State of Maternal Health in Connecticut

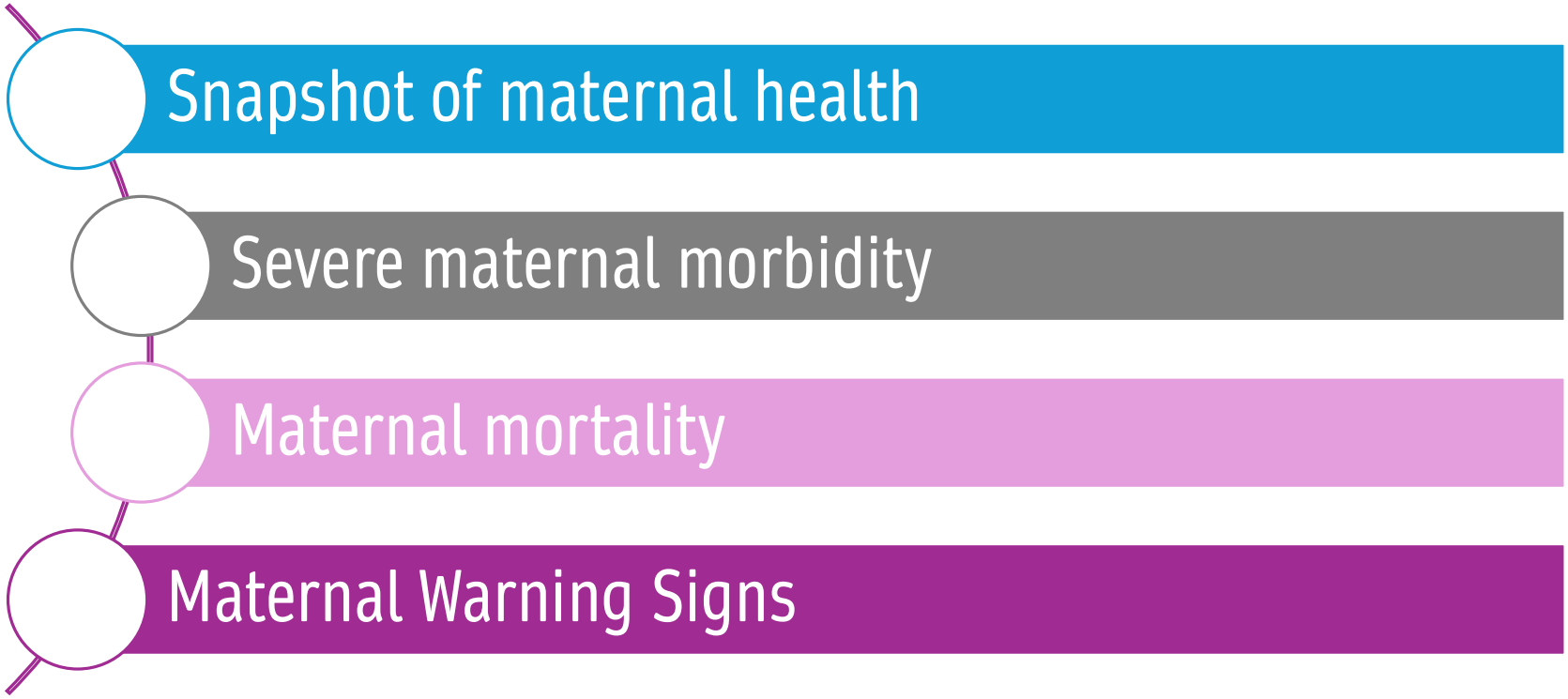
Kasia Baca, PhD, MPH, MA

November 10, 2025

CT Department of Public Health

CONNECTICUT
Public Health

Outline


Snapshot of maternal health
Severe maternal morbidity
Maternal mortality
Maternal Warning Signs

Snapshot of Maternal Health in CT

34,568 Total Resident Births in 2023

98%
occurred in a hospital or birthing center

97%
singleton

41%
firstborn

40%
delivery paid by Medicaid

25%
of women received WIC

Connecticut Public Health

Data source: Vital Records 2023 Provisional Data

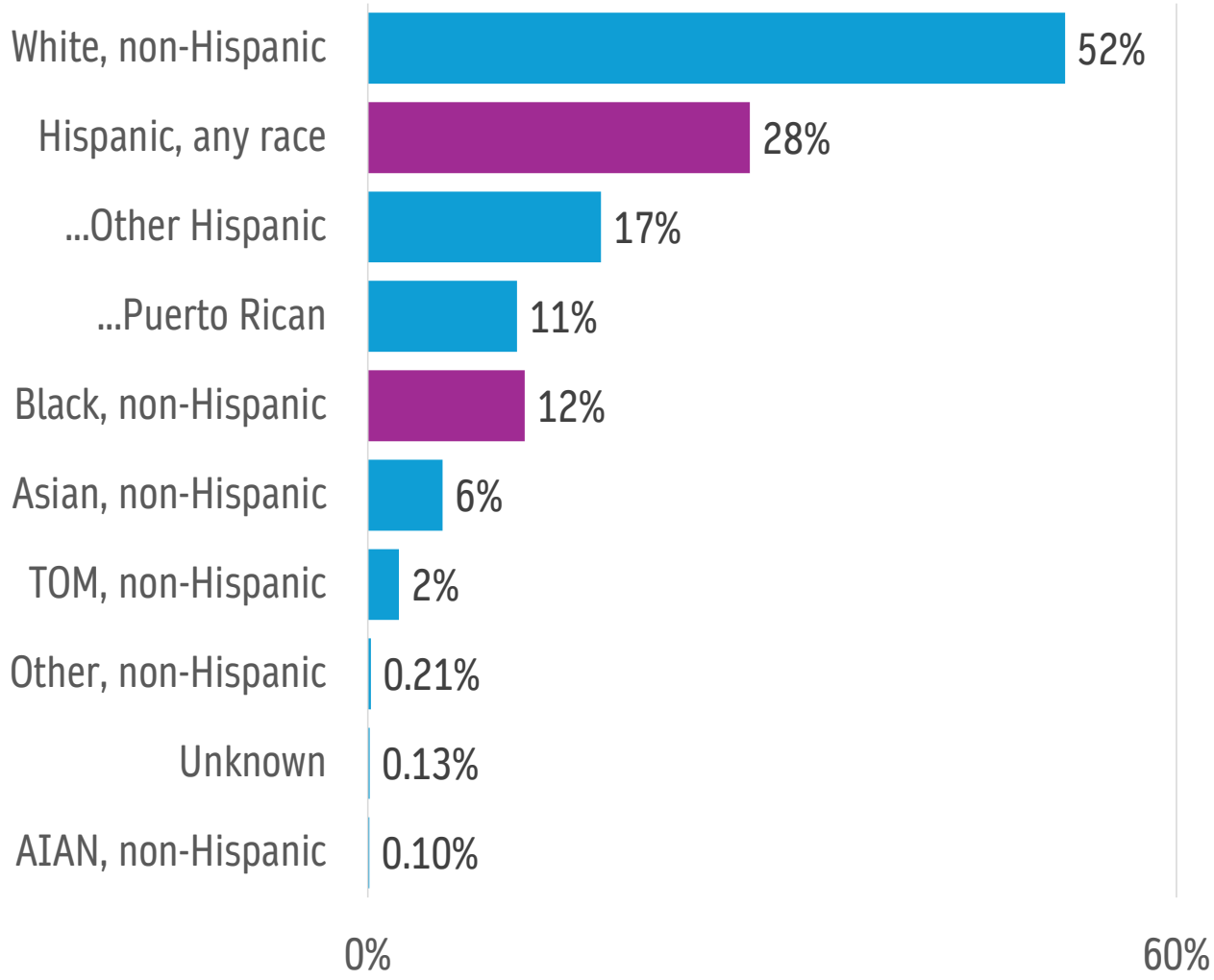
Snapshot of Maternal Health in CT

- **82%** started prenatal care in first trimester
- **28%** 35 years or older
- **56%** obese or overweight
- **9%** any disability
- **34%** of pregnancies that result in a live birth are unintended or unsure.

Health Inequity Spotlight: **Unintended or unsure pregnancies** were highest among those who were NH Black (56%), younger age groups (74% less than 20 years old), and either were on Medicaid (53%) or Uninsured (48%) prior to pregnancy.

Data source: Vital Records 2023 Provisional Data and PRAMS 2023

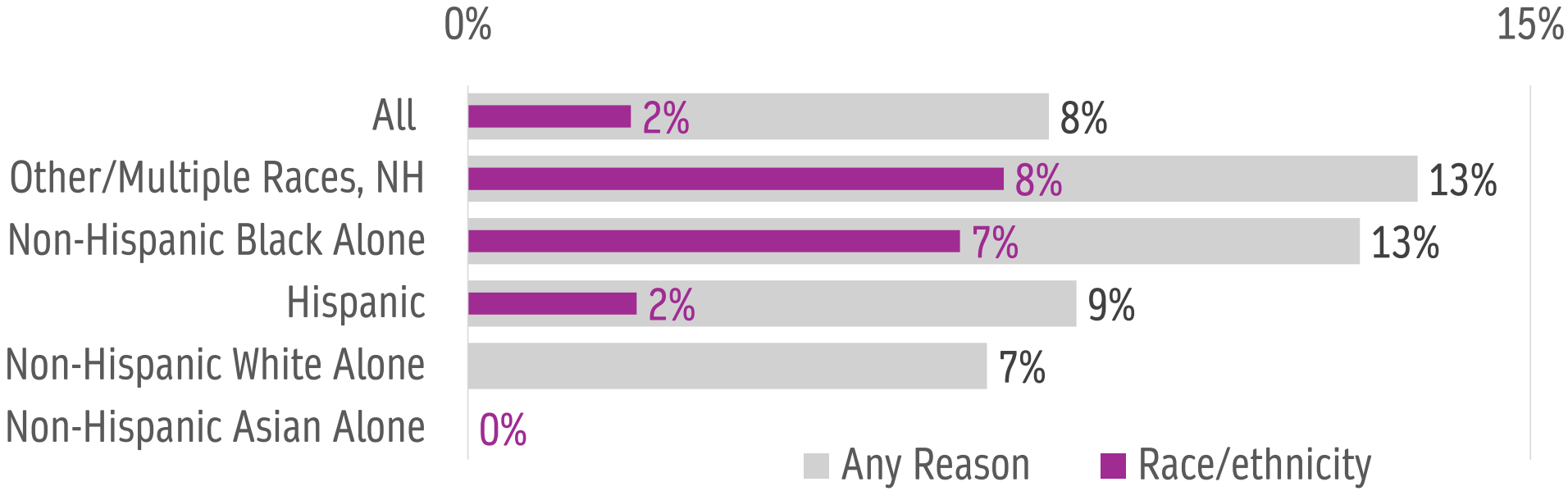
After non-Hispanic White, most births were from those who were Hispanic, then those who were non-Hispanic Black.



Data source: Vital Records 2023 Provisional Data

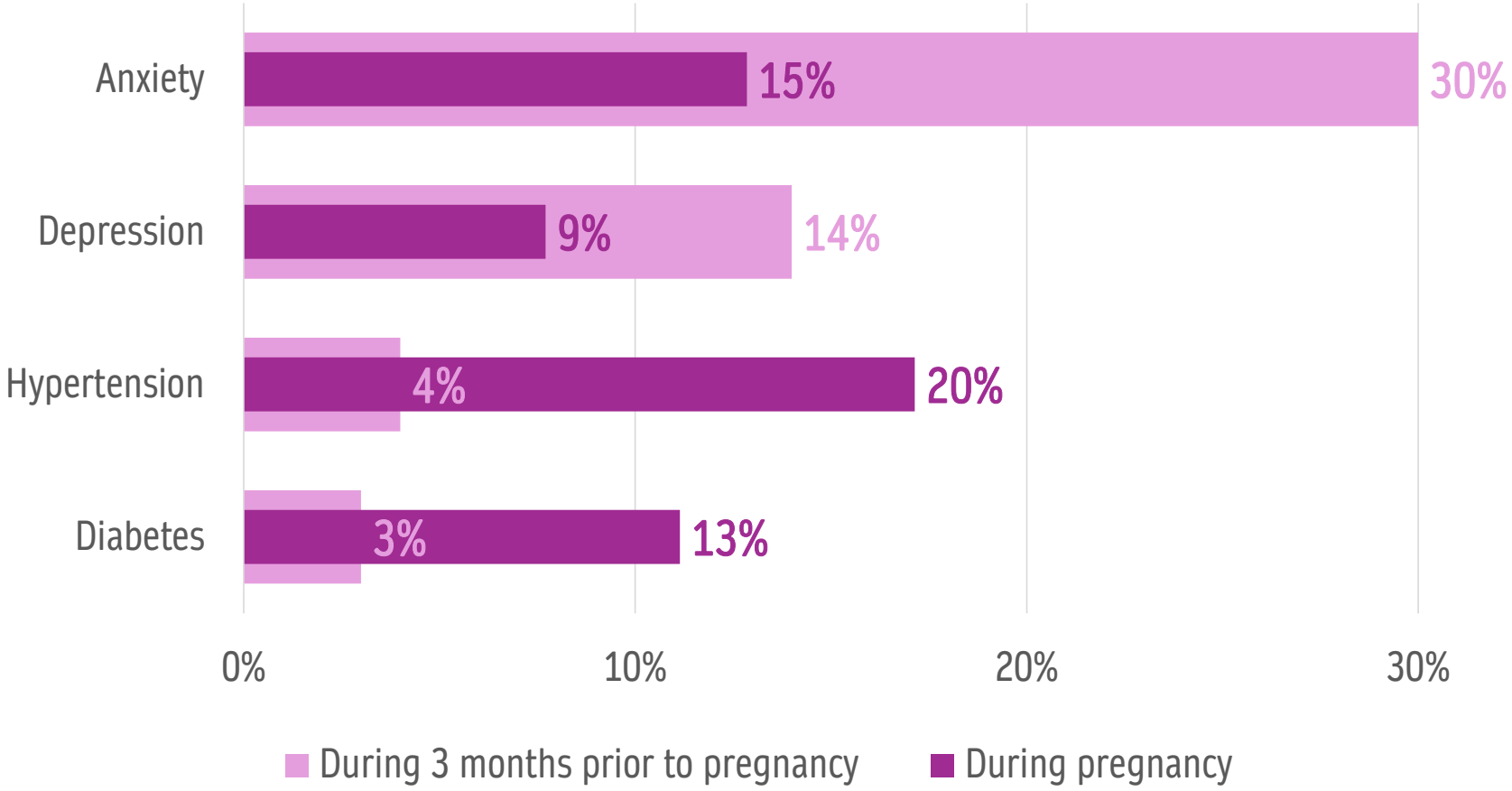
Being treated unfairly due to any reason and discrimination

- Among women with a recent live birth, 8% experienced being treated unfairly due to any reason and 2% experienced racial/ethnic discrimination while getting healthcare during pregnancy, delivery, or at postpartum care.
- Those who are NH multiple race or NH Black (alone) were more likely to experience discrimination than those who are Hispanic, NH White (alone), and NH Asian (alone).



Data source: PRAMS 2023

Chronic Health Conditions Before and During Pregnancy



Connecticut Public Health

Data source: PRAMS 2023

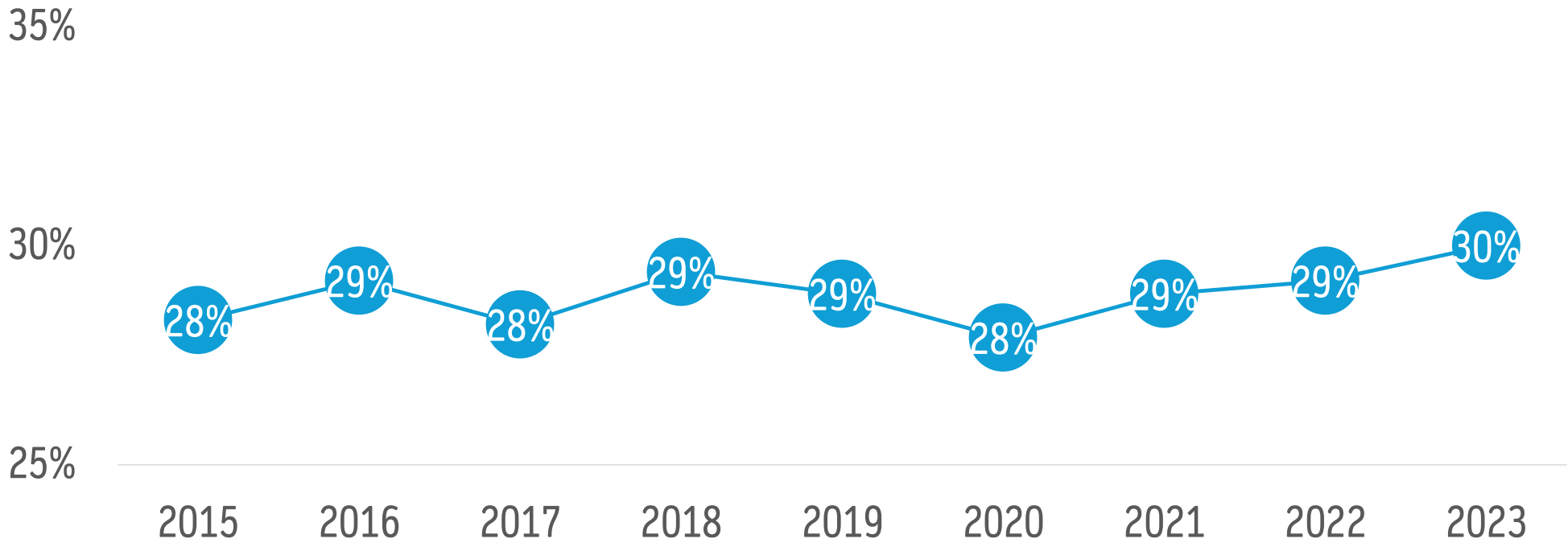
Findings from the postpartum period.

93% of those who had a live birth had a postpartum visit.	• Significant variation by insurance (89% Medicaid versus 97% private).
Among women who attended a postpartum checkup, 73% received recommended care components.	• No variation by insurance type or race and ethnicity.
Since birth, 89% received mental health screening.	• Significant variation by insurance (85% for Medicaid versus 92% for private).
Since baby was born, 25% felt that they needed mental health services.	• Among those who felt that they needed mental health services, 26% could not get mental health services.

Data source: PRAMS 2023

30% of low-risk births were cesarean deliveries, a significant increase since 2015.

CT continues to fail to meet the Healthy People 2030 goal for low-risk cesarean (LRC) (24%).

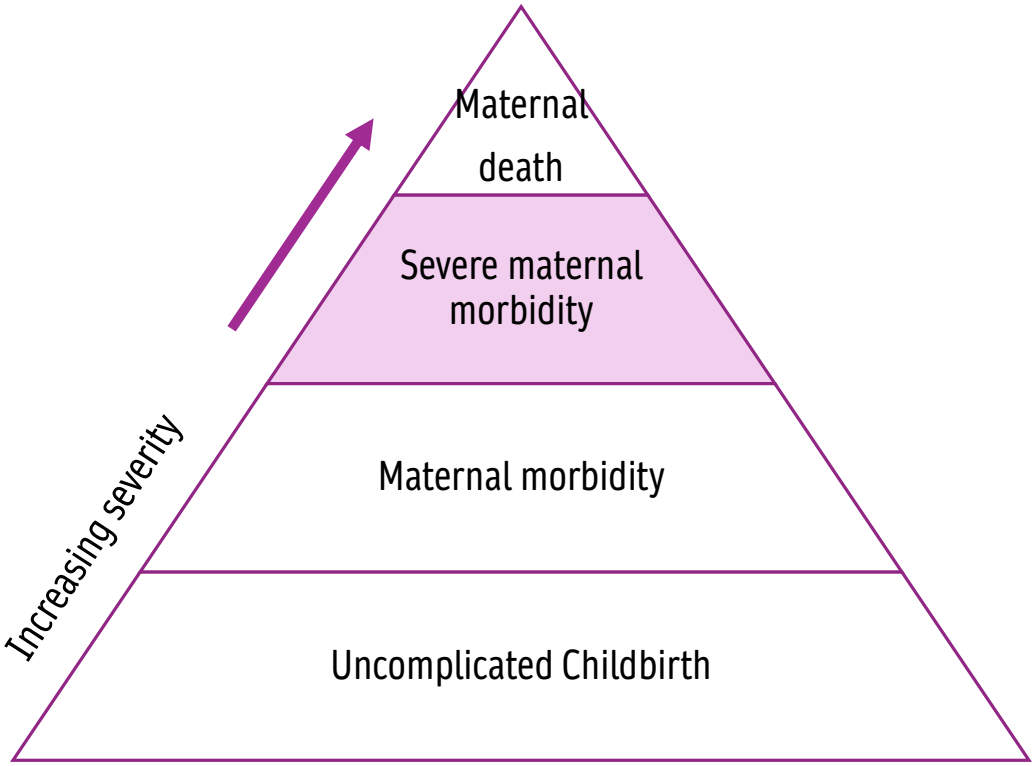


Health Inequity Spotlight: The biggest disparity was for those who are 35 years or older, where 42% experience a LRC, compared to other age groups. LRC was highest among those who were NH Black (35%) and those on private insurance (32%).

Data source: NVSS 2023 Data

What is severe maternal morbidity? and why do we measure it?

- A composite outcome measure.
- Can result in significant short- or long-term health consequences.
- A metric for tracking maternal health at the population level, for increasing knowledge of what causes complications during and after birth, and ultimately for preventing progression to maternal death.

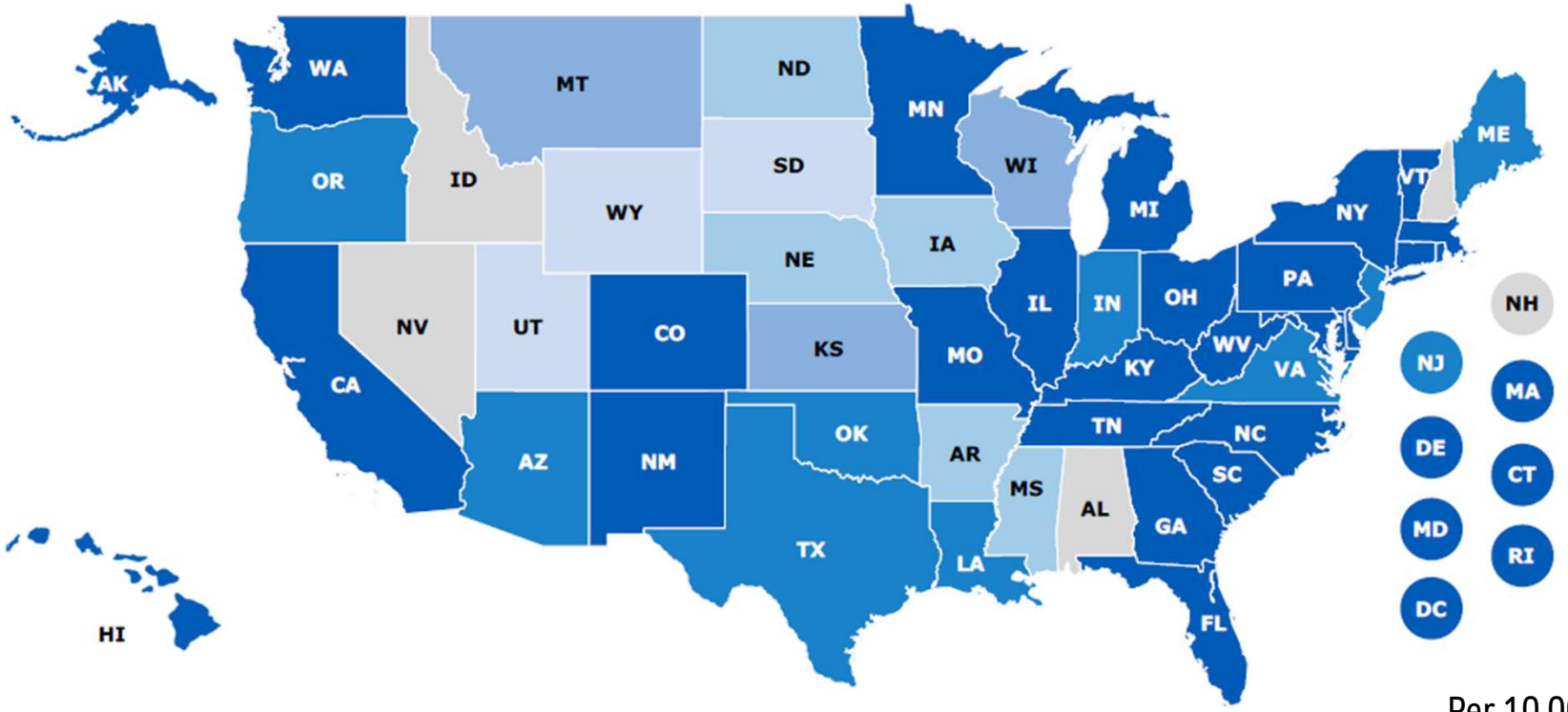


To identify SMM, the delivery record must include any diagnosis or procedure of:

Acute Myocardial Infarction	Aneurysm	Acute Renal Failure	Acute Respiratory Distress Syndrome	Amniotic Fluid Embolism
Cardiac Arrest / Ventricular Fibrillation	Conversion of Cardiac Rhythm	Disseminated Intravascular Coagulation	Eclampsia	Heart Failure / Arrest During Surgery or Procedure
Puerperal Cerebrovascular Disorders	Pulmonary Edema / Acute Heart Failure	Severe Anesthesia Complications	Sepsis	Shock
Sickle Cell Disease With Crisis	Air and Thrombotic Embolism	Hysterectomy	Temporary Tracheostomy	Ventilation

Blood transfusion codes are not included in the SMM definition.

Connecticut ranks 14 (out of 47) for highest SMM rate in the US (2022).



Per 10,000 deliveries

No Data	< 63.1	63.1 - 69.6	69.7 - 77.6	77.7 - 84.3	> 84.3

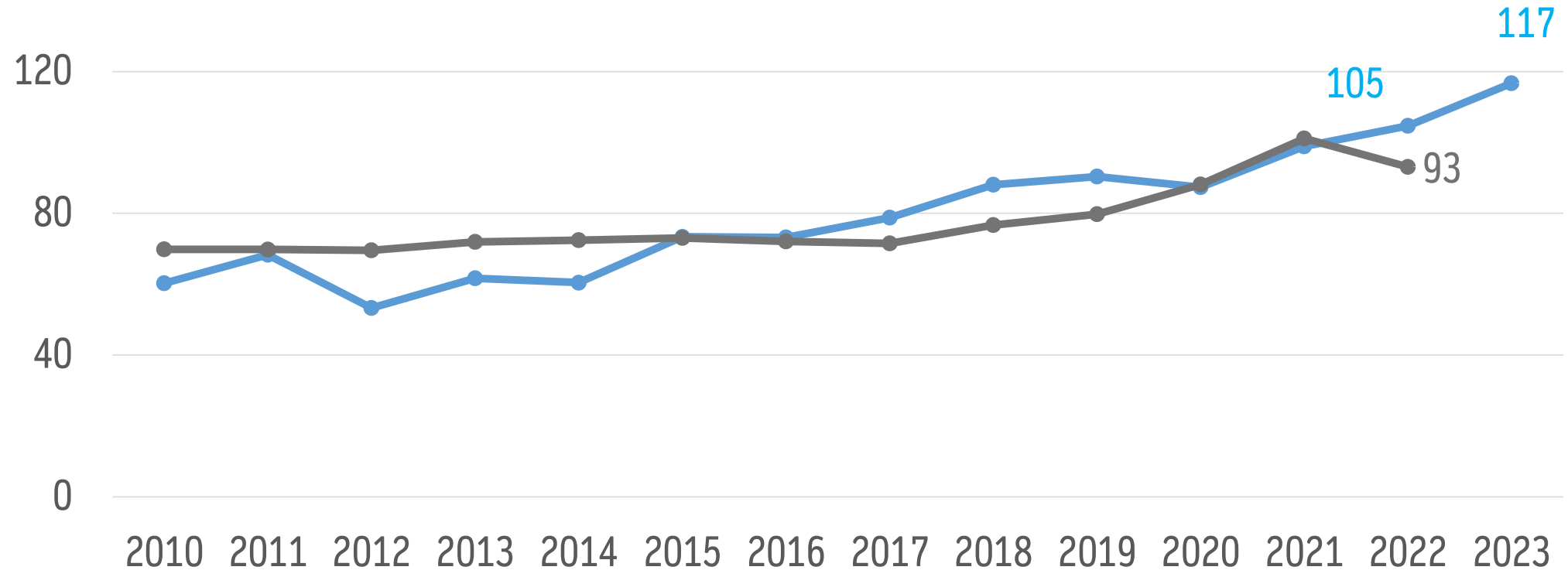
States are classified into five categories which were defined based on an equal grouping of States in 2018.
Note: Blood transfusions are not included as an SMM indicator

Internet Citation: HCUP Fast Stats. Healthcare Cost and Utilization Project (HCUP). December 2024. Agency for Healthcare Research and Quality.

The SMM rate has been increasing in CT almost every year since 2010.

There was an average annual increase of 6% in the CT SMM rate.

Per 10,000 deliveries



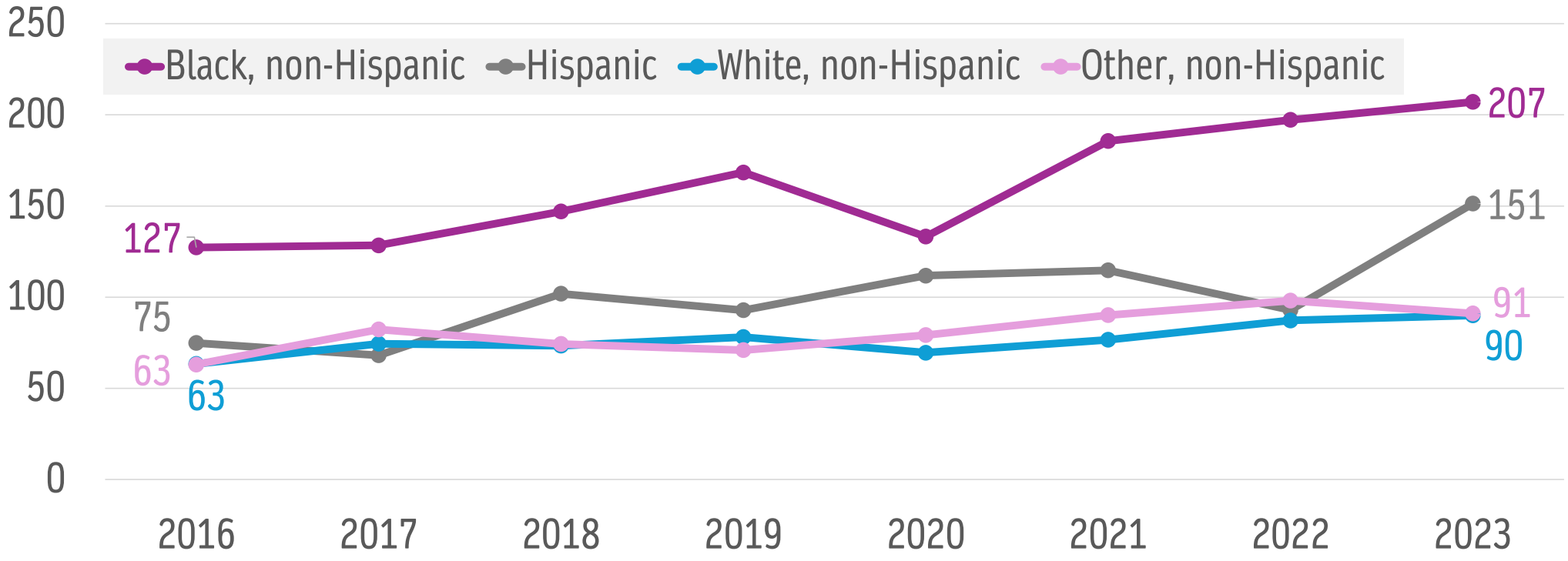
Connecticut Public Health

Data source: HCUP 2010-2023

Race and Ethnicity

- Rate of SMM increased the fastest for Black mothers.
- The likelihood of a Black mother experiencing SMM was 2.3 times higher compared with a White mother.

Per 10,000 deliveries



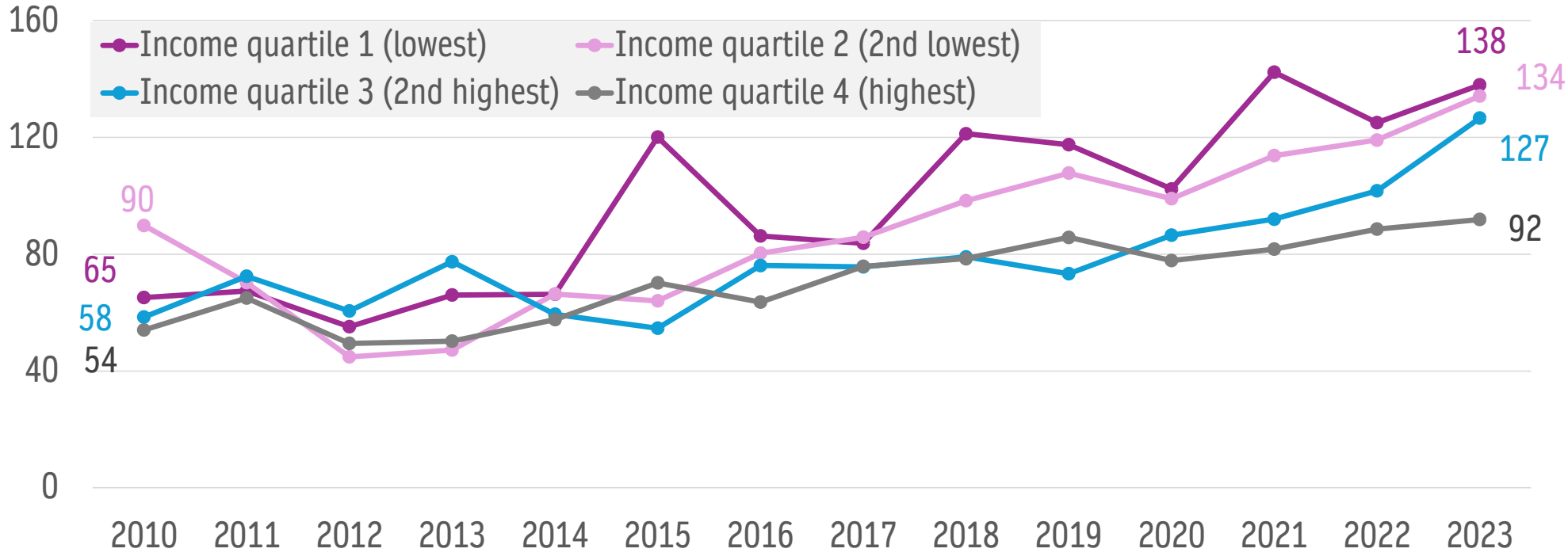
Connecticut Public Health

Data source: HCUP 2010-2023

Quartile Income Groups

- SMM rate increased for all quartile income groups.
- The likelihood of a mother earning the lowest income experiencing SMM was **1.5 times higher** compared with those earning in the highest quartile.

Per 10,000 deliveries

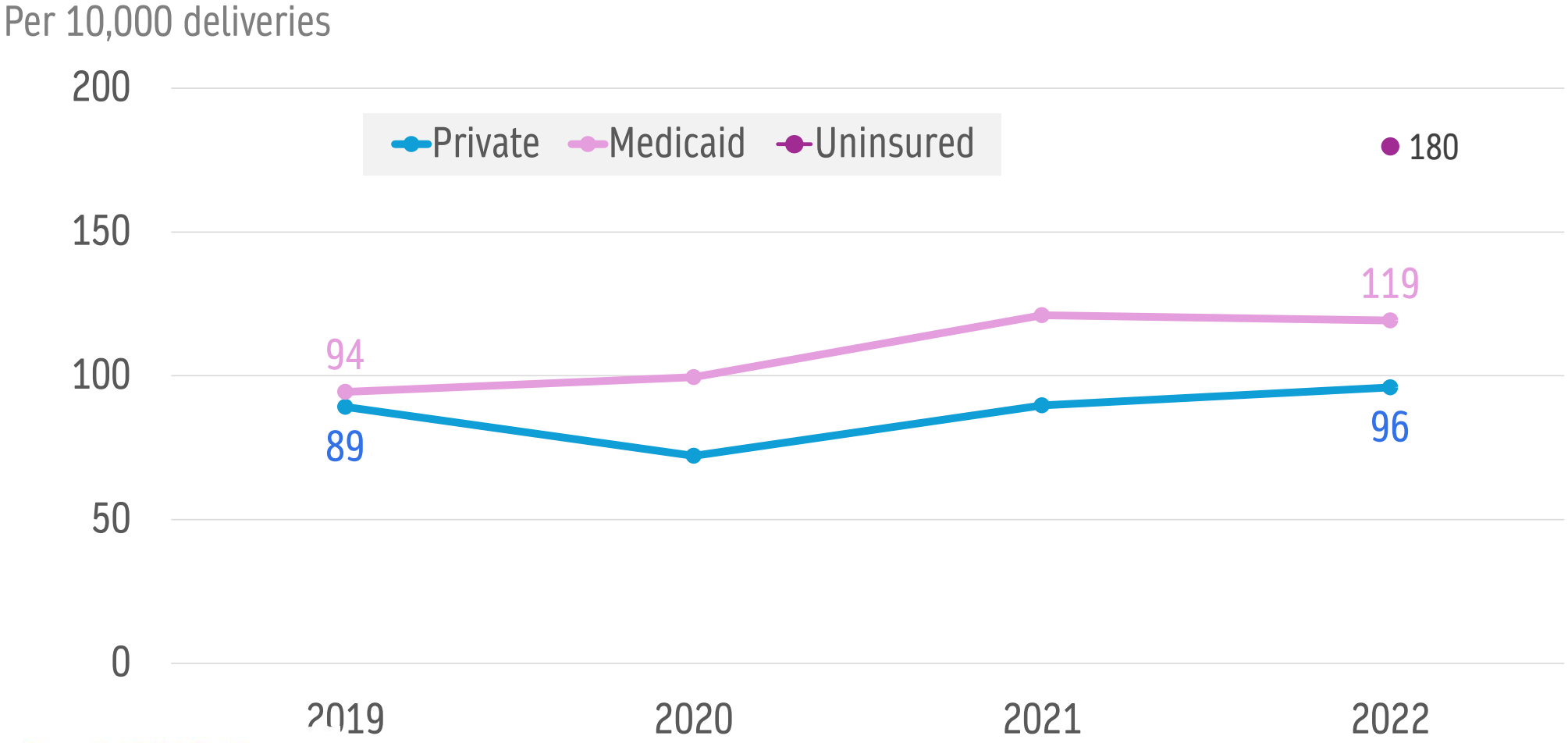


Connecticut Public Health

Data source: HCUP-SID 2022

Insurance Type

Those who were **uninsured** had higher rate of SMM, although rate may be unstable due to low numbers.

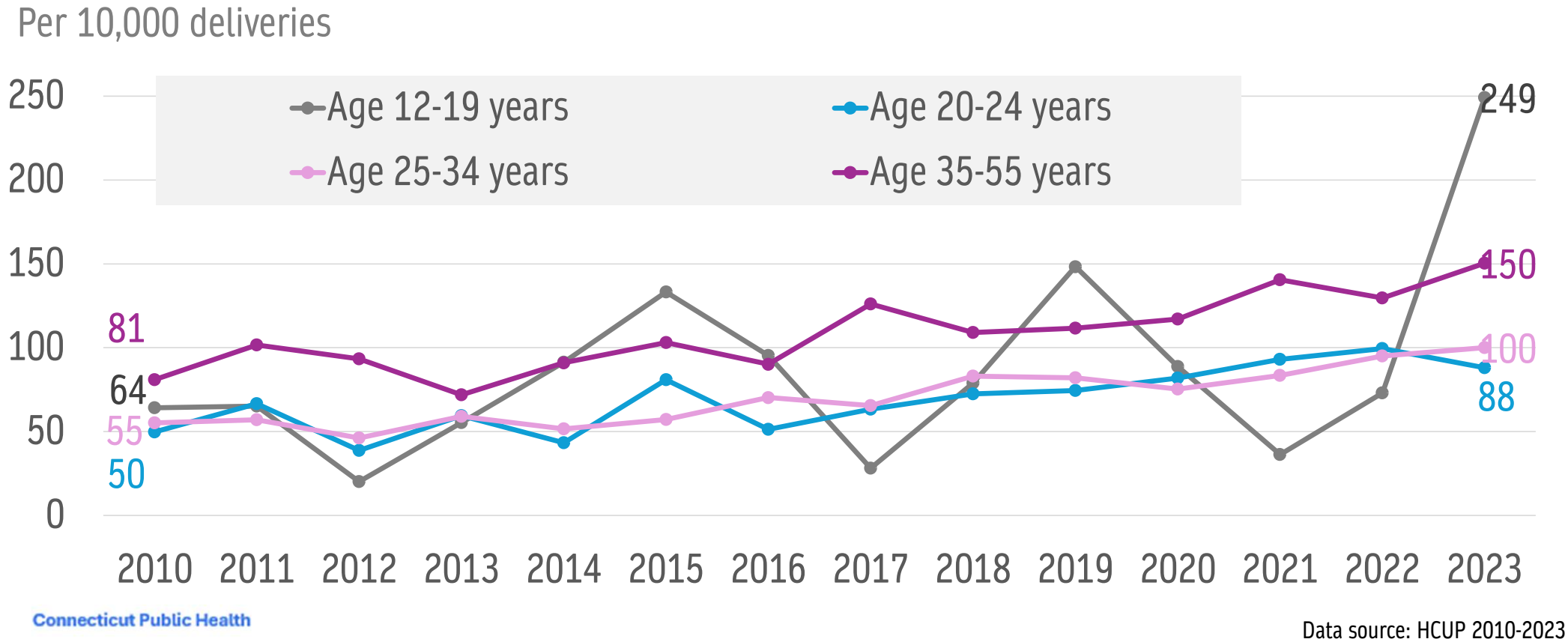


Connecticut Public Health

Data source: HCUP-SID 2022

Age Group

- SMM rate for 12–19-year-olds has been statistically unreliable due to small numbers.
- Among statistically reliable age groups, SMM rates were highest among 35-55 year olds (150 per 10,000) each year.



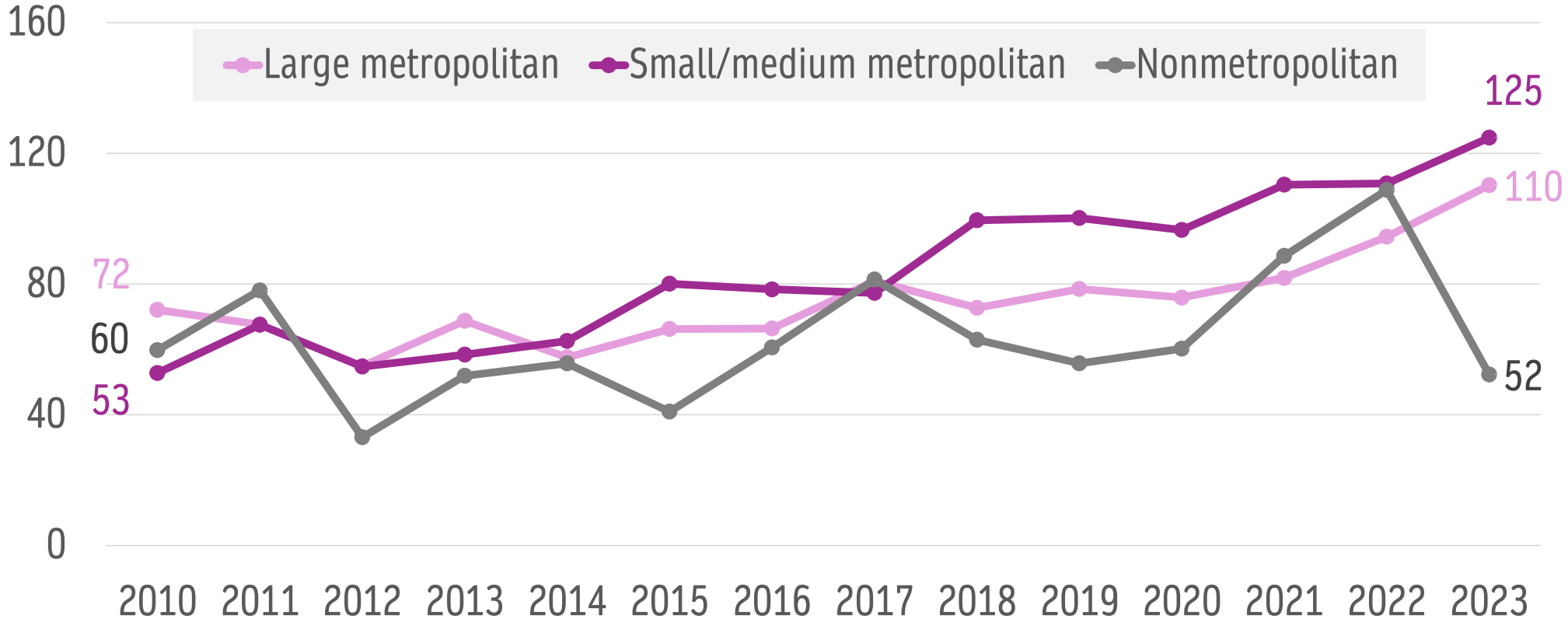
Connecticut Public Health

Data source: HCUP 2010-2023

Residential Area

Residents of large metropolitan areas had similar SMM rates as those who reside in small/medium metropolitan areas.

Per 10,000 deliveries

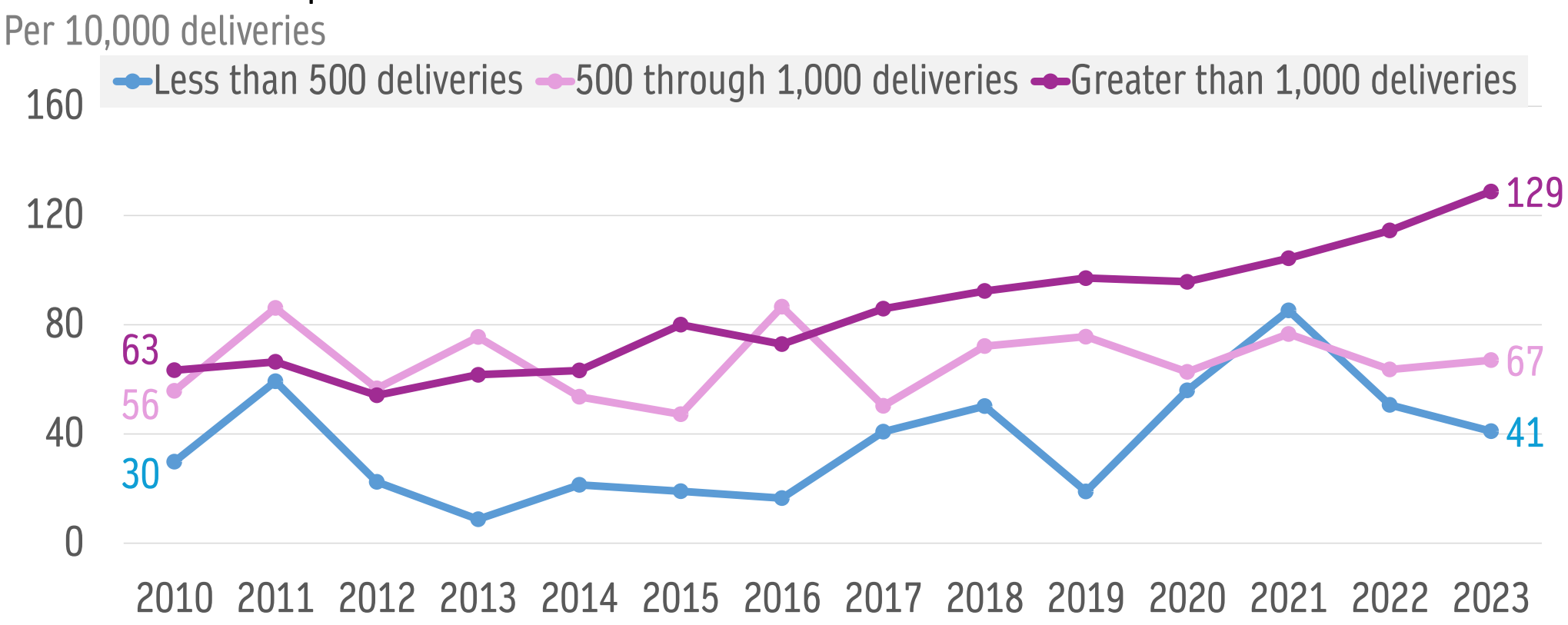


Connecticut Public Health

Data source: HCUP 2010-2023

Hospital Volume

- SMM rate increased the fastest for higher volume hospitals.
- SMM rate for higher volume hospitals was almost double than those that have 500 to 1,000 deliveries and triple than those that have less than 500 deliveries.



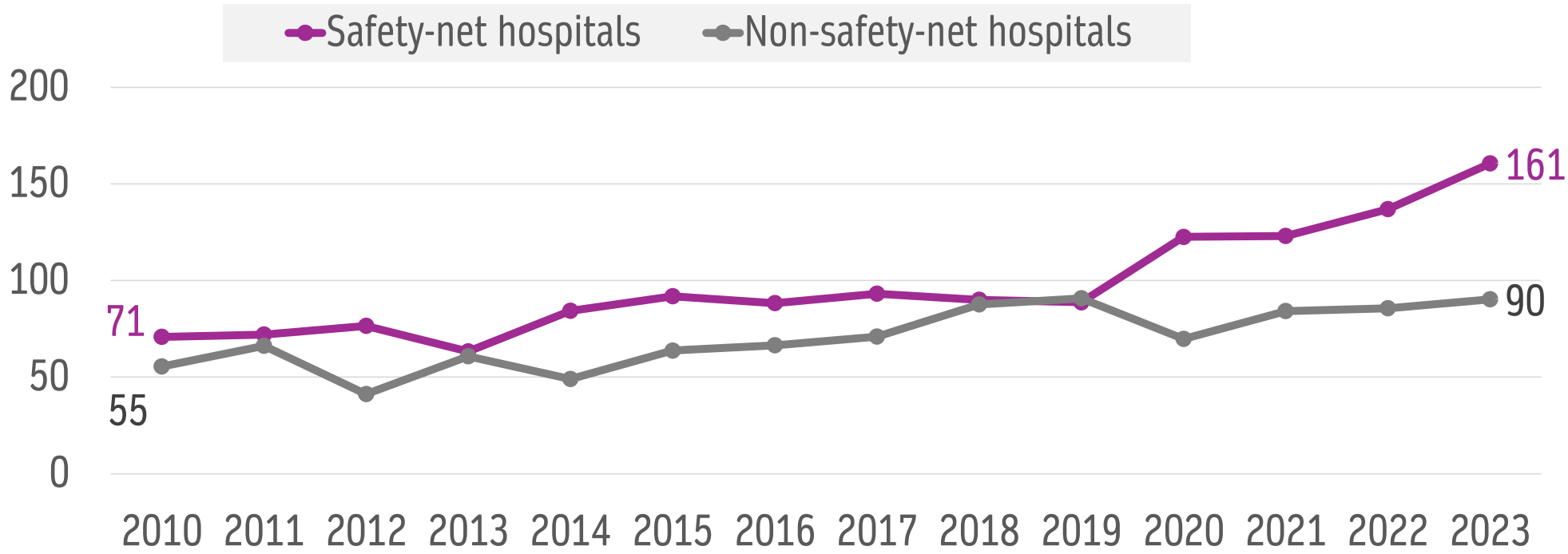
Connecticut Public Health

Data source: HCUP 2010-2023

Safety-Net Hospitals

- Rate of SMM for safety-net hospitals increased faster than non-safety-nest hospitals.
- Safety-net hospitals provide care for individuals regardless of their insurance status or ability to pay.

Per 10,000 deliveries



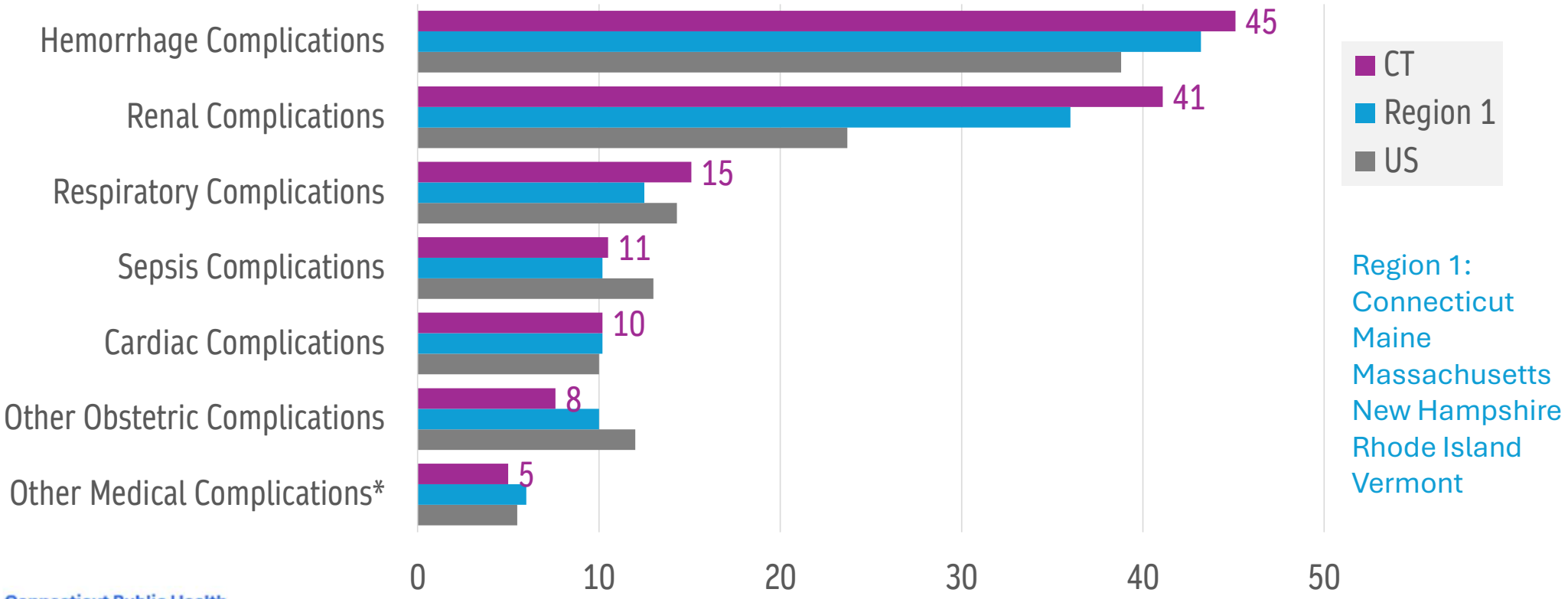
Connecticut Public Health

Data source: HCUP 2010-2023

SMM Category

- Hemorrhage and renal complications were the most common type of SMM event in CT.
- Rates were comparable to rates in region 1 and the nation.

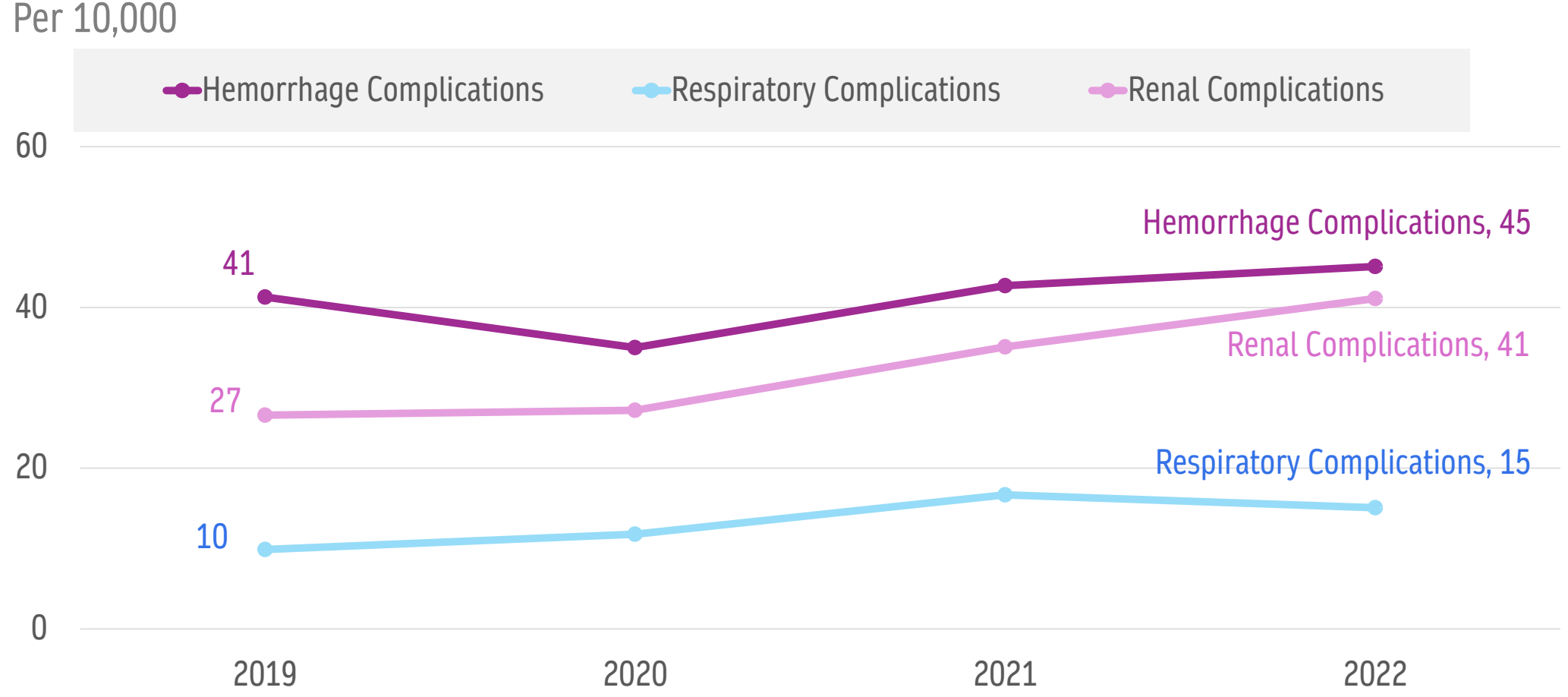
Per 10,000



Data Source: HCUP-SID 2022

SMM Category

Among the top three categories, the fastest increasing SMM category was renal complications.

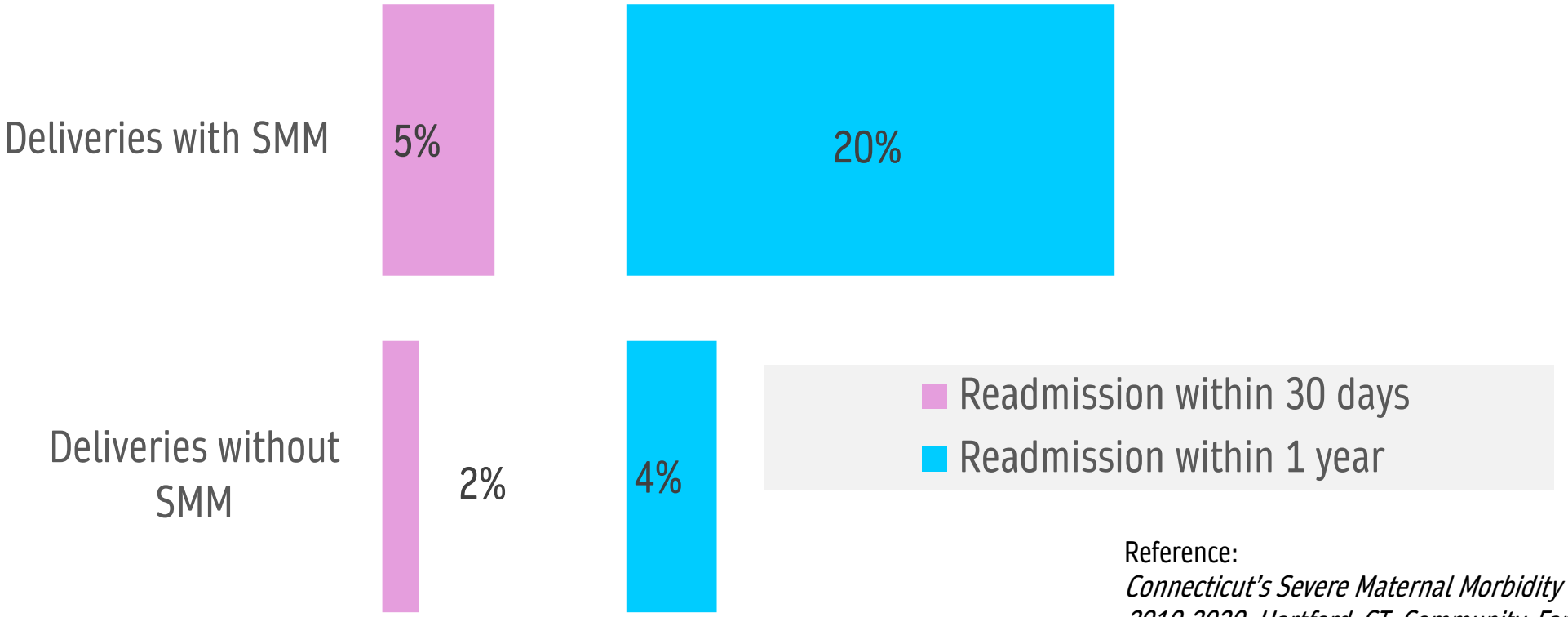


Connecticut Public Health

Data Source: HCUP-SID 2022

Hospital Readmissions

Hospital readmissions were more likely to occur for those who had an SMM event at delivery in 2019.

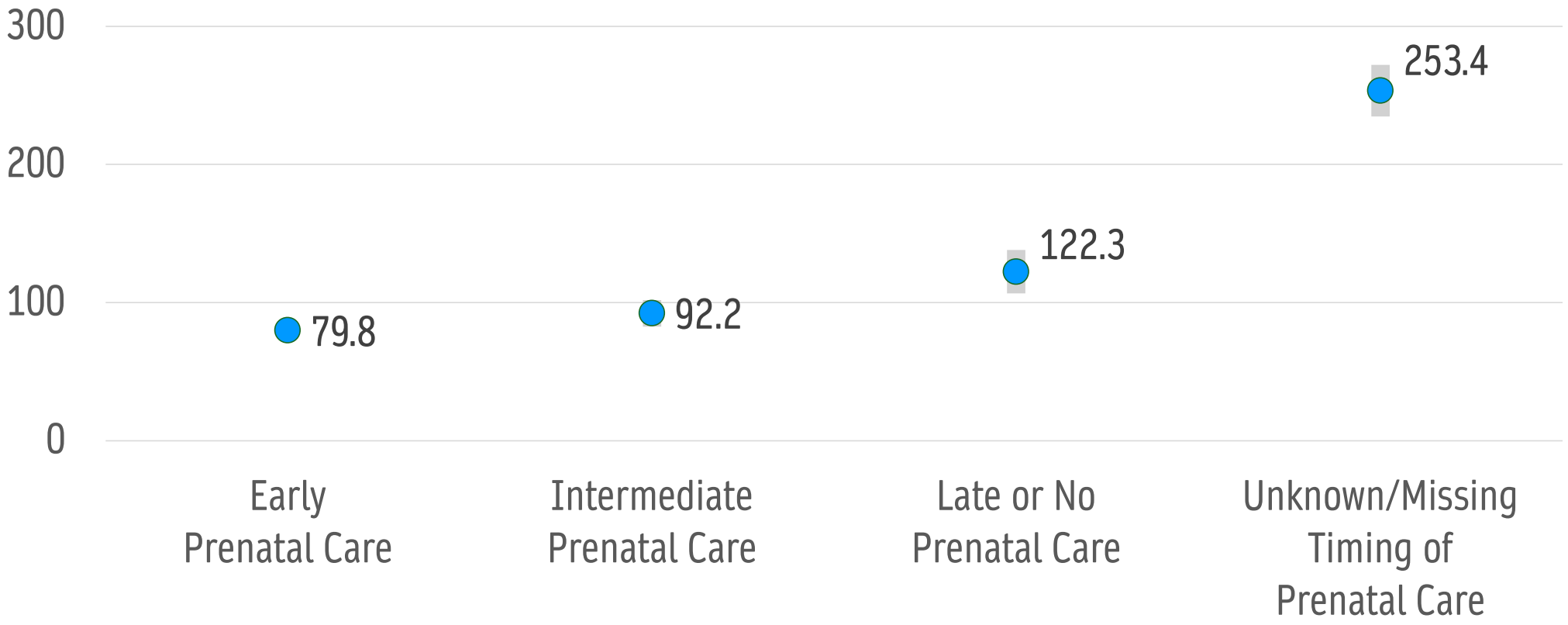


Reference:
Connecticut's Severe Maternal Morbidity Report: 2010-2020. Hartford, CT: Community, Family Health and Prevention Branch, Connecticut Department of Public Health. December 2023

By timing of prenatal care

SMM rates were higher among those with late (starting month 7 of gestation or later) or no prenatal care compared to those with early prenatal care (starting during months 1 to 3) (p-value <0.05).

Per 10,000 deliveries



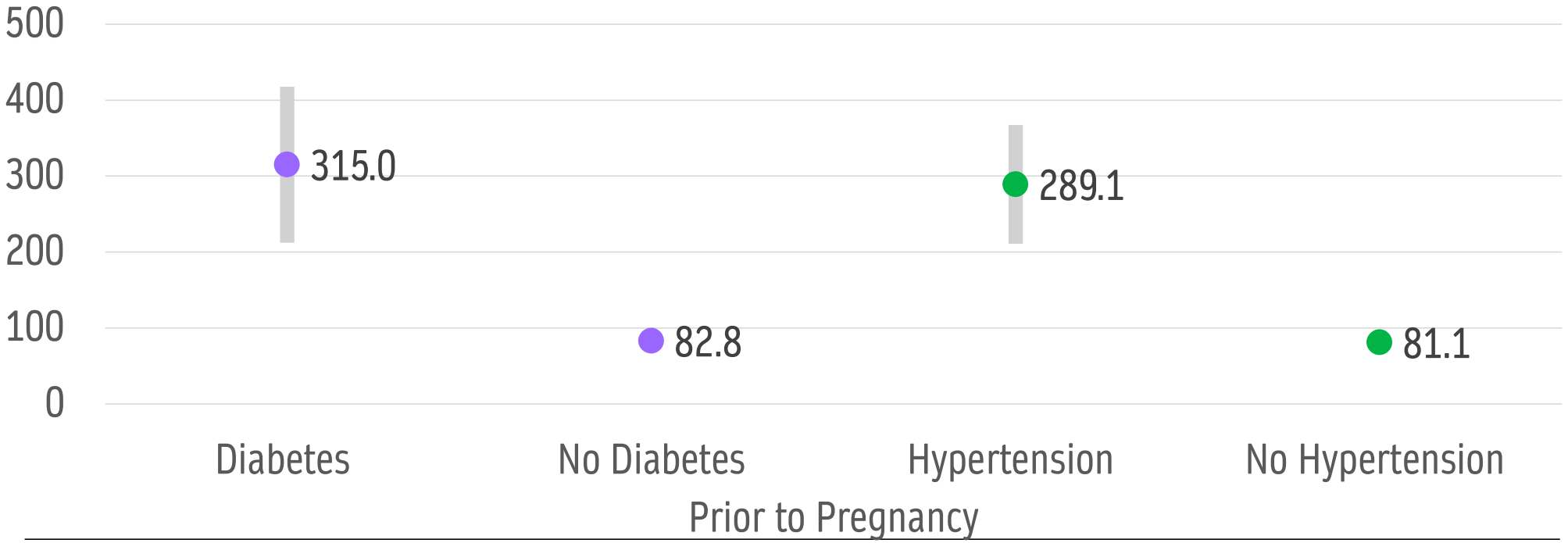
Combined 2018 to 2020 data

By diabetes and hypertension status prior to pregnancy

Those with a diabetes indicated prior to pregnancy on the birth record had almost a 4-fold higher rate of SMM than those that did not.

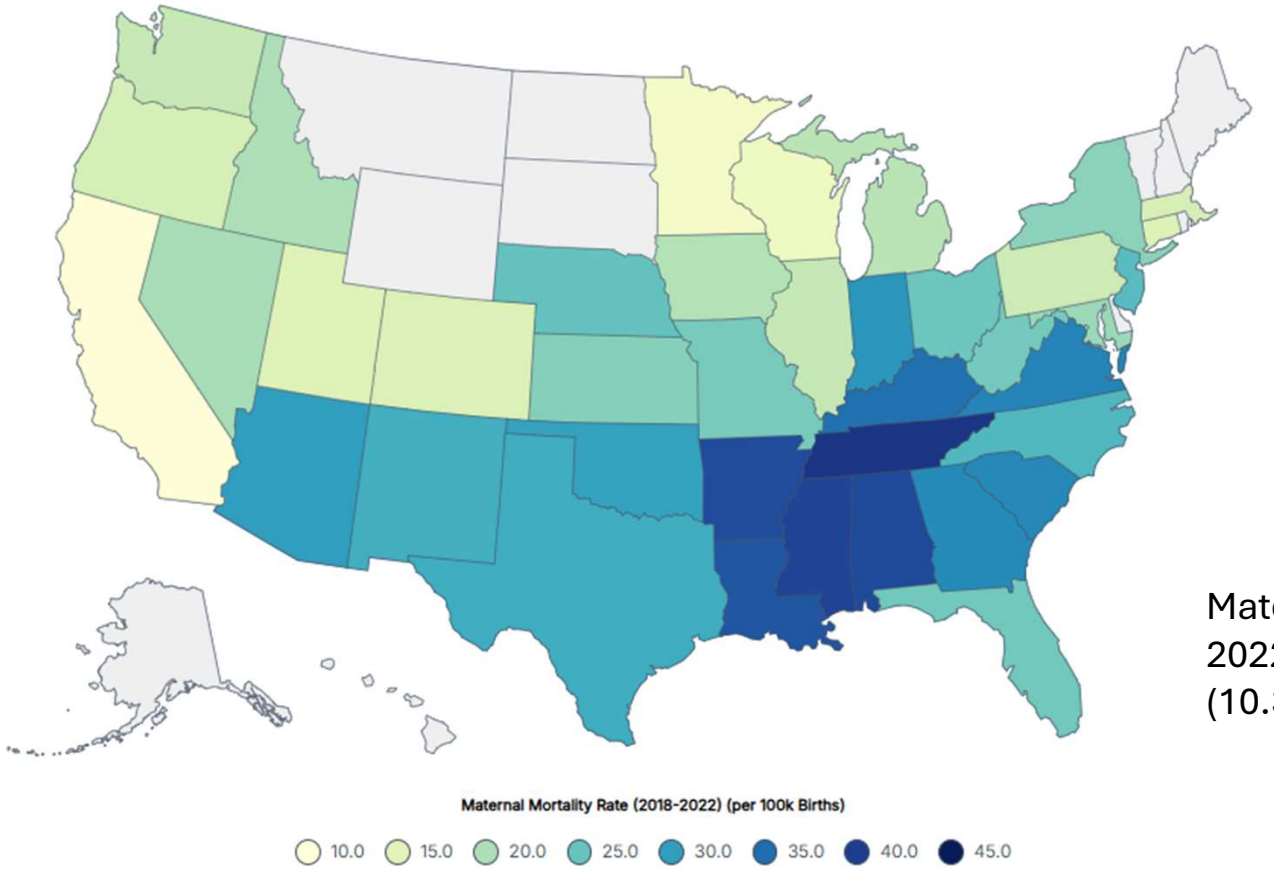
Per 10,000 deliveries

Those with a hypertension indicated prior to pregnancy on the birth record had over a 3-fold higher rate of SMM than those that did not.



Combined 2018 to 2020 data

Connecticut ranks 35th out of 39 for highest maternal mortality rate in the US (2018-2022).



Maternal Mortality 2018-2022: 15.6 per 100,000 (10.3-22.7)

Snapshot of CT Maternal Mortality Review Committee

- A multidisciplinary group.
- Reviews all CT maternal deaths during or within 1 year of pregnancy.
- Purpose is to review deaths and understand causes, identify trends, and develop recommendations for prevention.
- Provides the data to calculate pregnancy-related mortality ratio.

Pregnancy-related mortality ratio (PRMR)

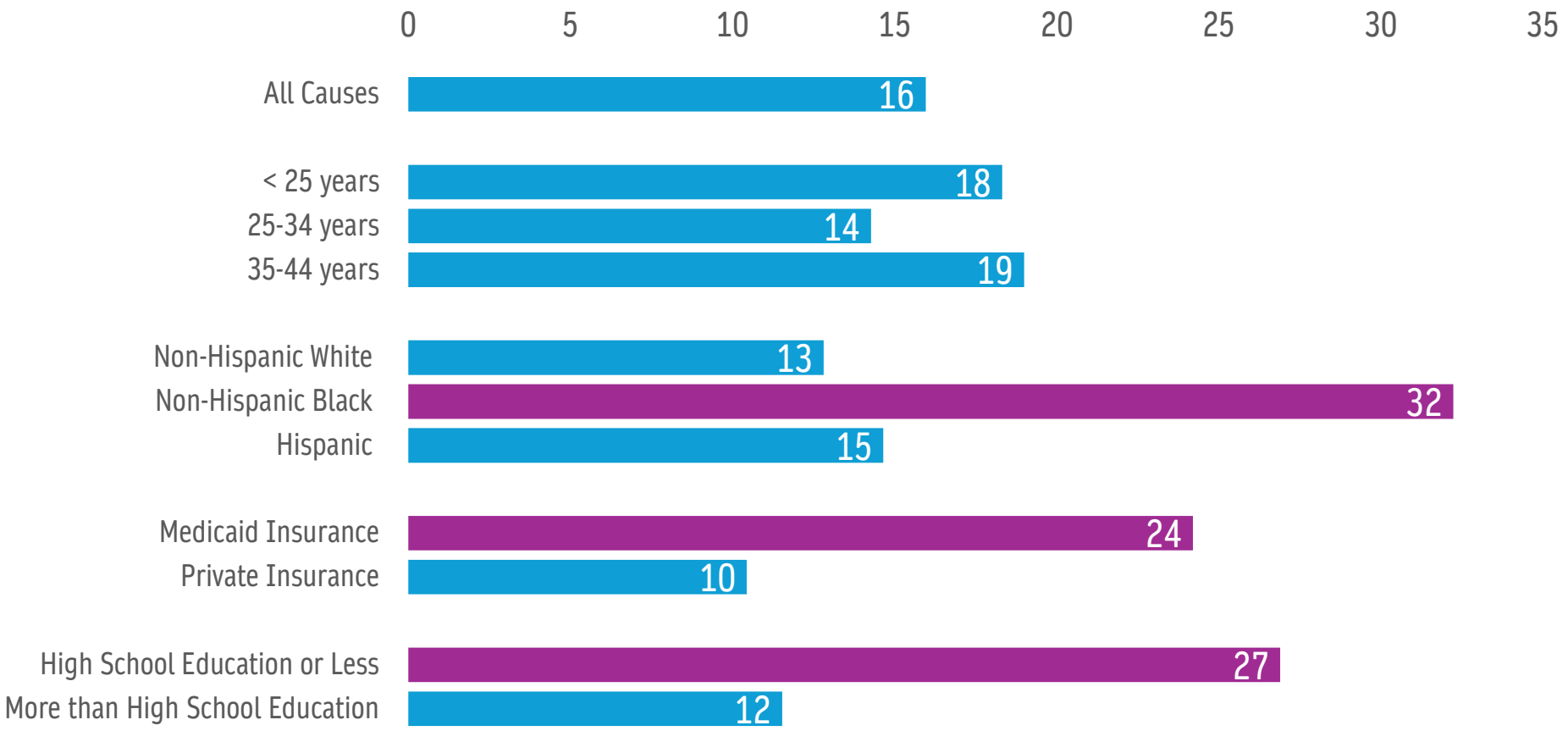
The number of deaths that occurred for every 100,000 live births.

The PRMR in 2015-2021

For every 100,000 births among CT residents,
16 people experienced a **pregnancy-related death.**

MMRIA data from 2015-2021

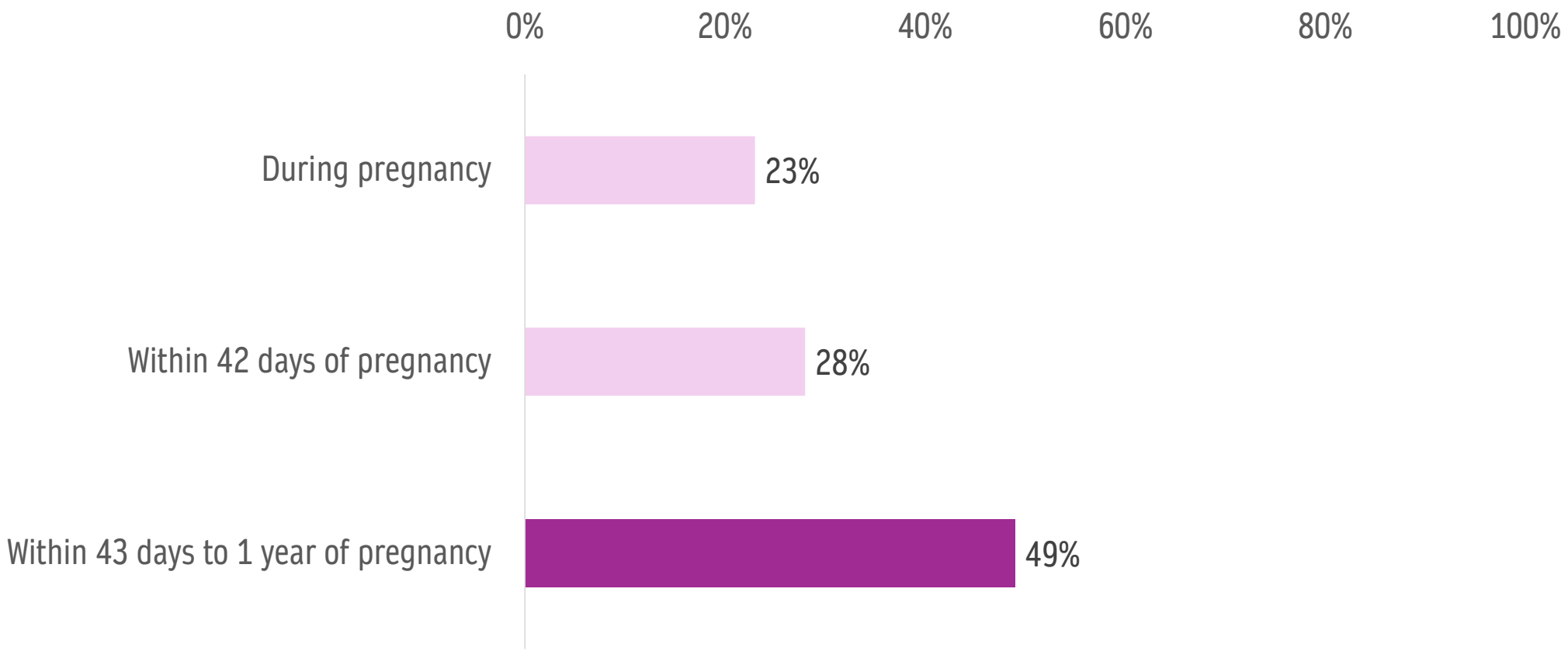
Pregnancy-related deaths are more common among those who are non-Hispanic Black, had Medicaid for insurance, completed high school education or less.



Connecticut Public Health

MMRIA data from 2015-2021

Almost HALF of pregnancy-related deaths occur within 43 days to 1 year after pregnancy.



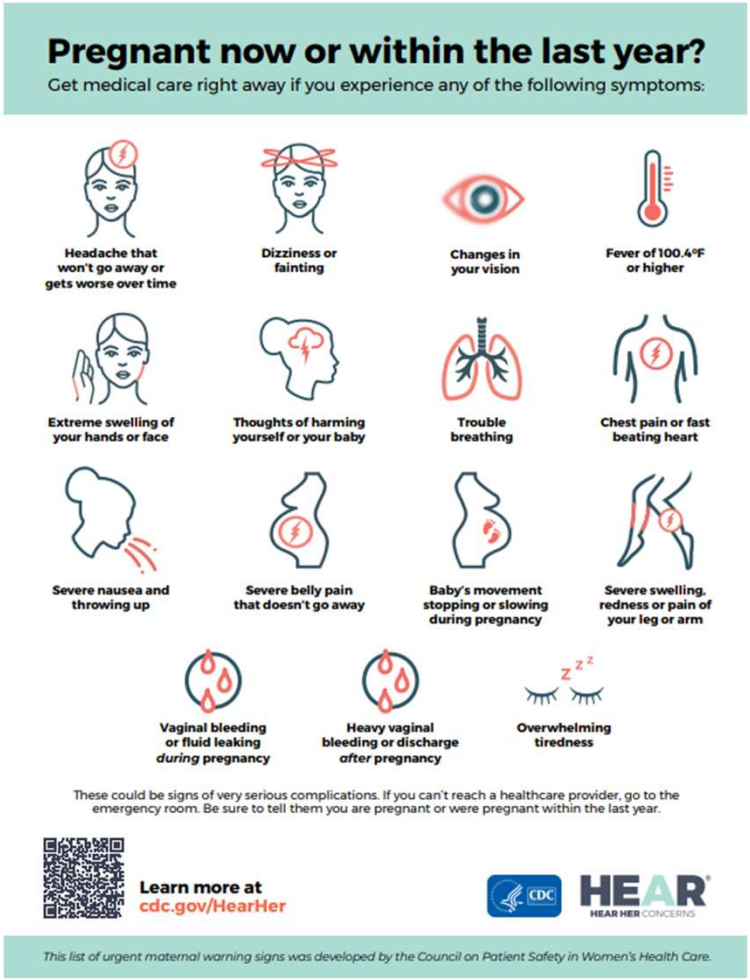
Connecticut Public Health

MMRIA data from 2015-2021

About nine-in-ten pregnancy-related deaths were determined by the CT MMRC to be preventable.

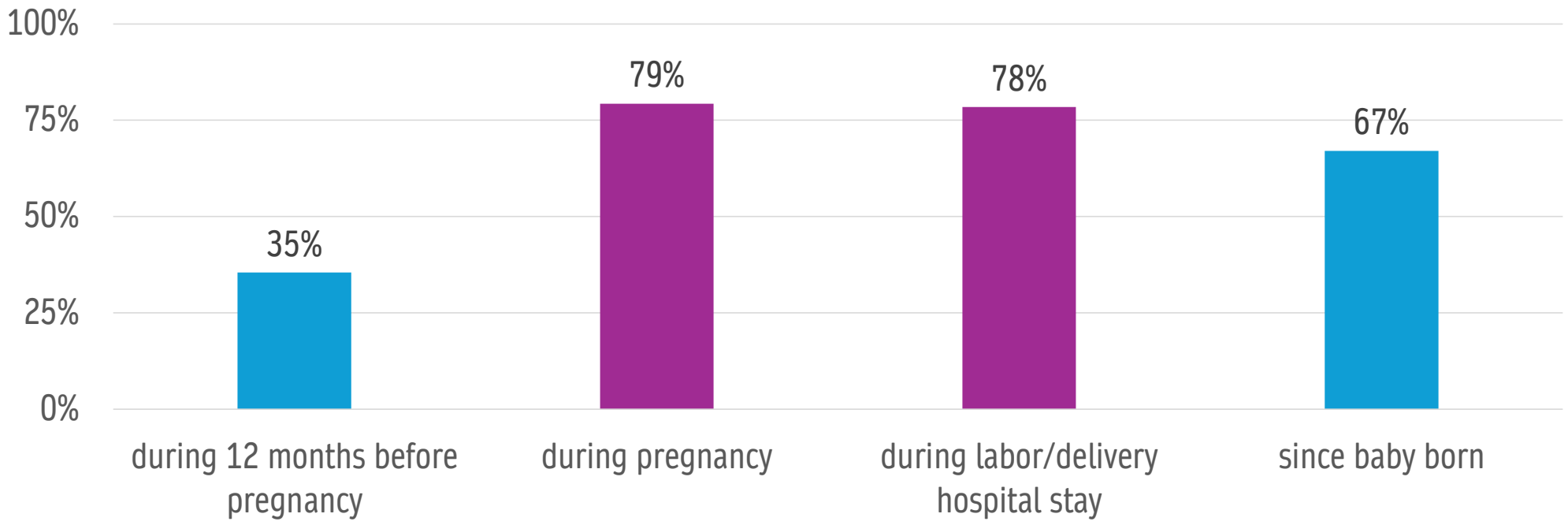
Maternal Warning Signs:

signs or symptoms to alert pregnant or postpartum individuals to seek care right away.



Maternal Warning Signs

Almost 80% of mothers got information about maternity warning signs during pregnancy, as well as during their hospital stay.
Less mothers reported receiving information after childbirth.

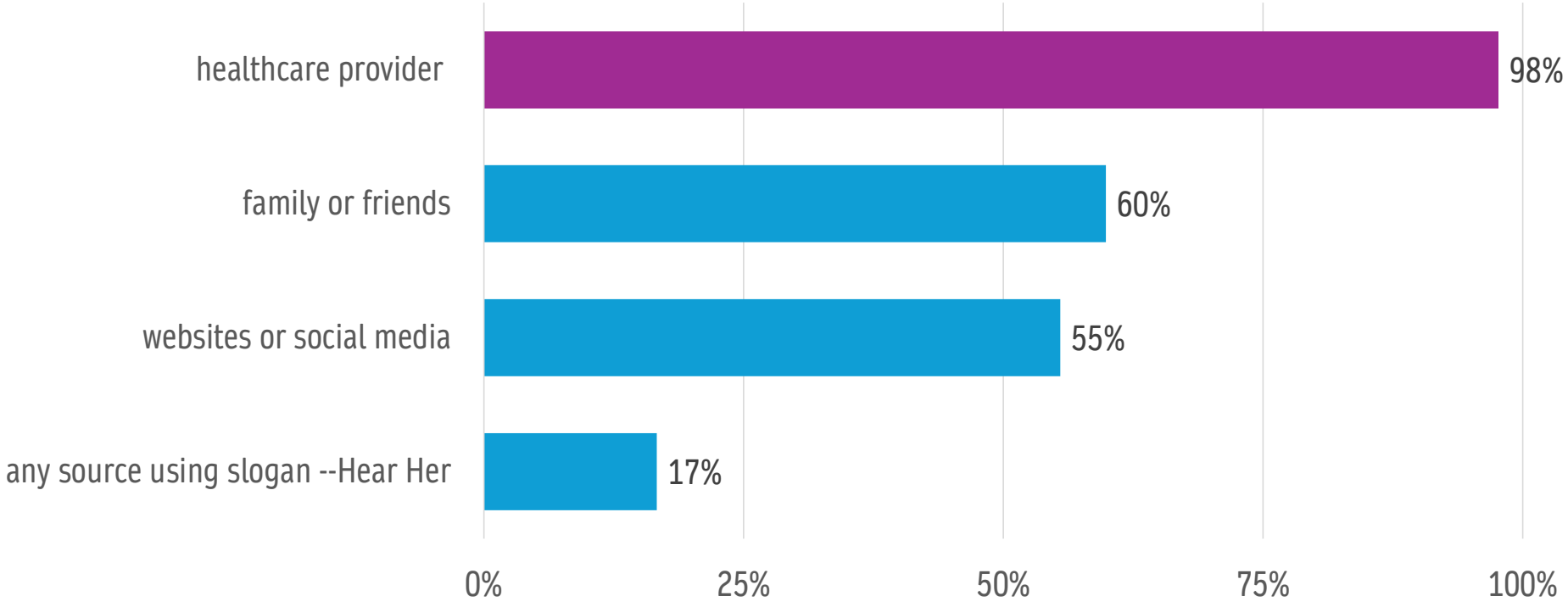


Connecticut Public Health

Data source: PRAMS 2023

Maternal Warning Signs

Among those who received information on warning signs during pregnancy, almost everyone received this information from their healthcare provider.

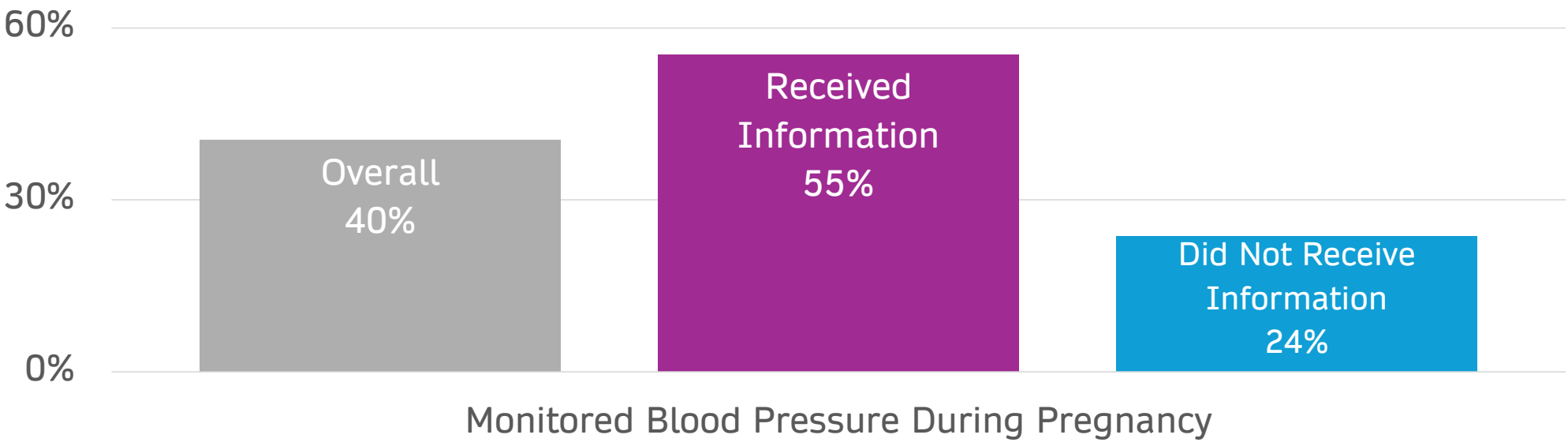


Data source: PRAMS 2023

Are sharing maternity warning signs effective?

Those who have received information on maternal warning signs during pregnancy were more likely to regularly monitor their blood pressure during pregnancy.

There was a 2.6-fold higher odds of regularly monitoring blood pressure when a mother received information on maternity warning signs [Odds Ratio 2.6 95% Confidence intervals (1.8-3.9)].



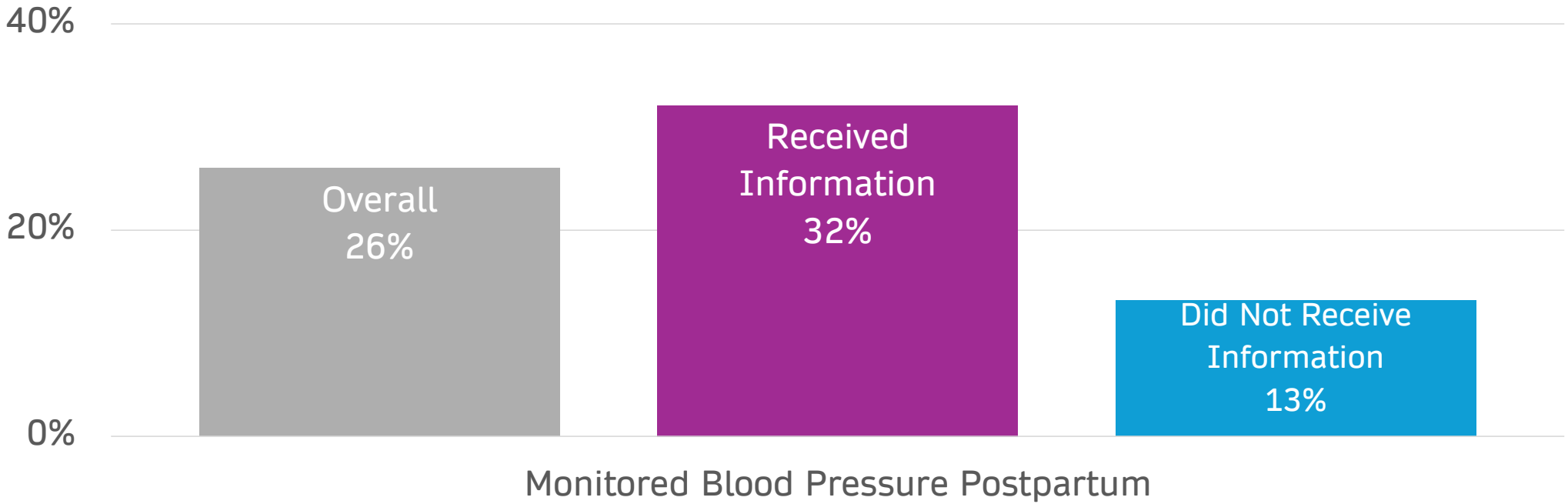
Connecticut Public Health

Data source: PRAMS 2023

Are sharing maternity warning signs effective?

Those who have received information on maternal warning signs since birth were more likely to regularly monitor their blood pressure.

There was a 3.1-fold higher odds of regularly monitoring blood pressure when a mother received information on maternity warning signs [Odds Ratio 3.1 95% Confidence intervals (2.1-4.6)].



Connecticut Public Health

Data source: PRAMS 2023

Public health implications of SMM and maternal mortality

- A woman experiencing SMM increases her risk for future health problems, including experiencing SMM in their next pregnancy[1].
- SMM leads to longer and more hospital stays and higher medical costs[2], including for the infant[3].
- Disproportionality of SMM and maternal mortality indicates a need to address inequities[4], as well as continued improvements in quality maternity care and pre-conception care.
- Maternal mortality in the postpartum period, as well as higher re-admissions for those who had an SMM event, underscores a need for comprehensive postpartum care, including care in areas with less access to medical care[5].
- Receiving information on maternal warning signs was associated with a higher likelihood of regular blood pressure monitoring.

What can we do?

- Continue to strengthen data capacity to better understand the trends of maternal health in CT.

- Work in collaboration to determine what should be prioritized and what is possible with the current environment.

- Uplift work—including pilot or community-based programs.

Thank you!

Kasia's email:
Katharyn.Baca@ct.gov

- **CT PRAMS**
  - Jenn Morin
  - Lisa Budris
  - Tabitha Lockwood
- **CT Maternal Mortality Review Program**
  - Lisa Budris
  - Jennifer Squires
  - Contracted Nurse Abstractors
- **CT Maternal Mortality Review Committee Members**
- **CT Title V Director**
  - Marc Camardo

References Cited

1. Bane S, Wall-Wieler E, Lyndon A, Carmichael SL. Recurrence of severe maternal morbidity: A population-based cohort analysis of California women. Paediatr Perinat Epidemiol. 2021 Mar;35(2):155-161. doi: 10.1111/ppe.12714. Epub 2020 Nov 6. PMID: 33155710; PMCID: PMC7878281.
2. 100 Maternal and neonatal hospitalization costs associated with severe maternal morbidity Hersh, Alyssa R. et al. American Journal of Obstetrics & Gynecology, Volume 224, Issue 2, S70 - S71
3. Phibbs CM, Kozhimannil KB, Leonard SA, Lorch SA, Main EK, Schmitt SK, Phibbs CS. The effect of severe maternal morbidity on infant costs and lengths of stay. J Perinatol. 2022 May;42(5):611-616. doi: 10.1038/s41372-022-01343-3. Epub 2022 Feb 18. PMID: 35184145; PMCID: PMC9098672.
4. Howell EA. Reducing Disparities in Severe Maternal Morbidity and Mortality. Clin Obstet Gynecol. 2018 Jun;61(2):387-399. doi: 10.1097/GRF.0000000000000349. PMID: 29346121; PMCID: PMC5915910.
5. Dol J, Hughes B, Bonet M, Dorey R, Dorling J, Grant A, Langlois EV, Monaghan J, Ollivier R, Parker R, Roos N, Scott H, Shin HD, Curran J. Timing of maternal mortality and severe morbidity during the postpartum period: a systematic review. JBI Evid Synth. 2022 Sep 1;20(9):2119-2194. doi: 10.11124/JBIES-20-00578. PMID: 35916004; PMCID: PMC9594153.