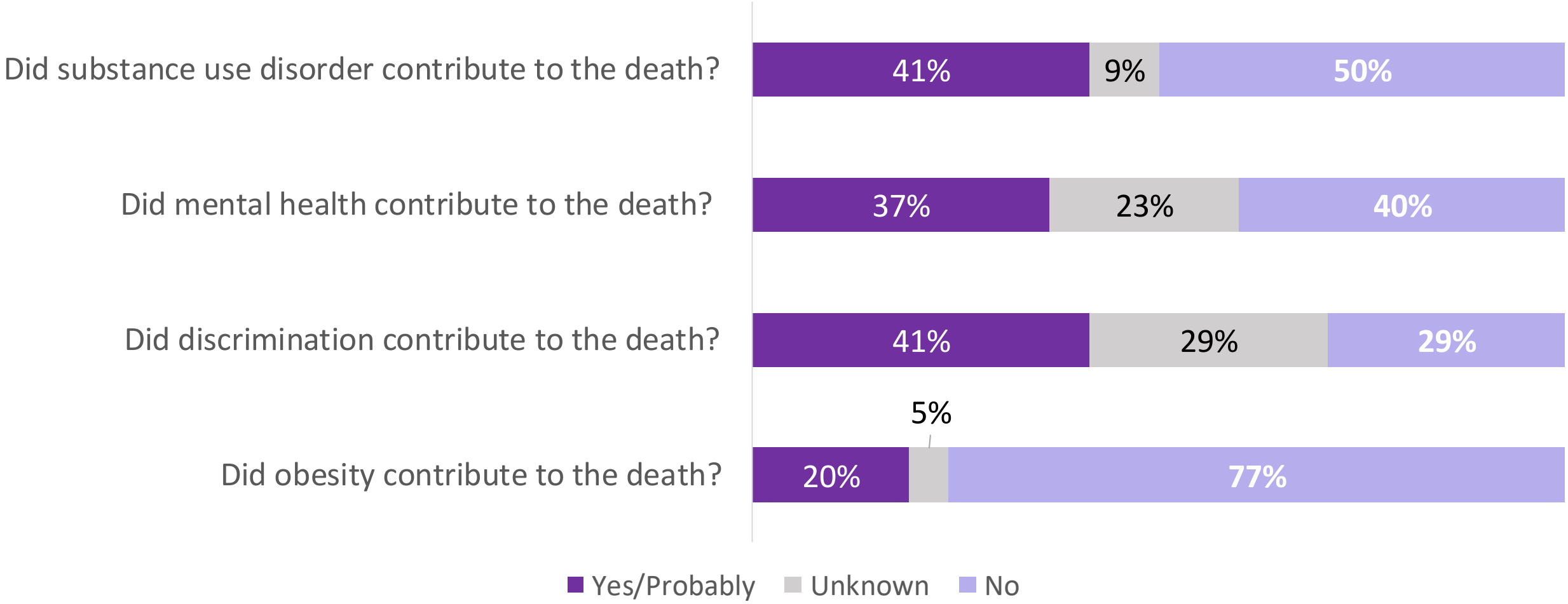


Timing of pregnancy-related deaths, MA, 2019 – 2024



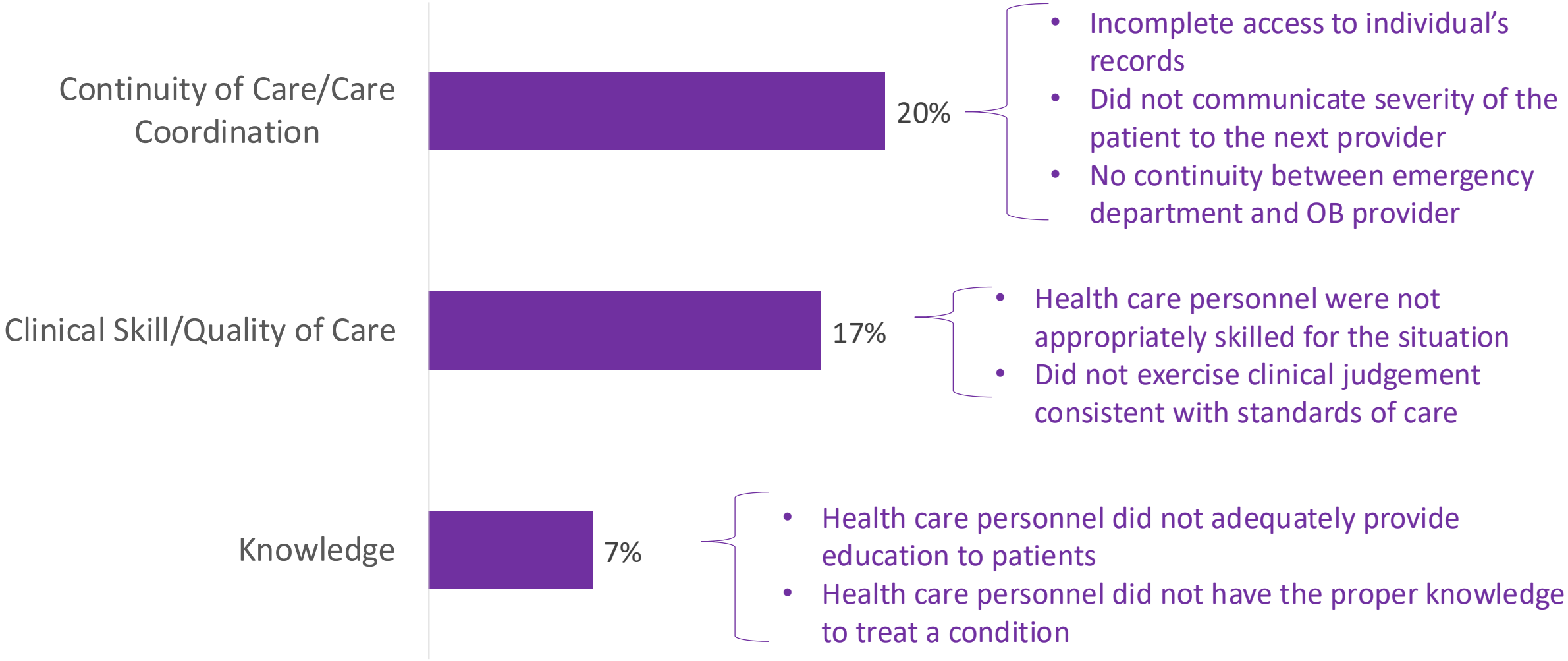
*Percent in gray represents national distribution from Reviews of PRD in 46 states in 2022

Committee determination of circumstances surrounding pregnancy-related deaths, MA, 2019 - 2024

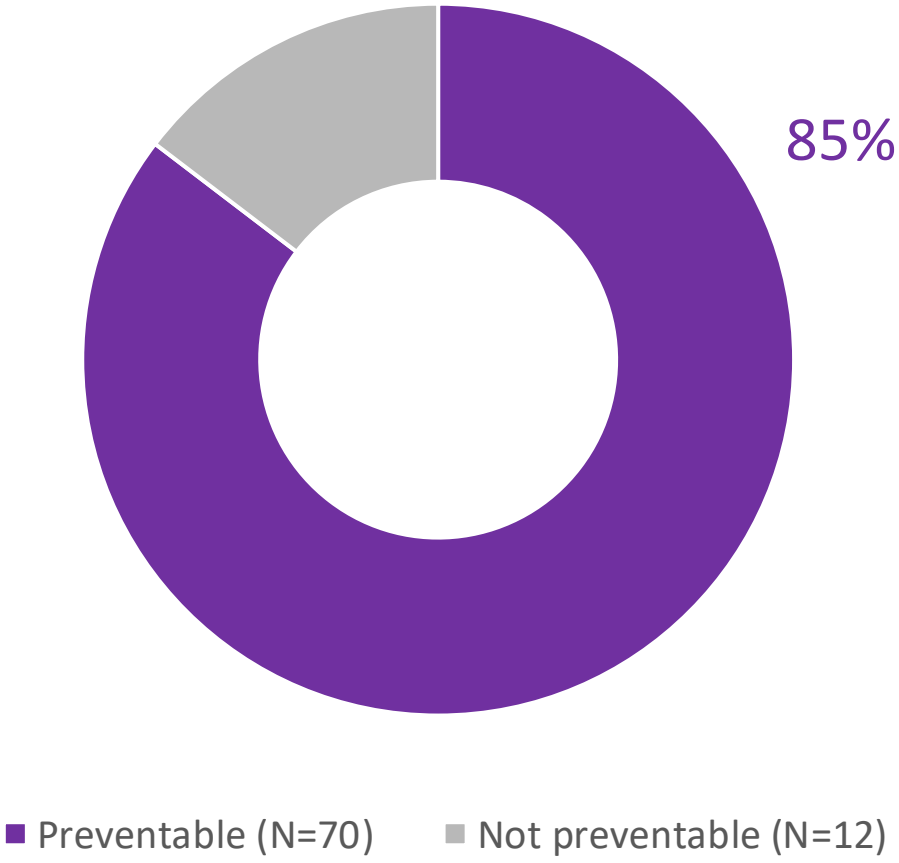


These determinations are not mutually exclusive, and there can be more than one circumstance surrounding a death.

Percentages of top contributing factors for pregnancy-related deaths, MA, 2019-2024



Percentage of deaths committee determined to be preventable, MA, 2019- 2024



A death is considered preventable if the Committee determines that there was **at least some chance** of the death being averted by one or more reasonable changes to patient, family, provider, facility, system and/or community factors.

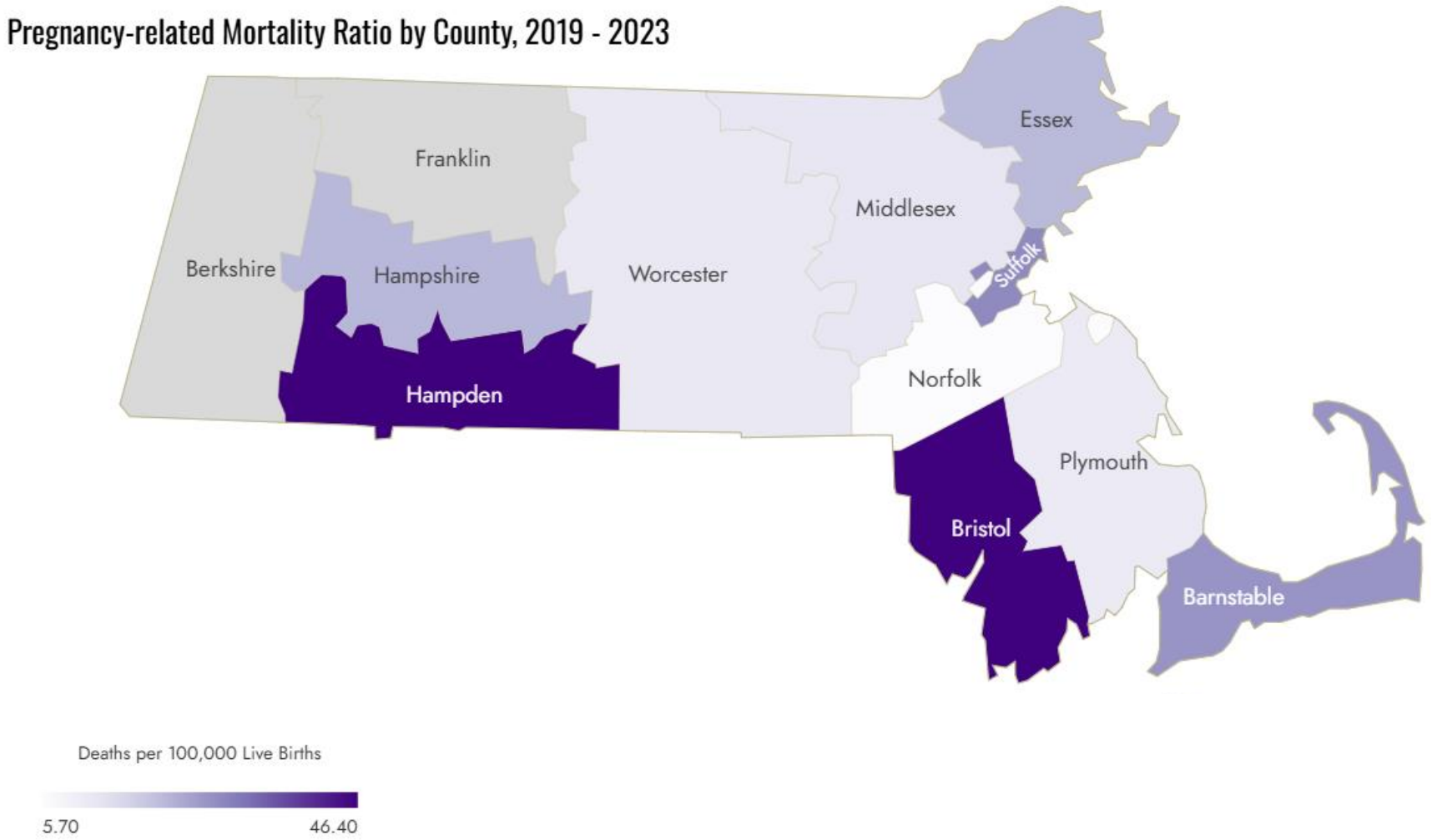
Emerging trends & areas of concern

Disparities in Where Maternal Mortality is Occurring

We know these counties have lower numbers of:

- Midwives
- Primary care doctors
- Transportation

Next step: Diving deeper to better understand differences, such as healthcare systems, cause of deaths and contributing factors.



Hemorrhage

Second most frequent underlying cause of death is Obstetrical Hemorrhage (postpartum, ectopic rupture)

In reviewing cases in this area, we noticed:

- Language barriers
  - Over half of birthing people spoke another language besides English as their first language

Next step: Working with the MA Perinatal Quality Improvement Network (PNQIN) to identify where we can improve

Intimate Partner Violence (IPV) & Other violence

- In Massachusetts, 22% of our pregnancy-related deaths had a reported history of domestic violence (DV).
- We suspect that this number is under representative of occurrence of violence
- We know that pregnancy and postpartum increases the risk IPV and DV

Next Steps: A qualitative review of case narratives and interviews to understand incidence of IPV and violence during pregnancy in postpartum.

MMMRC Data Informed Policy and Programming

Massachusetts Pregnant and Postpartum People are Visiting Emergency Departments (ED)

Of people who experienced a pregnancy-related death….

53% visited the ED at least once

28% visited the ED two or more times

Emergency Department Training

ED staff have many touch points with pregnant and postpartum patients which provides an opportunity to enhance care coordination and improve outcomes.

Due to recent hospital and obstetric unit closures across Massachusetts, we anticipate a corresponding increase in patients seeking care in the Emergency Department.

Promote access to and knowledge of statewide and local resources

Support ED staff participation in training by offering 4 free CME credits

We received grant funding to tailor this Maternal Health Emergency Department Training for Massachusetts

Conclusion

- Leading cause of pregnancy-related deaths is Substance Use Disorder.
- Non-Hispanic- black birthing people experience the highest rates of pregnancy-related deaths.
- Eighty-six percent of pregnancy related deaths were preventable.
- Factors that contributed to pregnancy-related deaths include themes of:
  - delay in care, quality of care, care coordination and knowledge.
- An Emergency Department Training will be available in fall of 2026 to help address maternal mortality in Massachusetts.

We wish to thank the team that makes the dream work.

Mahsa Yazdy
Sarah L Stone
Leigha Mills
Katrina Plummer
Barbara Schultz
Jean MacBarron
Kristen Graser
Laura Kattan
Brooke LaMere
Parker Polston
Eve Estrada
Allison Bryant
MMMRC Committee Members

Thank you for joining! Please reach out to mmmrt@mass.gov if you have any questions.