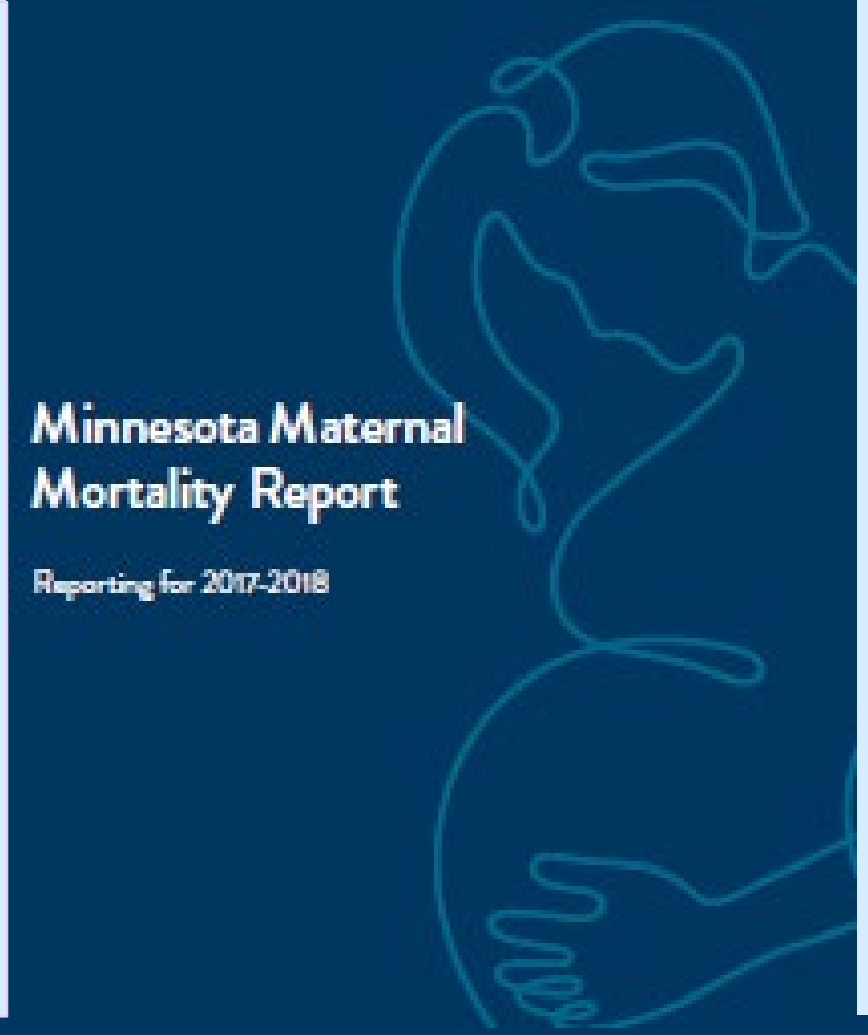

Maternal Mortality in Minnesota 2017-2018

DEPARTMENT OF HEALTH

Acknowledgement

The Minnesota Department of Health would like to acknowledge the 48 birthing people who died while pregnant or within one year of their pregnancy during 2017-2018. We recognize that each birthing person's families and communities were deeply impacted by their loss. Understanding the cause of maternal deaths in Minnesota will help prevent future generations from these tragic events and cultivate a safer, and just society for our children and families to learn and grow.

Objectives

1. Understanding of key definitions and surveillance overview
2. High level understanding of pregnancy-associated deaths in Minnesota: race/ethnicity, location, cause, timing
3. High level overview of recommendations to action
4. Translation to action in Minnesota

Maternal Mortality Purpose

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Maternal Mortality Overview

Overview

The MMRC creates recommendations tailored to improve policies + practices for individuals/support persons, providers, facilities, systems, and communities.

Recommendation goals:

- identify opportunities to improve outcomes for birthing people
- reduce the numbers of preventable pregnancy-associated deaths in Minnesota.

Structure

Professions currently represented- obstetrics/gynecology, maternal fetal medicine, family medicine, midwifery, nursing, psychiatry, forensics, social work, Tribal Liaisons, law enforcement, emergency medicine, racial equity research, and health policy.

MMRC determinations

- Was the death pregnancy-related, determine underlying cause of death?
- Was the death preventable, factors that contributed to the death?
- What recommendations may help prevent future deaths?

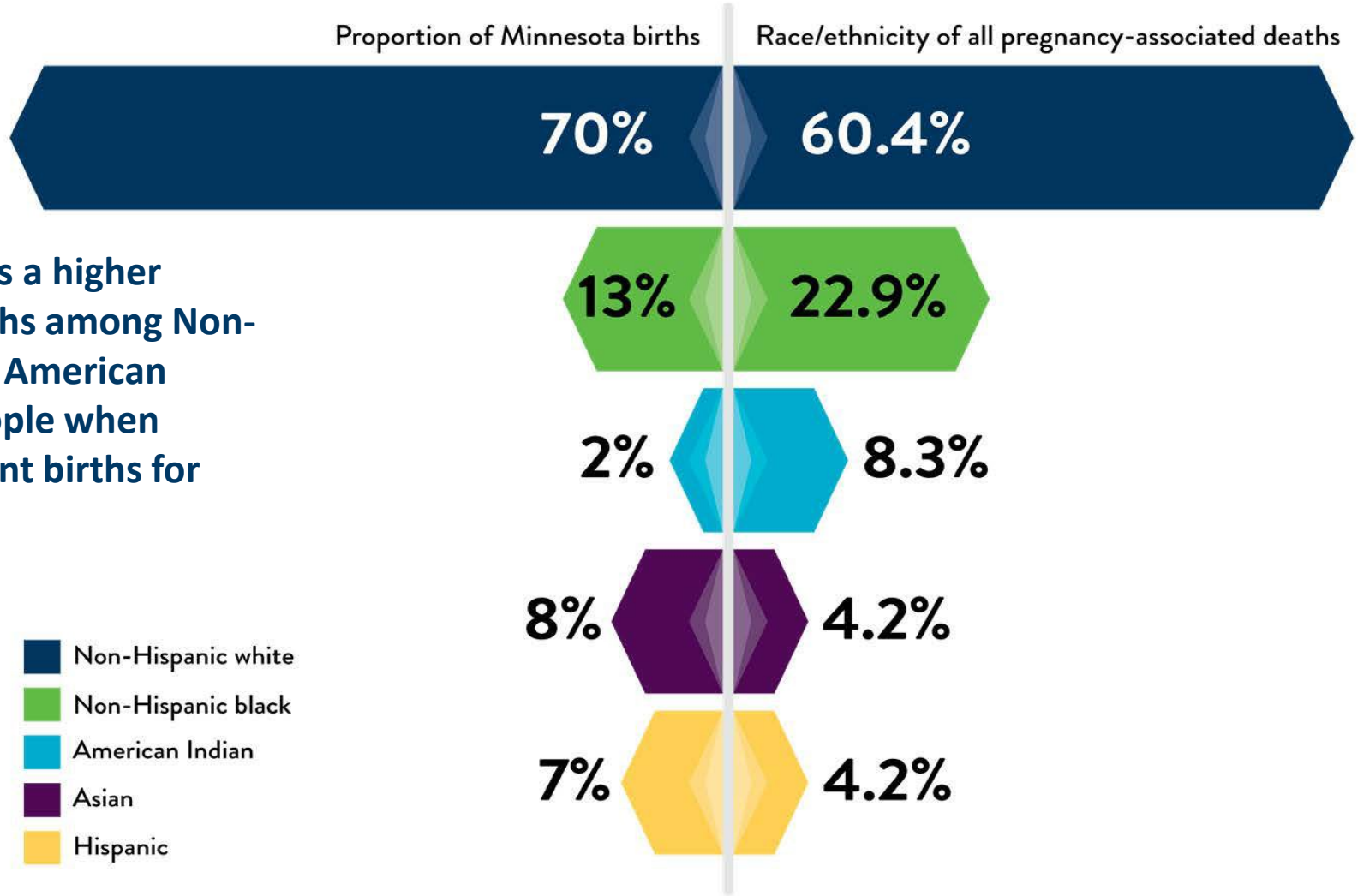
Limitations to the 2017-2018 data

- Unable to calculate race/ethnicity rates, due to small numbers
- No records access for services completed outside of Minnesota
- Barriers to accessing comprehensive records.
- Changes made to review committee form - discrimination, systemic racism, and interpersonal racism added as contributing factors
- Substance use or substance use disorder (SUD) diagnoses categorized as injuries or unintentional injuries

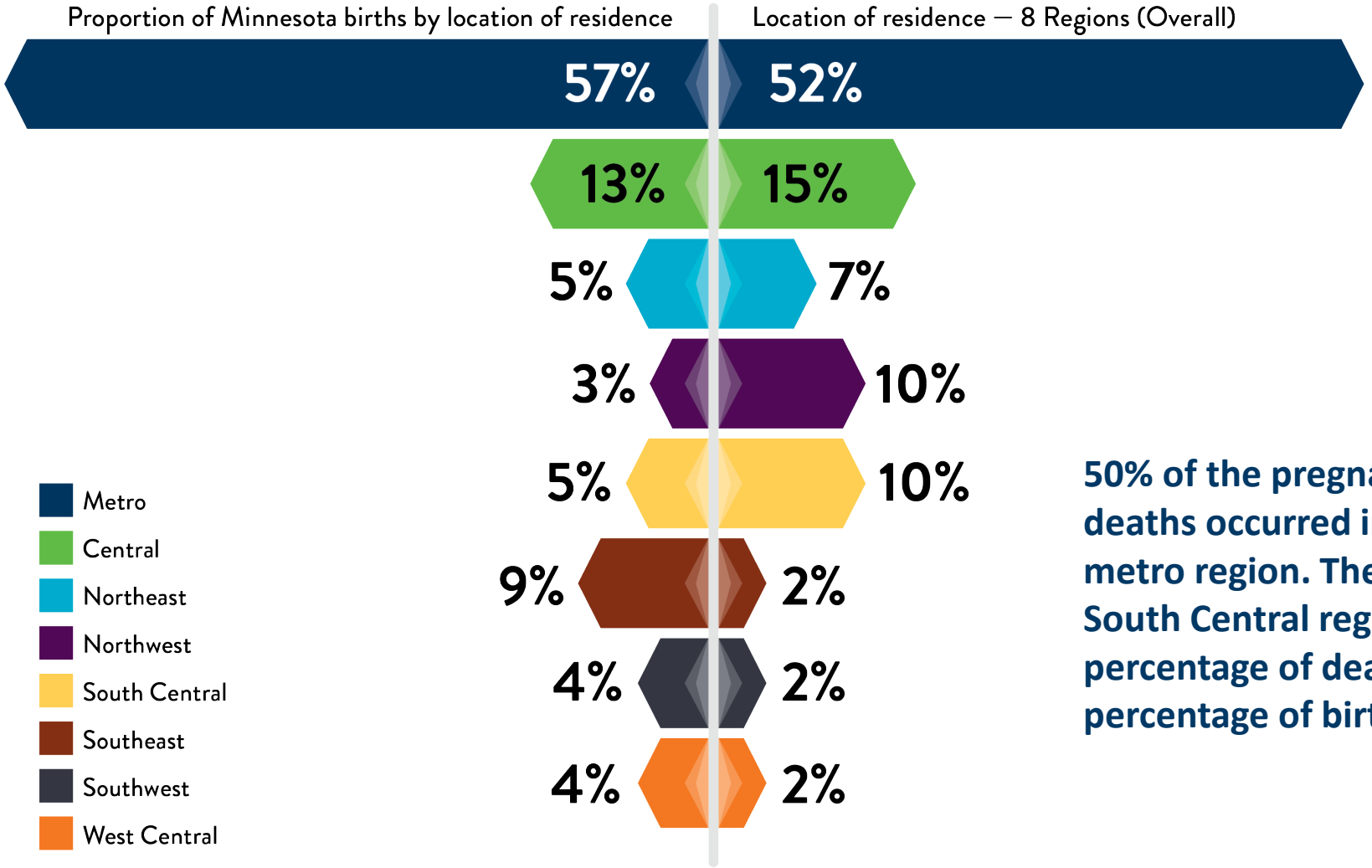
Maternal Mortality Definitions

Pregnancy Associated Deaths by Race/Ethnicity (Overall), 2017-2018

Data Shows there is a higher percentage of deaths among Non-Hispanic Black and American Indian birthing people when compared to percent births for each group.



Location of residence of pregnancy-associated death vs. Proportion of MN births by location



50% of the pregnancy-associated deaths occurred in the 7-county metro region. The Northwest and South Central regions have a higher percentage of deaths compare to percentage of births.

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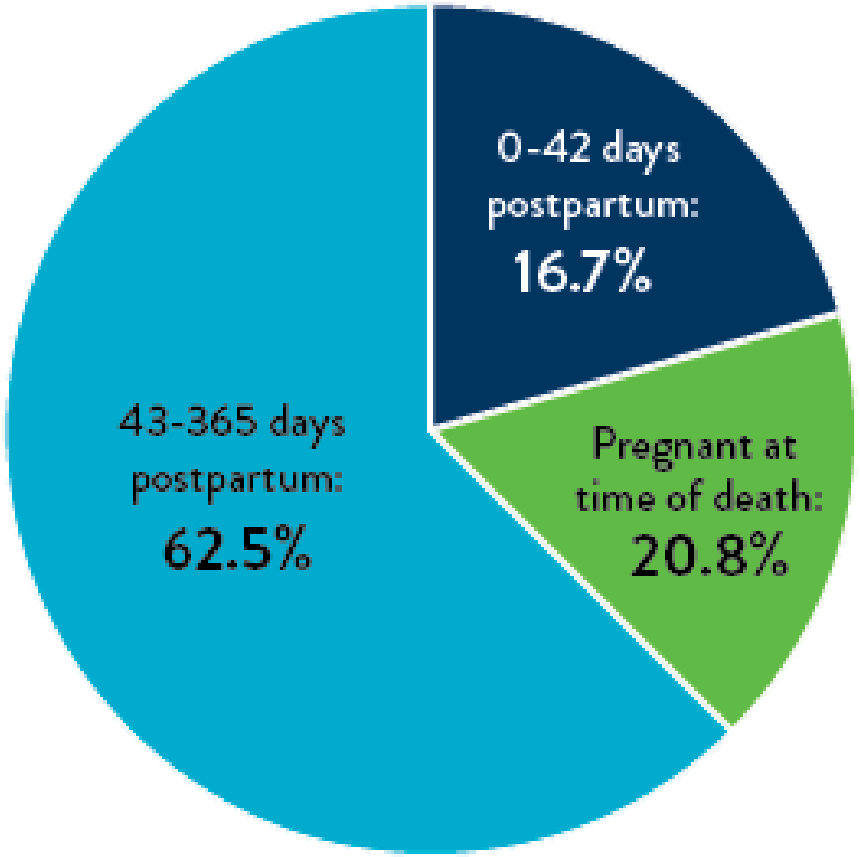
Pregnancy Status at time of Death (pregnancy-associated)



At the time of the completed maternal mortality reviews, MA coverage was typically lost after 6 weeks postpartum.

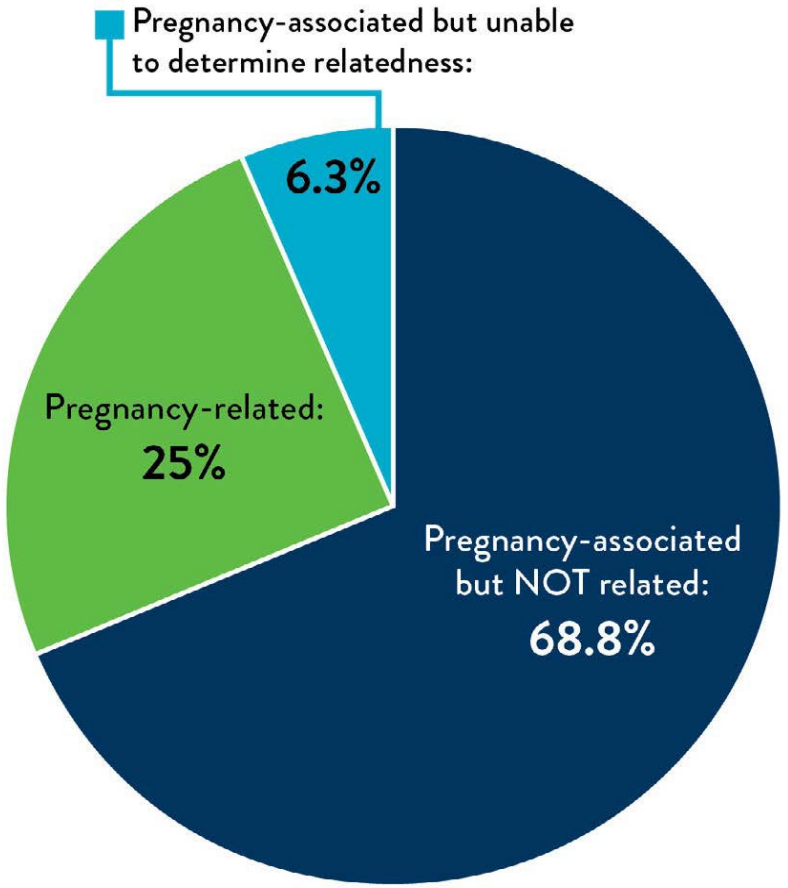
Leading cause of death for pregnancy-associated deaths

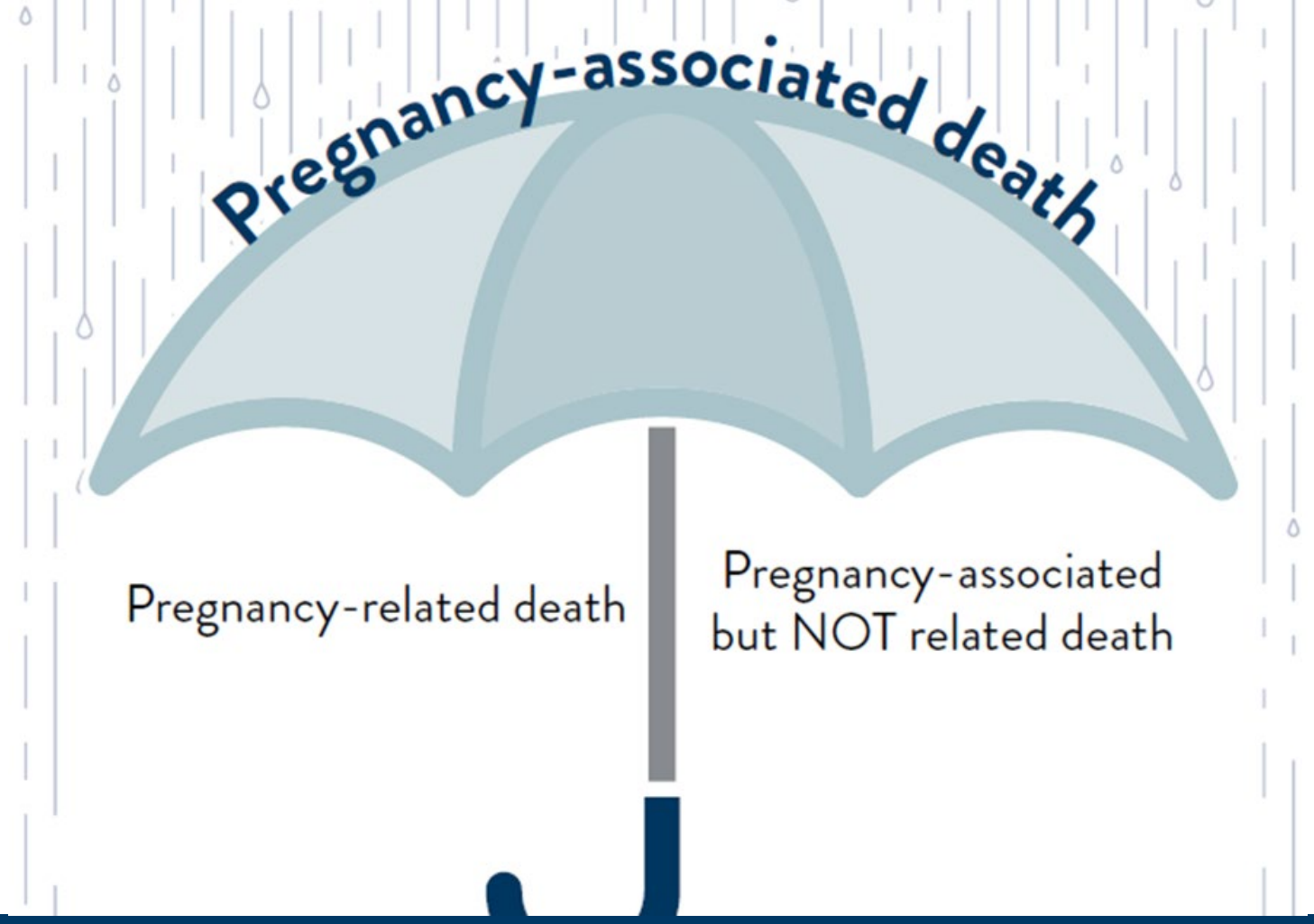
Cause of Death	Frequency	Percent
Injury - motor vehicle accident	8	16.7%
Injury - poisoning/overdose	6	12.5%
Injury - Hanging/strangulation/suffocation	4	8.3%
Cancer	4	8.3%
Firearm, infection, neurological/neurovascular	3 (for each diagnosis)	6.25%

Committee determination of pregnancy-relatedness, pregnancy-associated deaths

For 2017-2018, Minnesota's PAMR was **35.3** pregnancy-associated deaths per 100,000 live births.

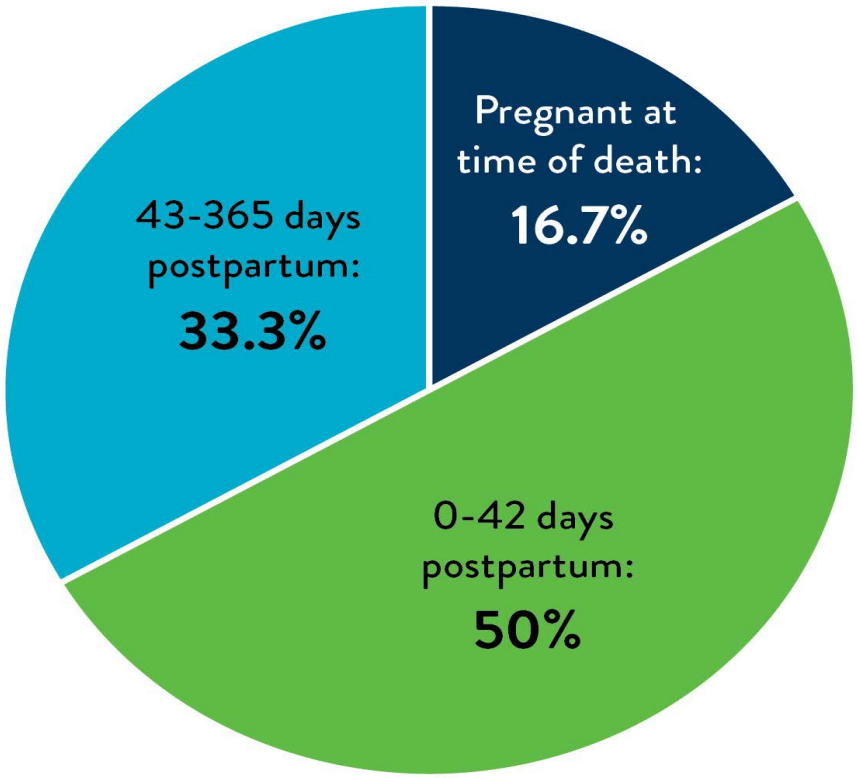
For 2017-2018, Minnesota's PRMR was **8.8** pregnancy-related deaths per 100,000 live births.



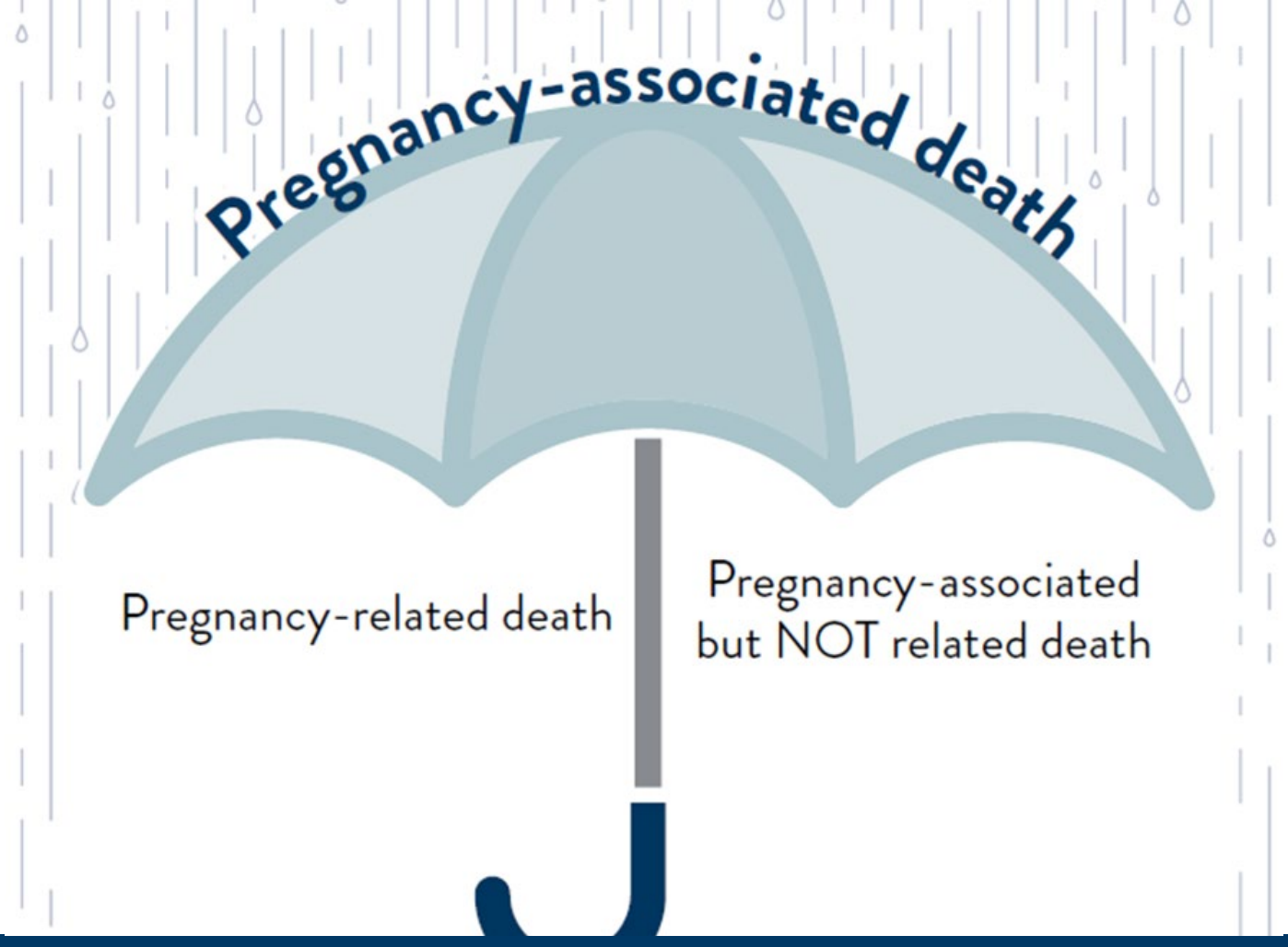


Pregnancy-related deaths

Pregnancy-related deaths by timing of death

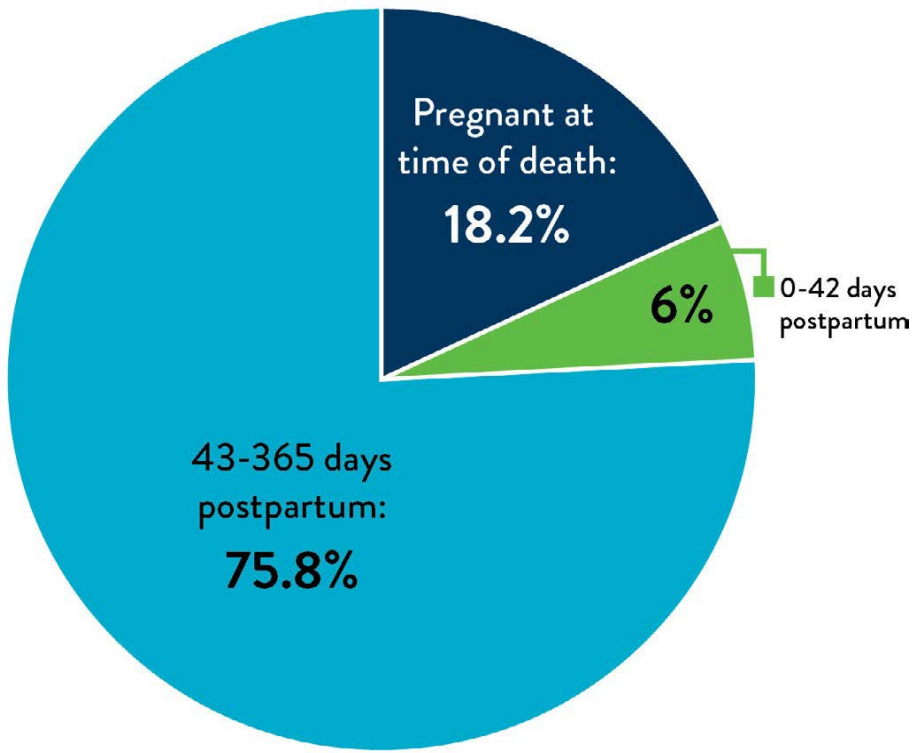


- 12 pregnancy-related deaths identified by the MMRC (1 in 4 reviewed deaths)
- 50% occurred 0-42 days postpartum
- Underlying causes: infection , cardiomyopathy, cardiovascular conditions, embolism, collagen vascular/autoimmune, hematologic, hemorrhage, hypertensive disorders, injury, pulmonary, and unknown cause of death.
- 100% were deemed preventable by the committee.



Pregnancy-associated but not related deaths

Timing of death for pregnancy-associated but NOT related deaths

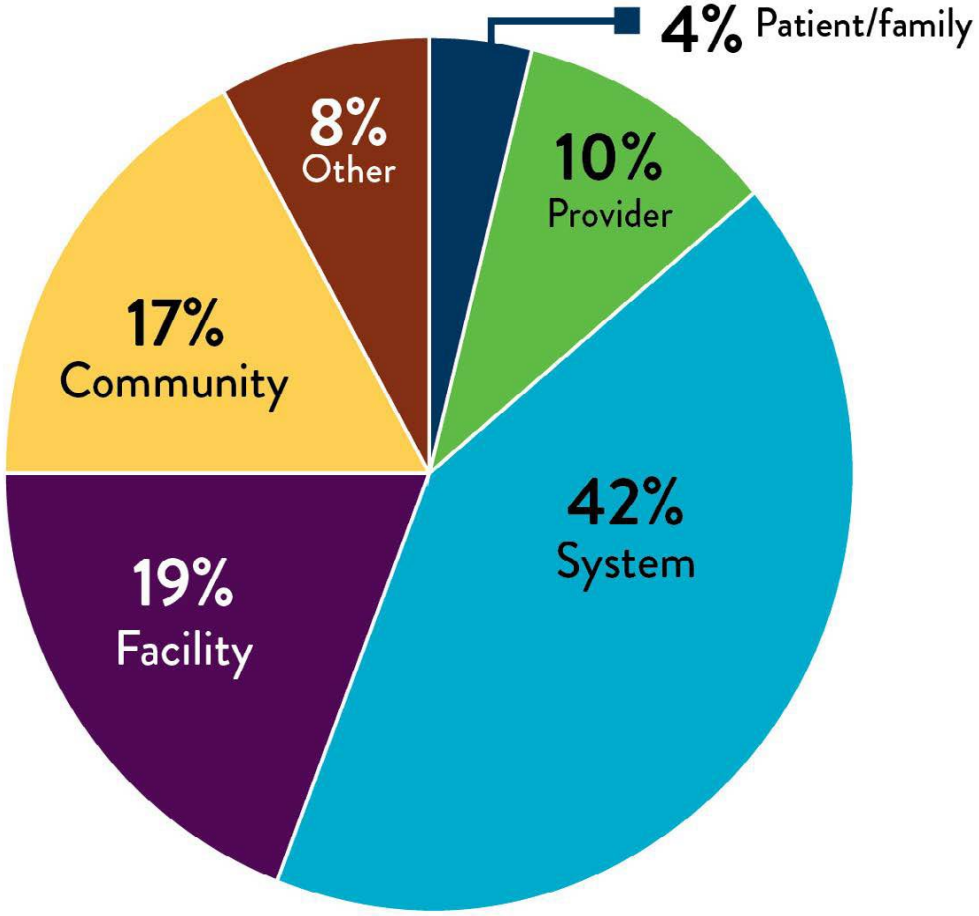


- Of the pregnancy-associated deaths 68.8% (33) were determined to be pregnancy-associated but NOT related to the pregnancy.
- The majority (75.7%; n=25) of pregnancy-associated but NOT related deaths occurred in metropolitan areas (50,000-2,499,999 resident)
- Around 88% of pregnancy-associated but NOT related deaths were determined preventable

Leading Cause of Death for Pregnancy- Associated but NOT related Deaths

Cause of death	**Frequency**	**Percent**
Motor vehicle	8	40%
Poisoning or overdose	5	25%
Hanging or strangulation	3	15%
Firearm	2	10%
Other or sharp instrument	3	15%

Recommendations



- **HEALTH CARE TEAM: Person or group with education and training, who provide care, treatment, and/or advice.**
- **FACILITY: Physical location where direct care is provided (clinics, urgent care, and hospitals).**
- **SYSTEM: Interacting entities that support services before, during, or after pregnancy (healthcare systems, payors, and public services and programs).**
- **COMMUNITY: A grouping based on a shared sense of place or identity including physical neighborhoods or community based on common interests, culture, and shared circumstances.**

Highlighted Recommendations

Substance Use Disorder (SUD)

Support statewide improvements for birthing people who have SUD or mental health conditions by:

- identification of substance use and mental health conditions
- referral to behavioral health services and support groups
- increased funding to expand treatment and access to treatment throughout the state.

Systems Referral Network

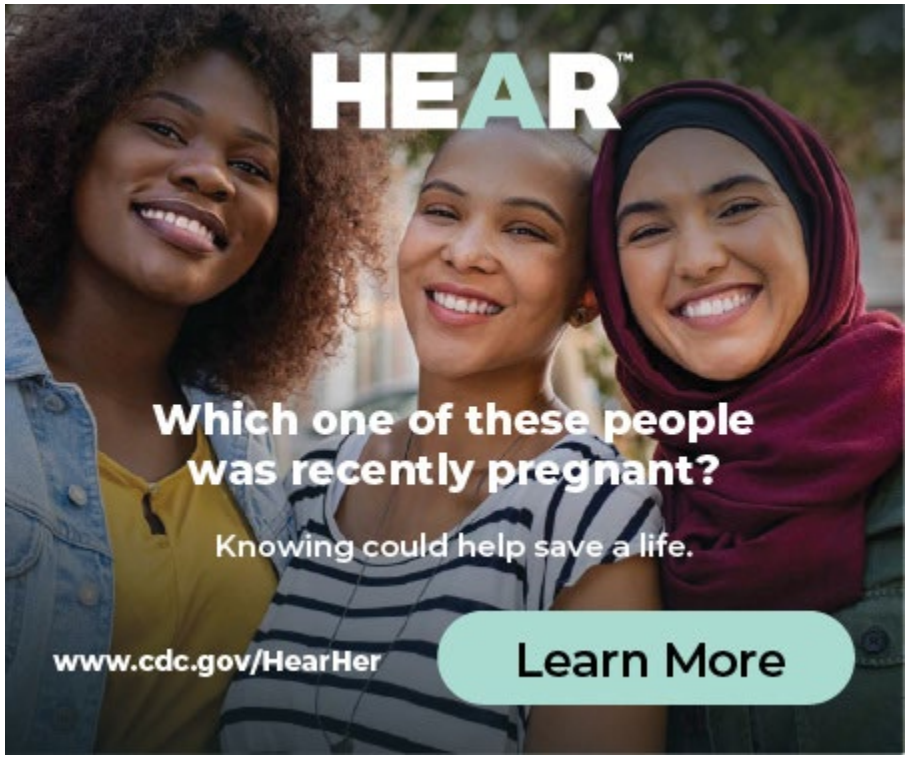
Develop standardization of referral network within systems and regions to refer birthing people to locations for appropriate level of care, and to decrease delay in needed diagnostics and interventions.

Highlighted Recommendations

- Facilities: Improve the postpartum period by assuring that birthing people have access to care team no later than three weeks postpartum.
- Systems: Address bias in systems perpetuating disparities in the birthing population.
- Systems: Fund community-lead networks and support systems to provide culturally informed care to fit birthing person's needs.

Listen and support birthing people. Listen to concerns, provide a network of support during and after the postpartum period.

Home Visitors and Local Public Health Recommendations



Healthcare teams

- Listen to birthing people if they express concerns around birthing process. Work with birthing person and their support person to meet their level of readiness and share what are urgent warning signs.

Facilities

- Facilities should set up a postpartum plan prior to discharge, following ACOG Optimizing Postpartum Care Recommendations. Birthing people should have contact with care team within 3 weeks of discharge. Utilization of culturally focused doulas, community health workers, or integration of a home visitor nurse model for multiple touch point to follow up.

Home Visitors and Local Public Health Recommendations

Systems

- Systems and facilities should collaborate and utilize doulas and community health workers during pregnancy and postpartum including implementation of doula services during hospitalizations. Systems need to support an emphasis on improving doula reimbursement models.

Community

- Funding of programs led by communities for communities to address strengths and gaps in resources, with funding to support a livable wage and receive equitable care. Listen and implement community identified strategies to cultivate a community for all birthing people can thrive.

Translation into Action

Translation into Action

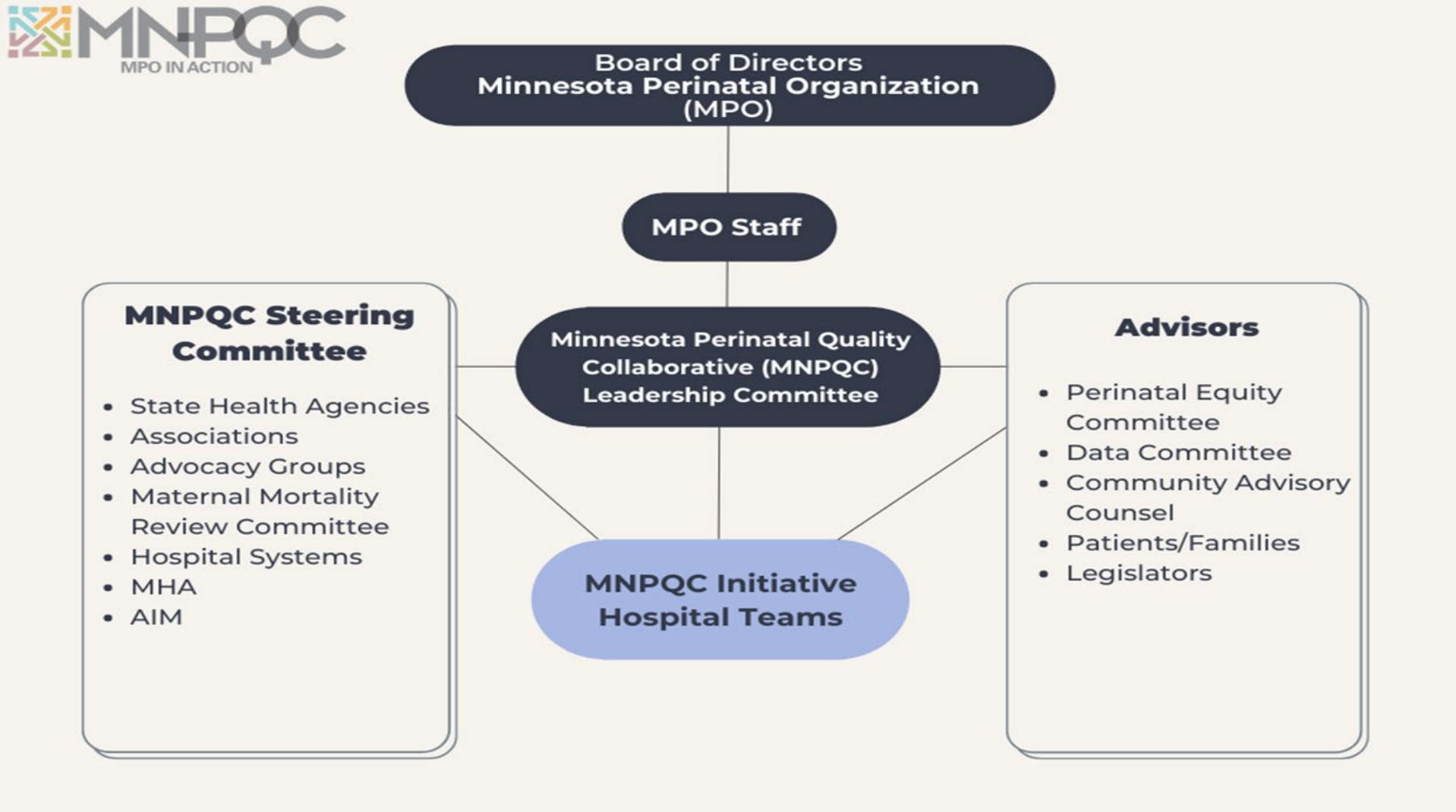
Minnesota Perinatal Quality Collaborative

- Connection to Quality Improvement for Substance Use disorder, health equity, and systems collaboration

Statewide Programs

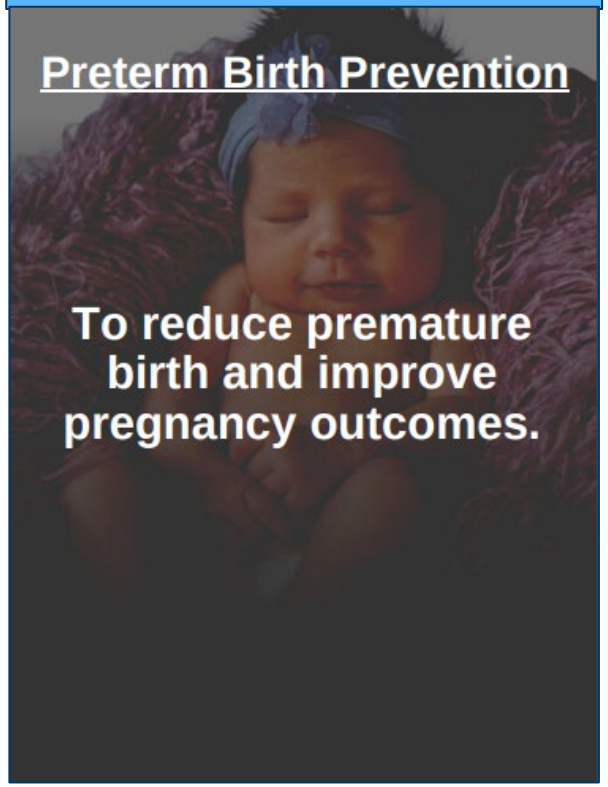
- Dignity and Pregnancy
- Doula and Midwives
- IMPLICIT Model
- I-MOM

MNPQC Structure

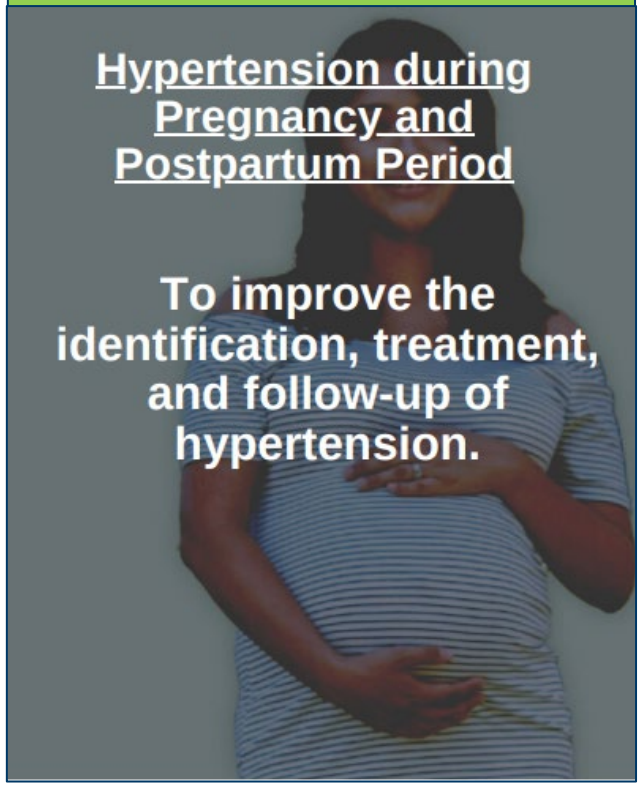


Successes and challenges through the Capacity building throughout MNPQC initiatives strengthen hybrid QI approach

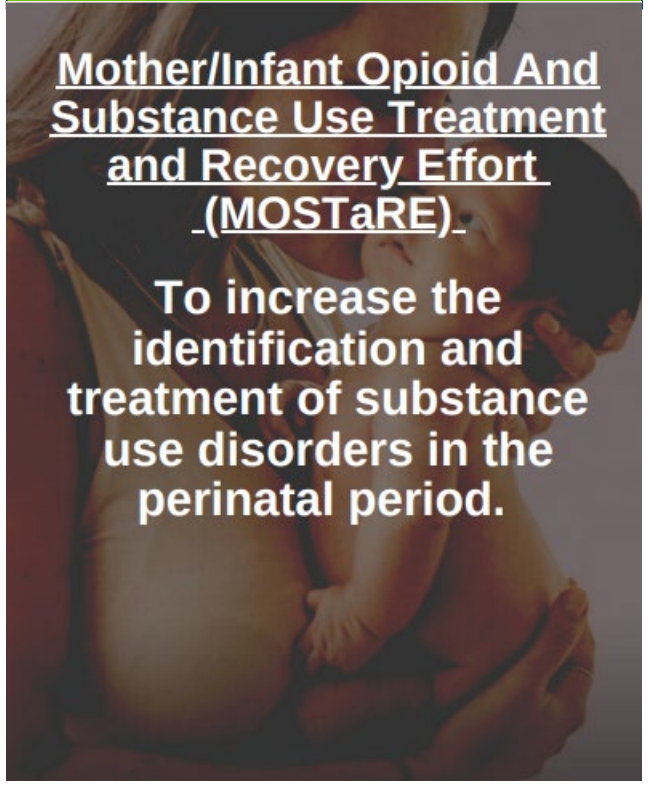
Past Project



Current Project



Upcoming Project



Dignity in Pregnancy and Childbirth Act - 2021

- Legislation passed in 2021 – Minnesota Statue 144.1461
- Requires all hospitals with obstetric care and birth centers to develop/access continuing education on anti-racism and implicit bias for direct care employees and contractor who routinely care for pregnant/postpartum patients
- Hospitals also required to make available an annual refresher course that reflects current trends on race, culture, identity, and anti-racism principles and institutional implicit bias.

Continuing Education Training Coming Soon

- University of Minnesota's Center for Anti-racism Research for Health Equity (CARHE) is developing a high-quality course to specifically meet the requirements of the statute
- The first of three modules will be available in early January, followed shortly by the final two modules
- All materials will be online, free, and available to upload into organization's existing learning management systems
- January 2023: CARHE and MDH will host a meeting for health systems to share information about the course and answer any questions
- Hospitals, birth centers and health care providers do not have to complete the continuing education by December 31, 2022

Midwifery and Doula Care

- Second component of the Dignity in Pregnancy and Childbirth Act seeks to improve birth outcomes through midwifery and doula care
  - Research shows that midwife and doula services improve pregnancy outcomes for Black, American Indian, and other communities experiencing disparities in maternal health outcomes.
  - Working to identify barriers to obtaining these services for groups with the most significant disparities in maternal and infant mortality and morbidity.
  - Will be working on the development of community recommendations to increase access to these birthing services.
- More information can be found on MDH's *Maternal Care Access: Doula and Midwifery Services* webpage

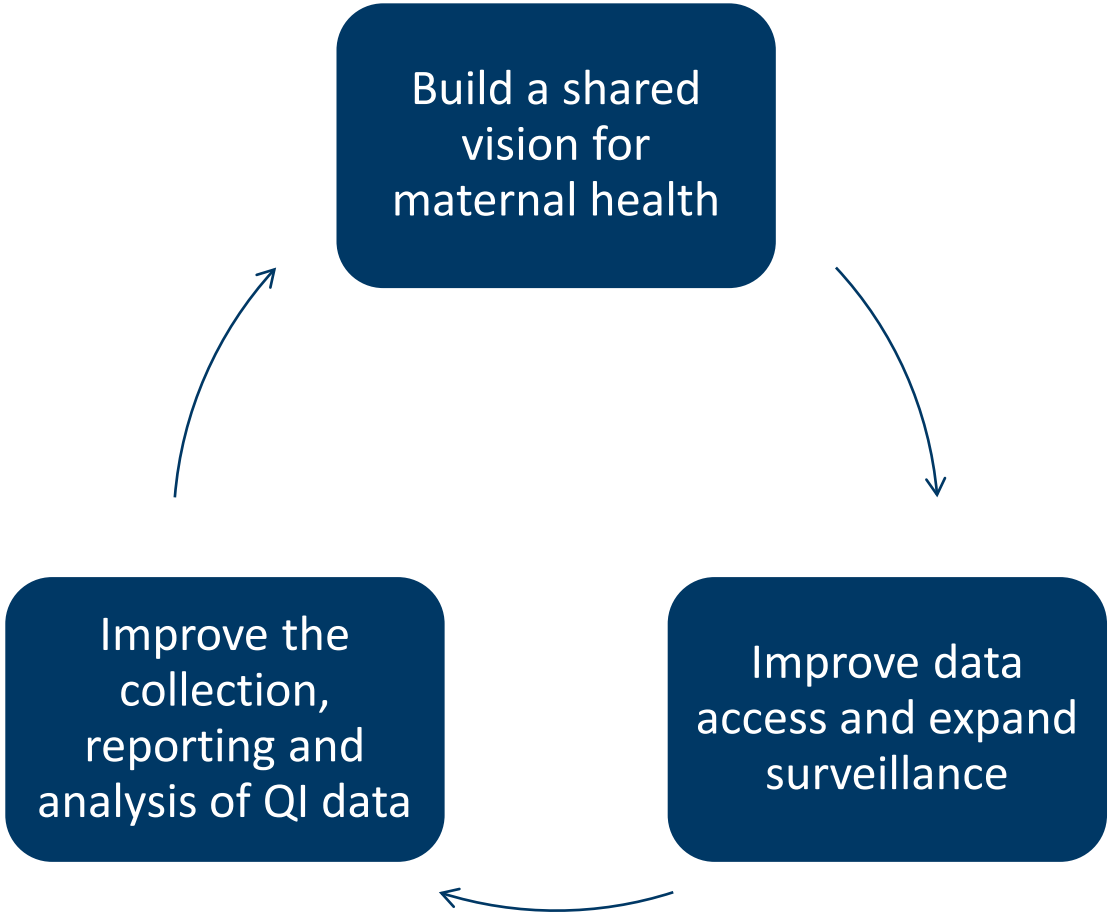
IMPLICIT: Interventions to Minimize Preterm and Low Birth-Weight Infants Using Continuous Quality-Improvement Techniques

- IMPLICIT Interconception Care (ICC) - model focuses on screening birthing people for smoking, depression, family planning, and multivitamin with folic acid intake during baby's well child visits 0-24 months.
- Utilized during the well-child visit or in 4th trimester
- Recruiting 3 clinics (family practice or pediatrics) for next cohort, each clinic to receive $20,000 over the course of the project

Innovations for Maternal Health Outcomes in Minnesota (I-MOM)

To align and strengthen the implementation of innovative, data-driven, community-informed and supported maternal health programs to improve outcomes for communities experiencing the highest rates of disparities (Black, American Indian, other populations of color, new immigrants, refugees, and rural).

I-MOM Goals


Build a shared vision for maternal health
Improve data access and expand surveillance
Improve the collection, reporting and analysis of QI data

Call to Action

- ***All*** Minnesotans have a role to play in addressing and improving maternal health in the state. Awareness and engagement is needed to identify and eliminate maternal mortality.
- We invite partners in community and family health to review the recommendations and apply them to practice. Our goal together must be to create a just and equitable future for Minnesotans and their families.

Thank you!

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Link to Report

Other useful Links:

- **MDH Grant Opportunity for Family Medicine and Pediatric Clinics:** https://www.acetinc.com/pediatric-work

- Maternal Care Access: Doula and Midwifery Services - MN Dept. of Health (state.mn.us)

- **Minnesota Perinatal Quality Collaborative:** https://minnesotaperinatal.org/