Maternal Mortality in Connecticut 2015-2019

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Objectives

- Situate maternal mortality in Connecticut within national and global contexts.
- Describe the efforts of Connecticut Maternal Mortality Review Committee.
- Review available data on maternal mortality in Connecticut between 2015-2019.
- Outline CT MMRC's recommendations for action to prevent maternal deaths in CT

Definitions

CDC's Division of Reproductive Health & CT MMRC Terminology

Pregnancy-Associated Death: the death that occurs during pregnancy or within one year of the end of pregnancy, regardless of the cause.

Pregnancy-Related Death: the death that occurs during pregnancy or within one year of the end of pregnancy from any cause related to or aggravated by the pregnancy or its management.

WHO's ICD-10 & CDC's NCHS Terminology

Pregnancy-Related Death: the death of a women while pregnant or within 42 days of termination of pregnancy, irrespective of the cause.

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

Definitions

CDC's Division of Reproductive Health & CT MMRC Terminology

Pregnancy-Related Mortality Ratio (PRMR):

# of pregnancy-related deaths (during pregnancy or within one year after the end of pregnancy) per 100,000 live births.

WHO's ICD-10 & CDC's NCHS Terminology

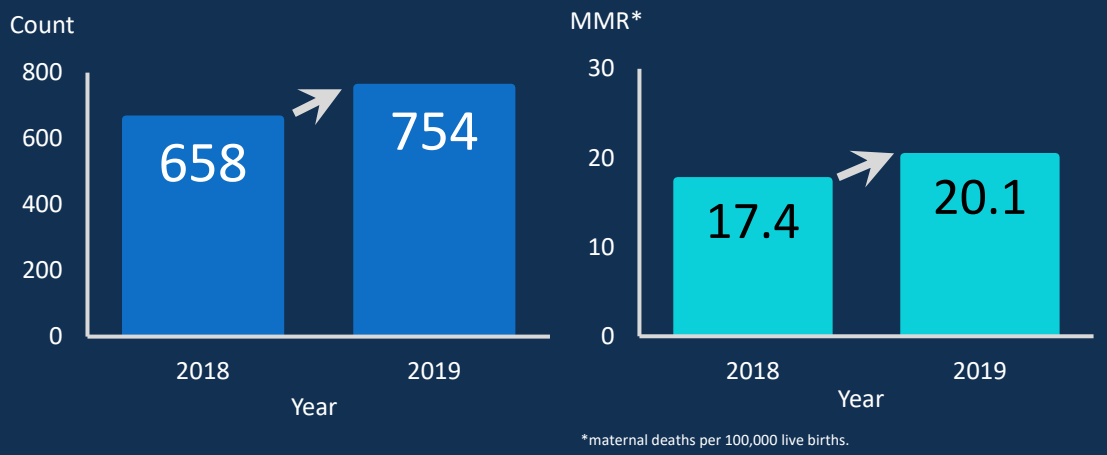
Maternal Mortality Ratio (MMR):

# of maternal deaths (during pregnancy or within 42 days after the end of pregnancy) per 100,000 live births.

Outline

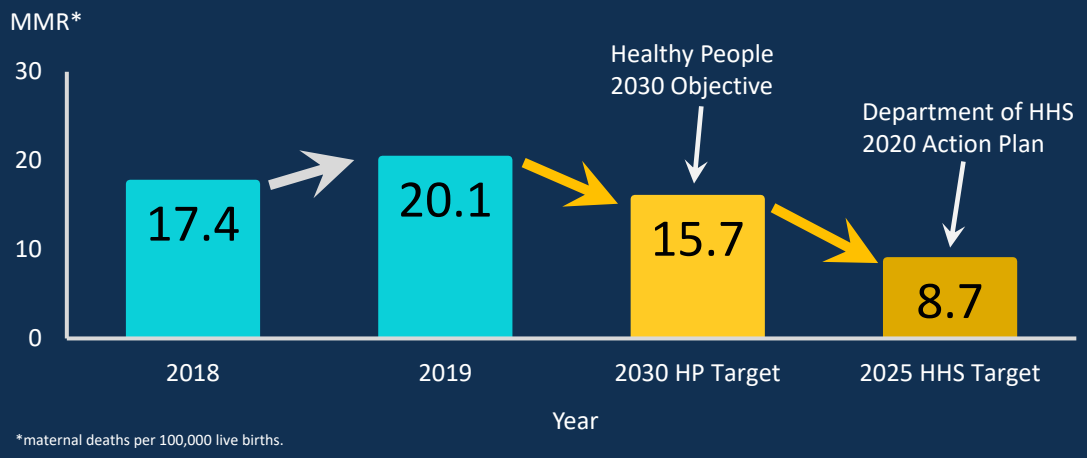
1. National and Global Statistics
2. Historical and Legal Context in CT
3. CT MMRC Efforts
4. Maternal Mortality in CT
5. CT MMRC's Recommendations

US maternal mortality is on the rise.



*maternal deaths per 100,000 live births.

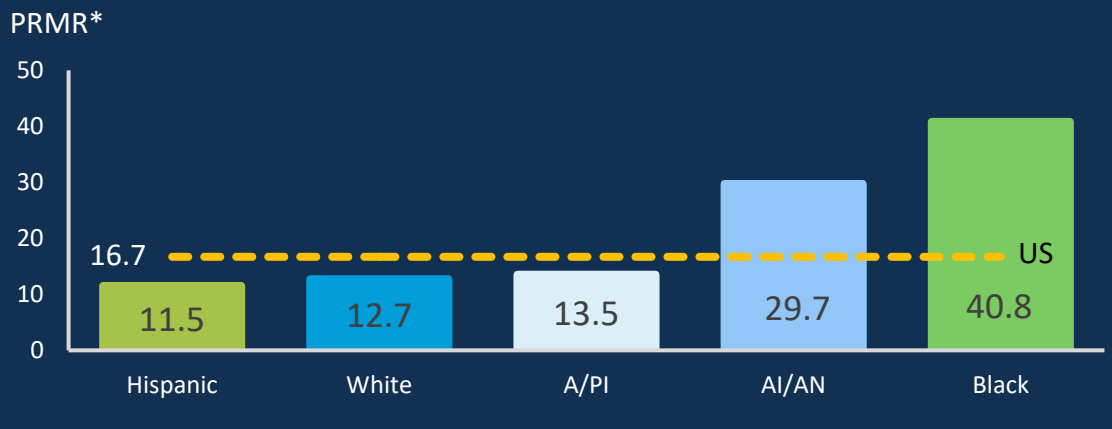
National targets call for decisive action.



*maternal deaths per 100,000 live births.

December 7, 2021 Sources: HP2030, MICH-04; HHS 2020 Action Plan CT MMRC | 10

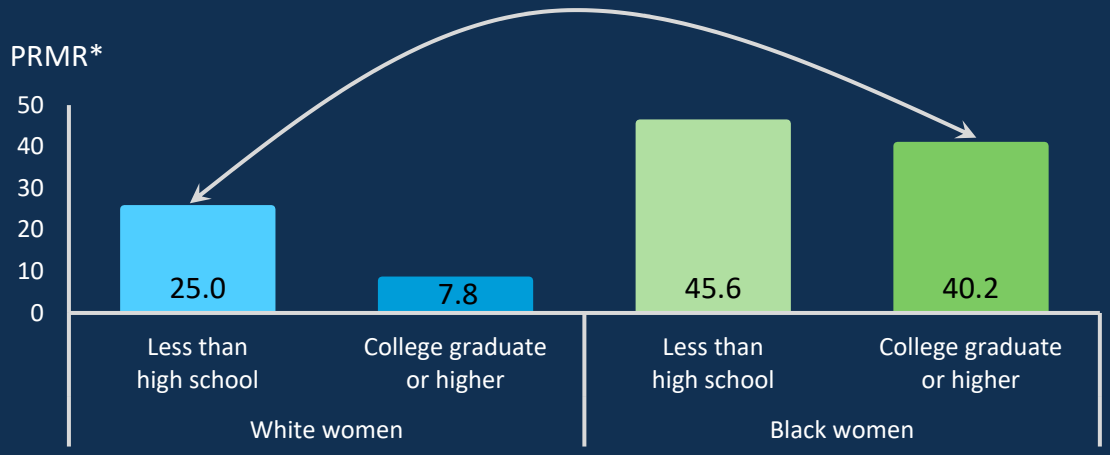
There are significant racial disparities in maternal mortality in the US.



*pregnancy-related deaths per 100,000 live births.

December 7, 2021 Source: CDC PMSS, 2007-2016 CT MMRC | 11

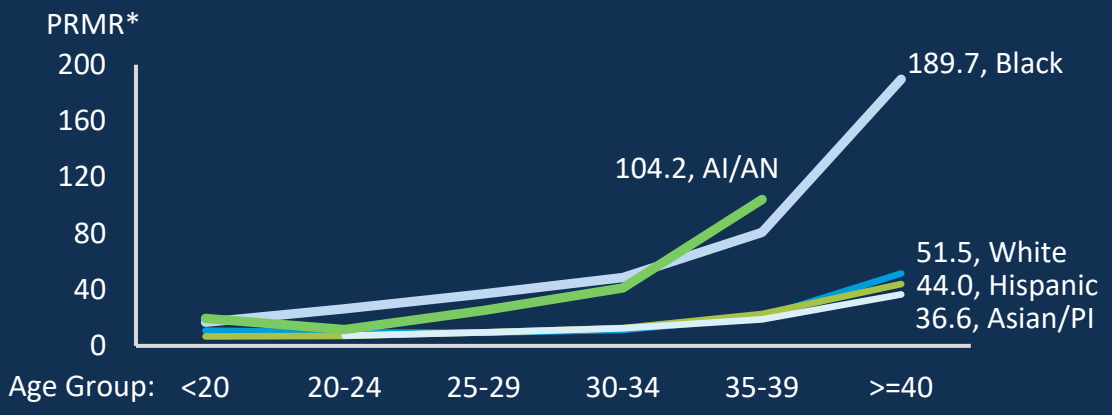
Racial disparities are present at all levels of education.



*pregnancy-related deaths per 100,000 live births.

December 7, 2021 Source: CDC PMSS, 2007-2016 CT MMRC | 12

Racial disparities increase with age.



*pregnancy-related deaths per 100,000 live births.

December 7, 2021 Source: CDC PMSS, 2007-2016 CT MMRC | 13

Historical and Legal Context in Connecticut

Connecticut statute

- In 2018, Connecticut General Assembly passed Public Act 18-150 ; An Act Establishing a Maternal Mortality Review Program within the Connecticut Department of Public Health (CT DPH).
  - Confidentiality is protected under 19a-25
- CT MMRC co-chairs:
  - Commissioner of CT DPH, or their designee – Donna Maselli RN, MPH
  - Connecticut State Medical Society appointee– Audrey Merriam MD, MS
- CT legislation identifies MMRC representatives that may be included, and it allows co-chairs to add members that would benefit the committee

CT MMRC legislative designations

1. CT State Medical Society (CSMS) OB-GYN
2. Dept of Public Health
3. ACOG OB-GYN
4. Licensed Nurse Midwife
5. Licensed Clinical Social Worker
6. Psychologist
7. Office of Chief Medical Examiner
7. CT Hospital Association member
8. UConn Health Disparities Institute
9. Community/Regional Facility for psychiatric disability or substance use
10. Psychiatrist
11. Community Health Worker

CT MMRC additional members

12. Labor & Delivery Doula
13. Internal Medicine physician
14. CT Coalition Against Domestic Violence
15. Consumer
16. Pediatrician
17. Emergency Department physician
18. Cardiologist
19. Neonatologist
20. Medicaid Advisory Council
21. Dept. Social Services
22. Dept. of Mental Health & Addiction Services (DMHAS)
23. Dept. Children & Families
24. OB-GYN Nurse Manager
25. Home visiting provider
26. Federally Qualified Health Center (FQHC)
27. Hospital Nurse Manager Women's Services

Center for Disease Control & Prevention (CDC) funding

- In FY 2019 CDC made 24 awards, supporting 25 states, to fund agencies and organizations that coordinate and manage Maternal Mortality Review Committees, with a goal to:
  - facilitate an understanding of the drivers of maternal mortality;
  - determine what interventions will have the most effect; and
  - inform the implementation of initiatives in the right places for families and communities who need them most.
- Standardized data collection among states.

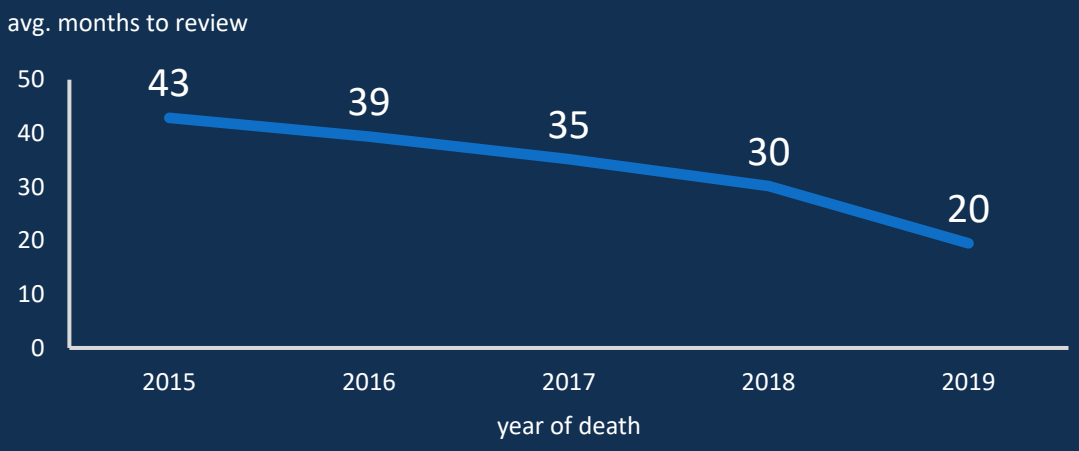
Connecticut Maternal Mortality Review Committee Efforts

CT MMRC

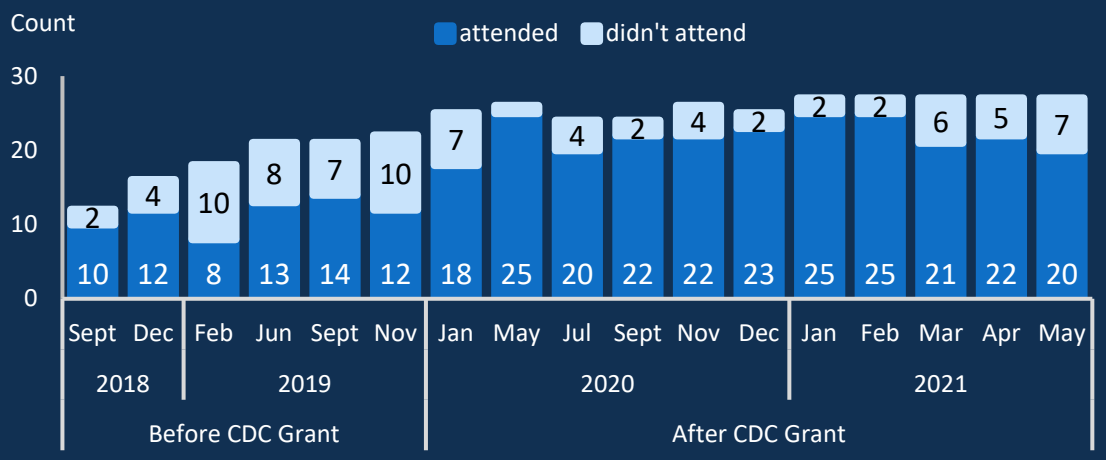
Reviews pregnancy-associated deaths of Connecticut residents, with a goal of answering the following questions:

- Was the death pregnancy-related?
- What was the cause of death?
- Was the death preventable?
- What were the critical contributing factors to the death?
- What are the recommendations and actions that address those contributing factors?
- What is the anticipated impact of those actions if implemented?

Death-to-review lag is shrinking.



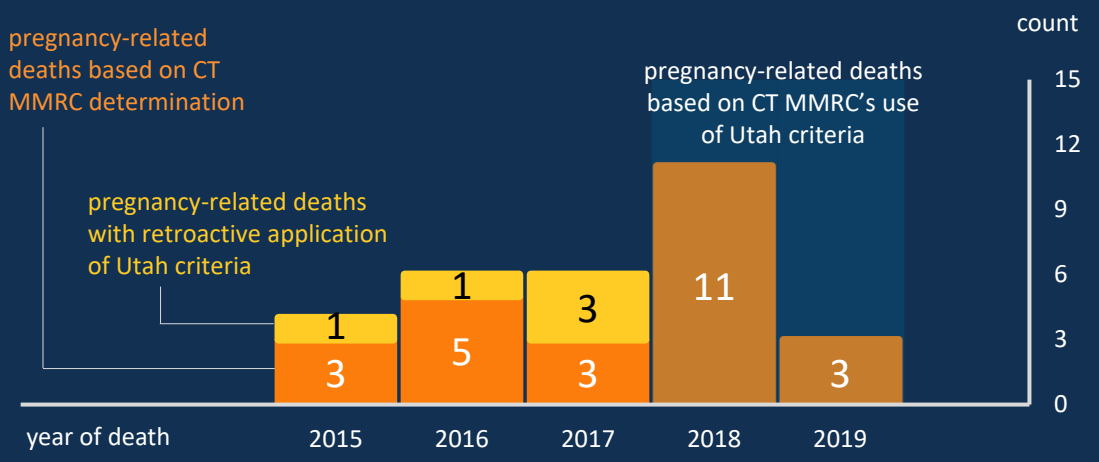
CT MMRC met monthly in 2020-2021 to close the death-to-review lag.



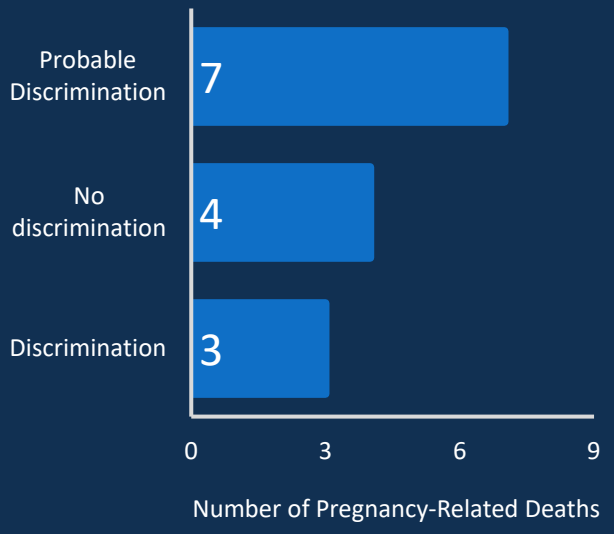
CT MMRC adopted Utah standardized criteria in September 2020.

- Utah criteria are used to determine pregnancy-relatedness for deaths due to mental health conditions, including substance use disorder.
- Per Utah criteria, deaths are considered pregnancy-related if:
  - there are pregnancy complications or traumatic events in pregnancy or postpartum leading to self-harm or increased drug use and subsequent death;
  - there are chain of events initiated by pregnancy such as cessation or attempted taper of substance use leading to maternal destabilization, self-harm, and/or drug use and subsequent death; and
  - there is aggravation of an unrelated condition (such as underlying depression, anxiety, or other psychiatric condition) by the physiologic effects of pregnancy leading to self-harm and/or drug use and subsequent death.

Use of Utah criteria likely increased the annual count of pregnancy-related deaths.

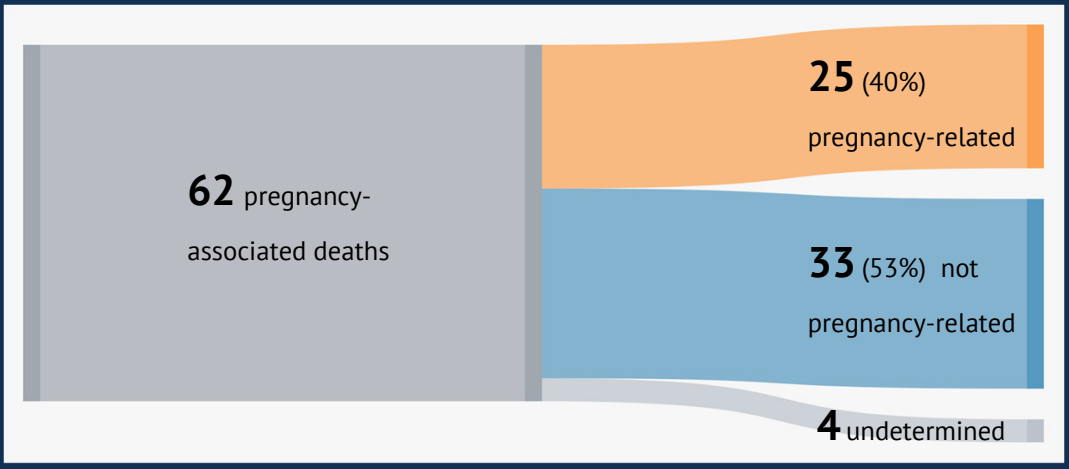


Starting with 2018 deaths, CT MMRC considered whether discrimination contributed to each person's death.



Findings from CT MMRC's Review of Deaths in 2015-2019

40% of pregnancy-associated deaths in 2015-2019 were pregnancy-related.



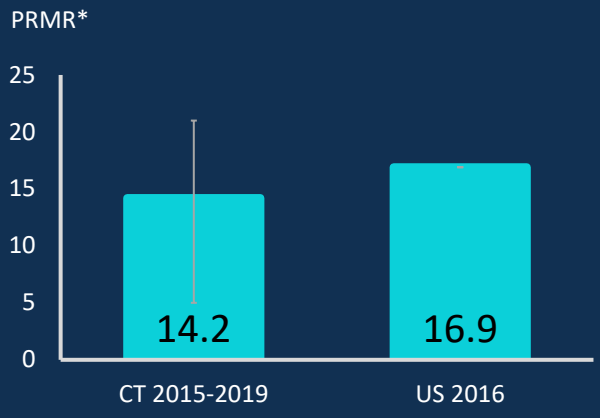
Each year in 2015-2019, there were:

8-18 pregnancy-associated deaths,

3-11 pregnancy-related deaths, and

~35,000 live births on average.

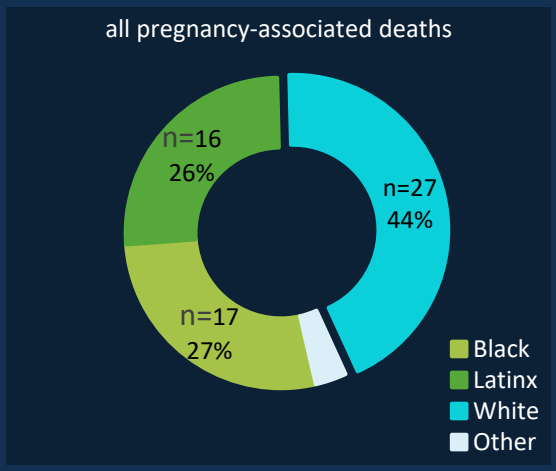
Connecticut's PRMR in 2015-2019 was in line with the national PRMR in 2016.

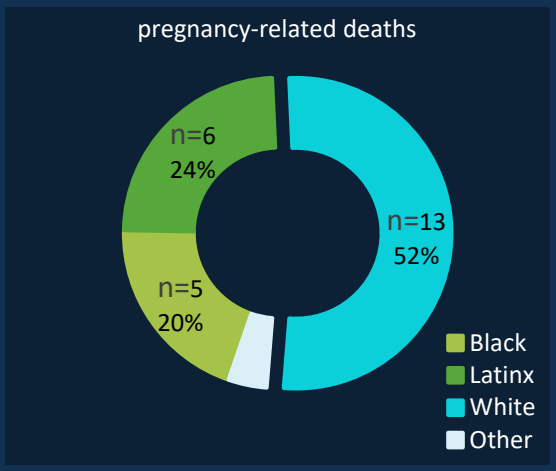


*pregnancy-related deaths per 100,000 live births.

PRMR is based on pregnancy-related deaths that occur during pregnancy or within one year after the end of pregnancy. At the national level, PRMR is calculated based on linked birth and death certificates, which are reviewed by medically trained epidemiologists.

Persons of color comprised well over half of pregnancy-associated deaths.





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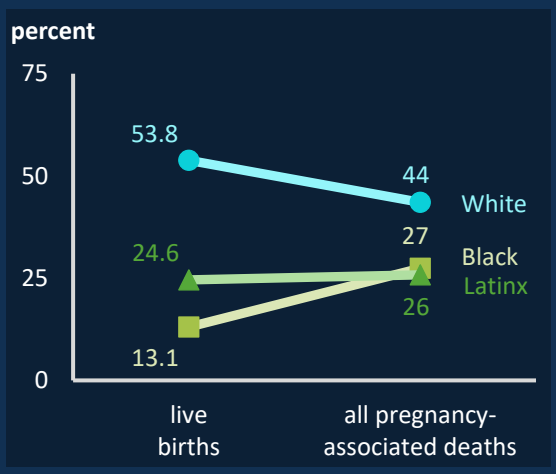
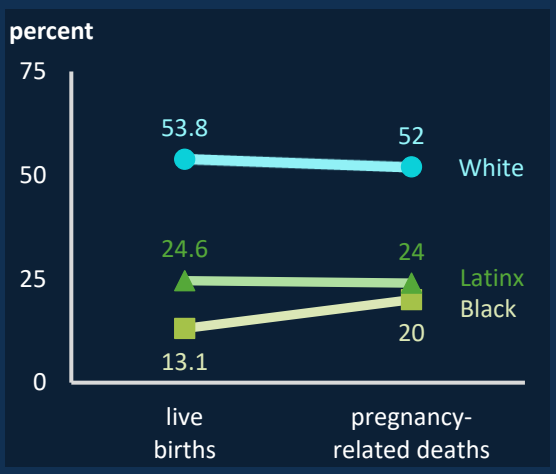
CT MMRC | 36

Black persons were overrepresented in pregnancy-associated deaths.





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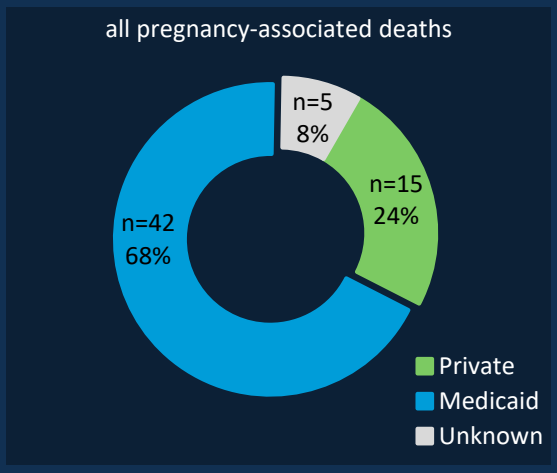
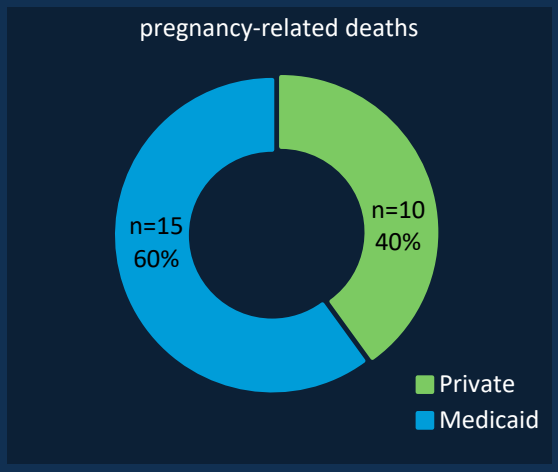
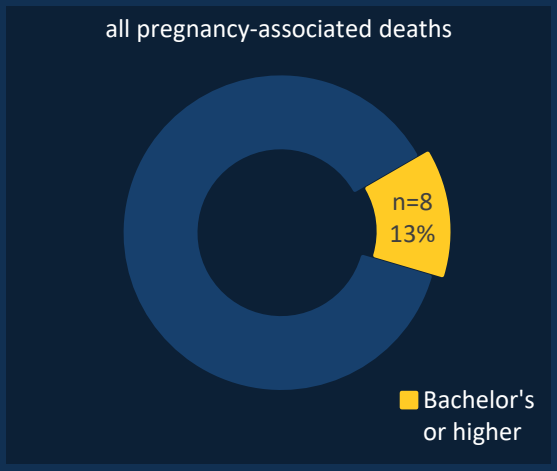
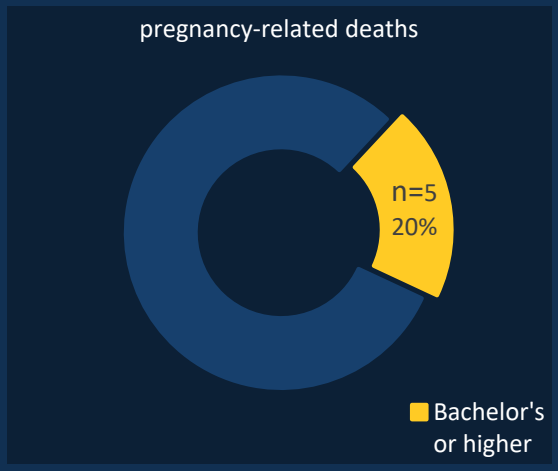
Two-thirds of all persons had Medicaid for insurance.



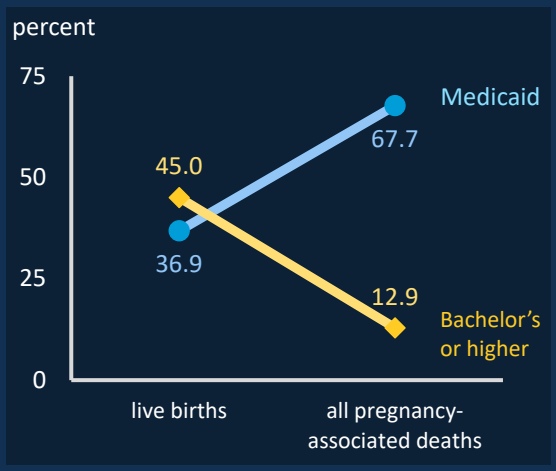


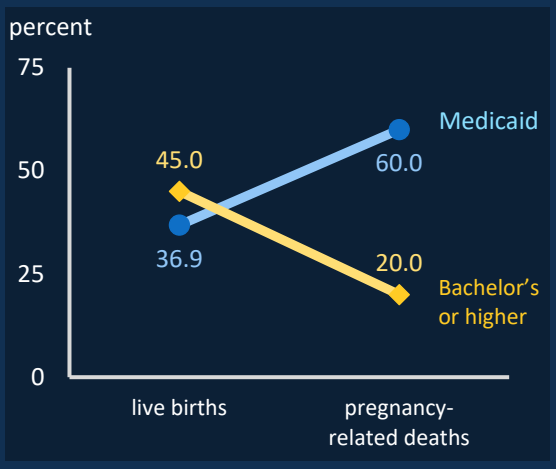
Few had a college degree or advanced education.



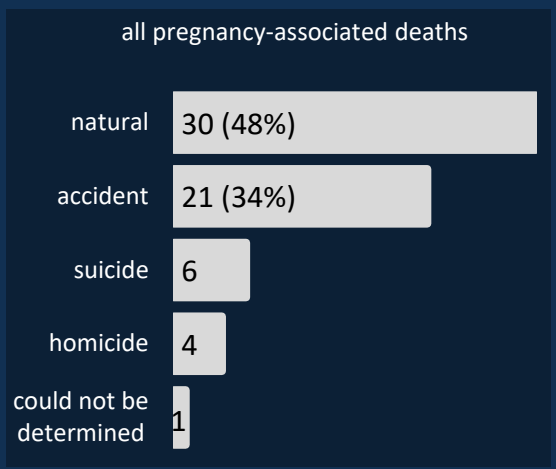


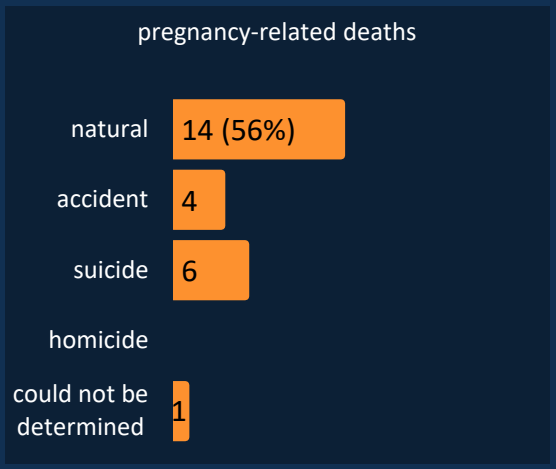
Those with Medicaid for insurance were overrepresented.



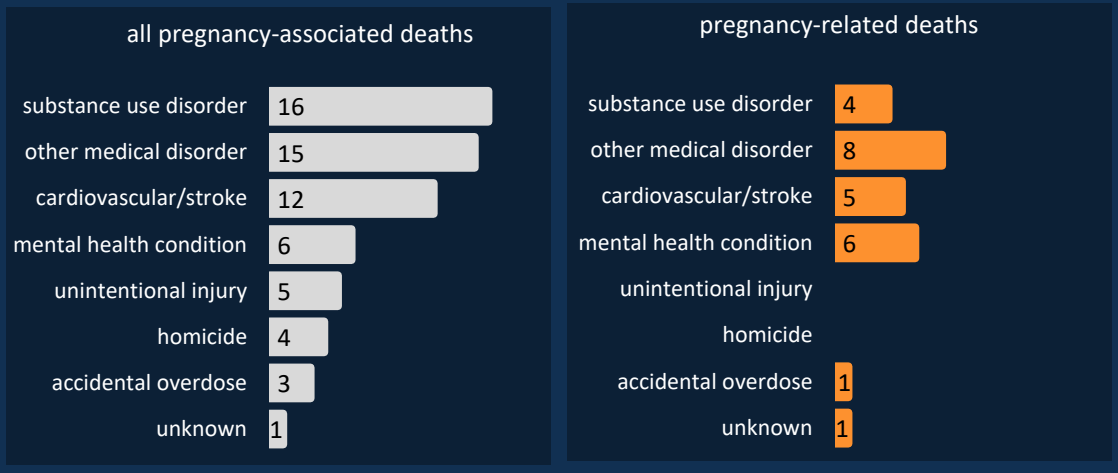


Over half of pregnancy-related deaths were due to natural causes.

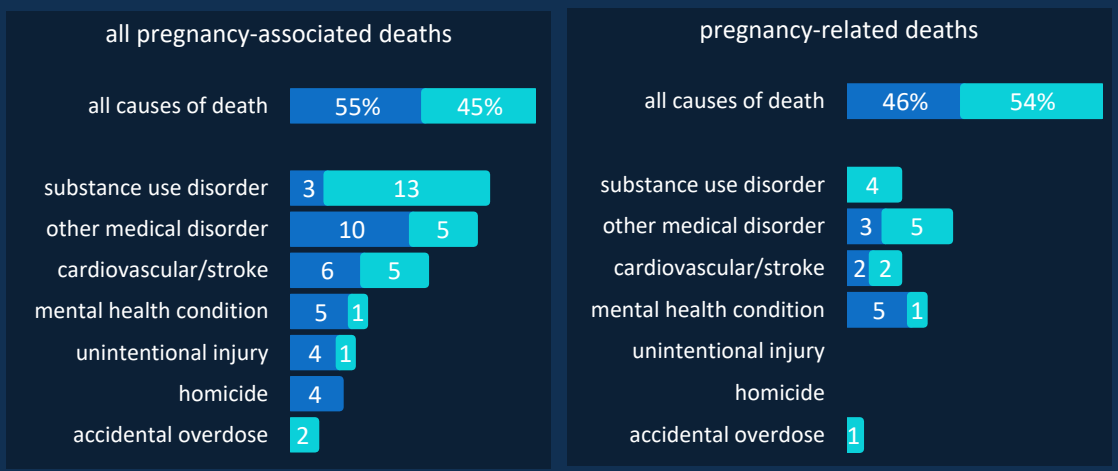




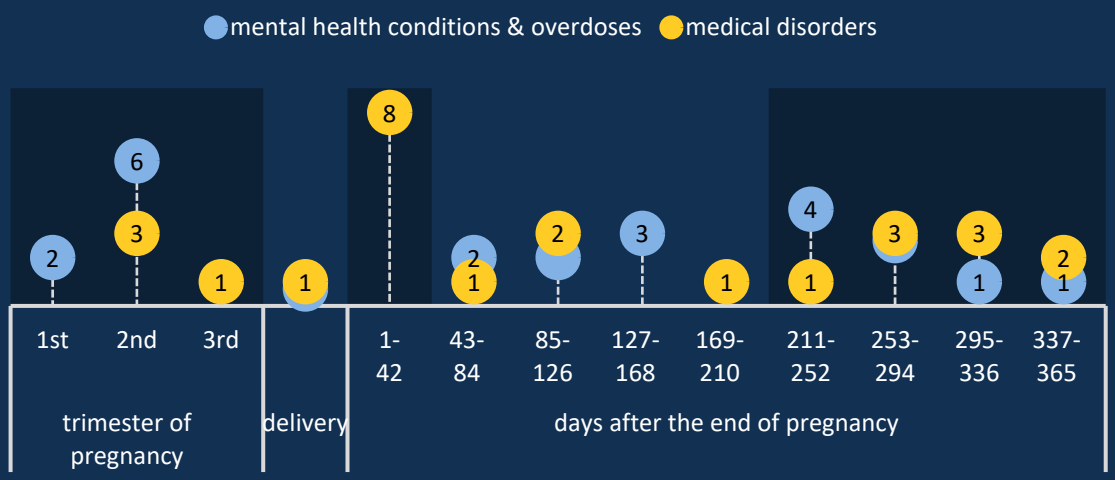
Mental health conditions, including SUD, were leading causes of death.



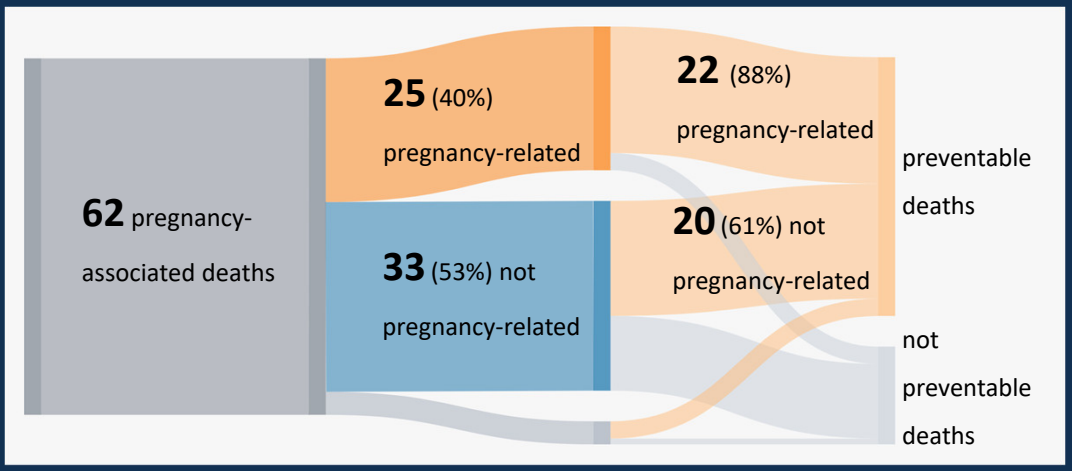
Causes of death by race/ethnicity



Timing of death by cause of death



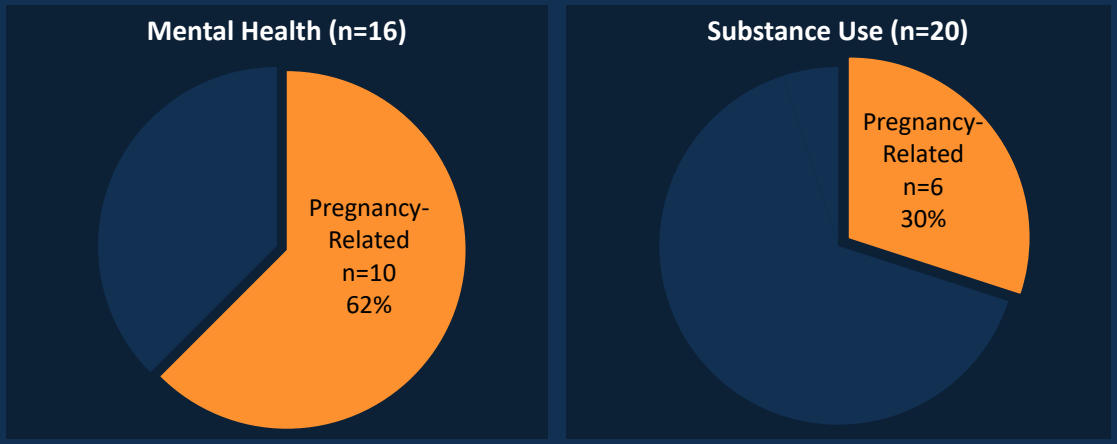
Most pregnancy-related deaths were determined to be preventable.



Mental Health
Substance Use
Suicide
Homicide

SPECIAL FOCUS

Pregnancy-relatedness for select contributors to the death

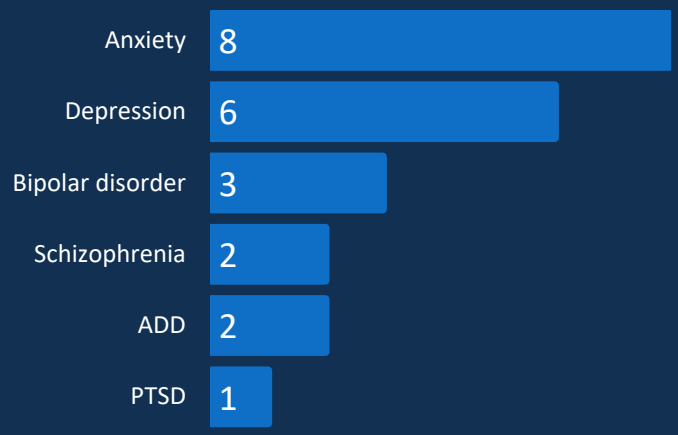


CT MMRC determined as preventable:

- all deaths to which mental health contributed;
- all deaths to which substance use contributed;
- all suicides; and
- half (2/4) of homicides.

Mental health conditions contributed to the death.

Co-occurring mental health conditions were common.



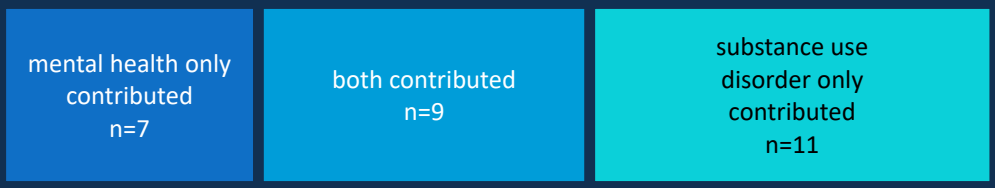
Challenges related to mental health

- Discontinuing psychiatric medication due to pregnancy leading to instability
- Committing suicide as an outcome of depression (n=6/62)
- Exacerbating relational issues & unstable living conditions
- Increasing likelihood of being labeled “noncompliant”

Missed opportunities for mental health interventions

- Failure to adequately and consistently screen for mental health conditions
- Reliance on patient to identify need for, and self-engage in, treatment
- Inadequate mental health resources in hospitals and communities
- Lack of preparation and resources to treat mental health in medical settings
- Lack of involvement of family/important others to provide and coordinate support

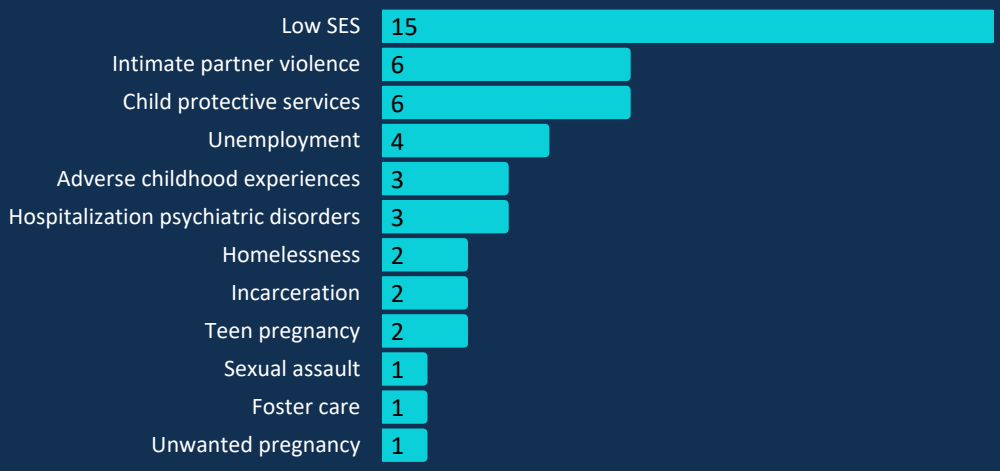
Deaths in which mental health or substance use contributed



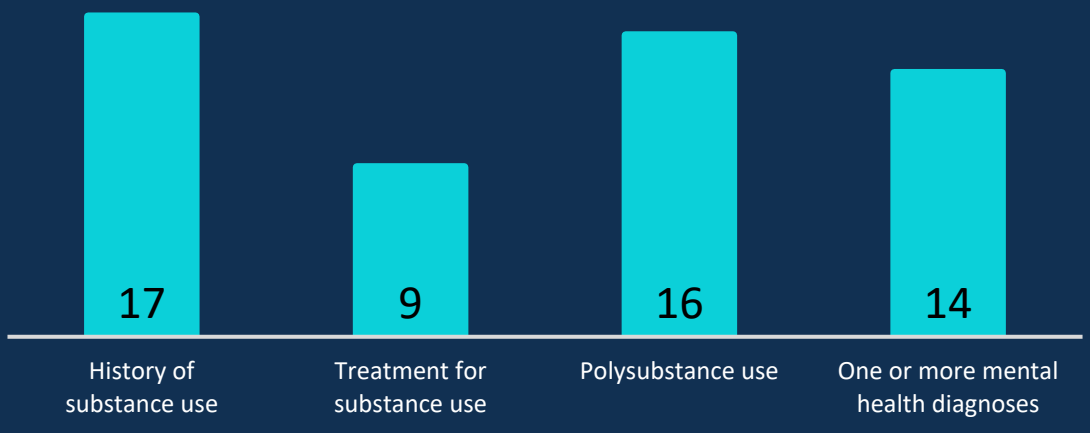
Among deaths to which substance use contributed:

- 65% were due to an accidental overdose associated with an underlying Substance Use Disorder.
- 15% were due to complications associated with chronic substance use.
- Only one case was an accidental overdose.

Difficult lives of persons with substance use as a contributor to the death.



Substance use, treatment, and mental health history



Missed opportunities for substance use interventions

- Failure to refer and/or secure placement in detox and/or SU treatment
- Inadequate consistently available community resources
- Delay and/or reliance on patient to "find their way" to treatment
- Inconsistent screening frequency and type
- Lack of involvement of family/important others to prevent v. mourn death

Homicide

- 3 out of 4 homicides were committed by an intimate partner (IPV)
- No warning signs & multiple negative screenings in two homicides
- "Red Flags" in one case e.g., trauma to abdomen, suspicious descriptions of injury causes. Negative Screenings
- No referrals for counseling, support or protection.
- Across all 62 cases 2015-2019, one referral made for IPV .

Suicide

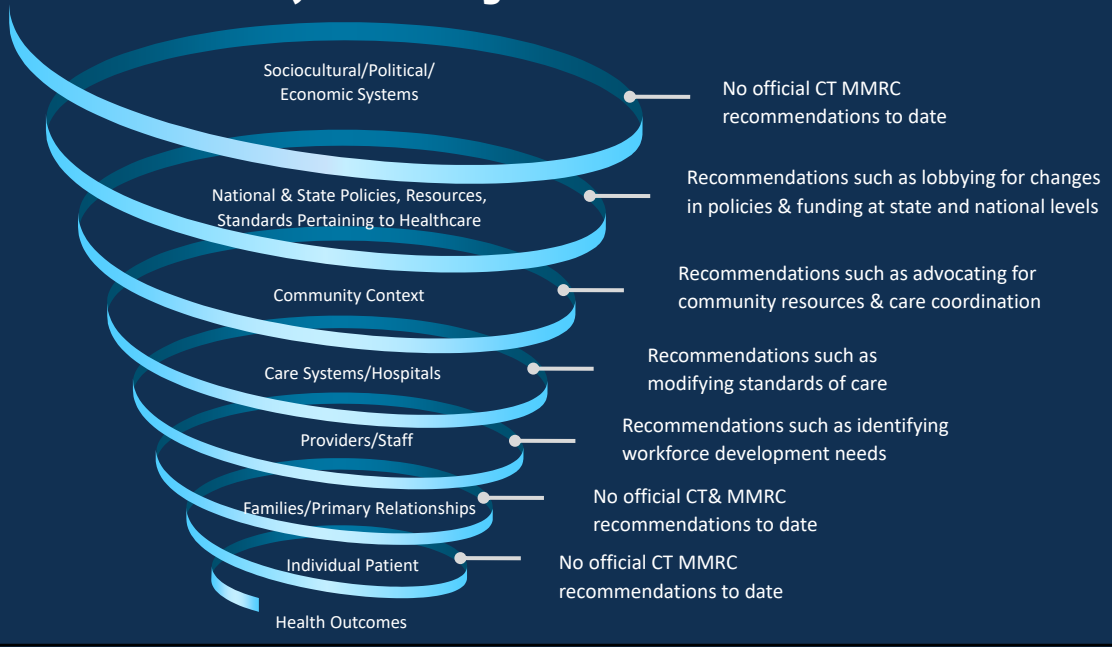
- CT MMRC determined mental health contributed to all 6 suicides and all 6 were determined pregnancy-related.
- 5 out of 6 had history of depression; 1 history of anxiety; 3 had both anxiety and depression
- Inadequate intervention and lack of mental health and substance abuse care were common across cases.

CT MMRC's Recommendations Released in October 2021

Process for arriving at CT MMRC official recommendations

- Identification of contributing factors and preventative interventions for each preventable pregnancy-related death
- Use of CDC's guidance to specify the who, the what, and the when of each recommendation for action
- Qualitative analysis of contributing factors and case-specific recommendations
- CT MMRC initially discussed recommendations for 2015-2019 in April 2021
- CT MMRC finalized official recommendations in October 2021

Contextual, Multisystemic Framework



Thank you!