The Arizona State Seal is a circular emblem on the left side of the slide. It features a central shield with a cactus, a sun, and a mountain. The shield is surrounded by a wreath of olive and oak branches. The outer ring of the seal contains the text 'THE GREAT SEAL OF THE STATE OF ARIZONA' and '1909'.

Arizona Maternal Mortality Review Program Updates

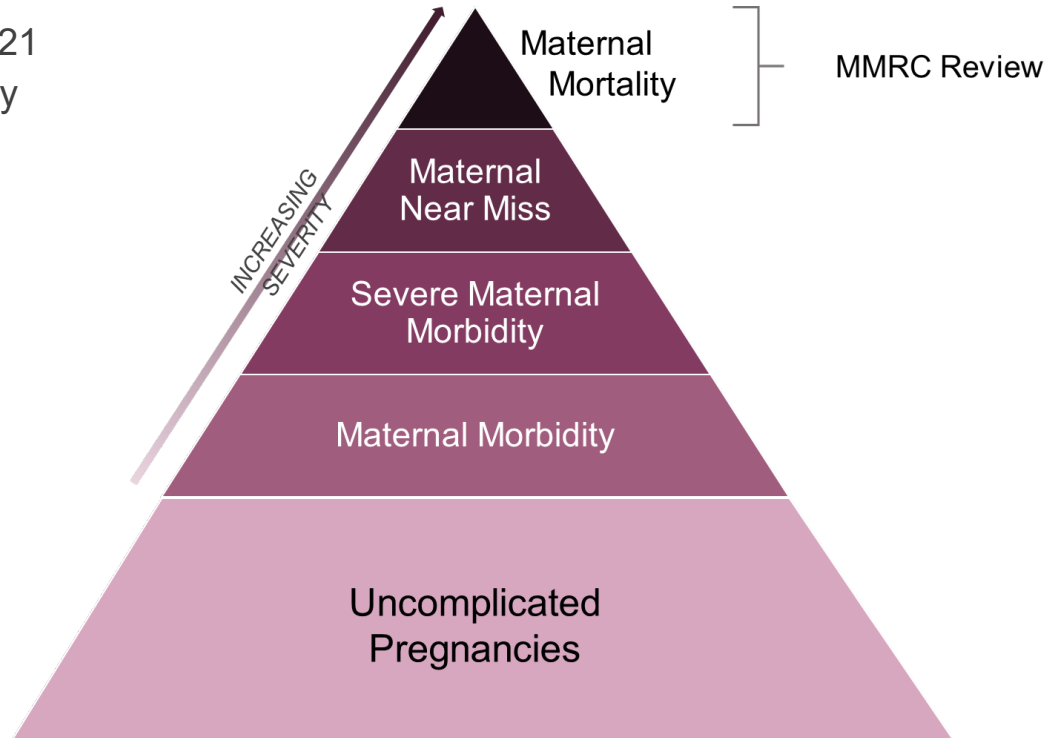
Glenda M. Ramirez & Samantha Davidson -Walrath

Arizona Rural and Public Health Policy Forum

February 18, 2025

Arizona Maternal Mortality Review Program

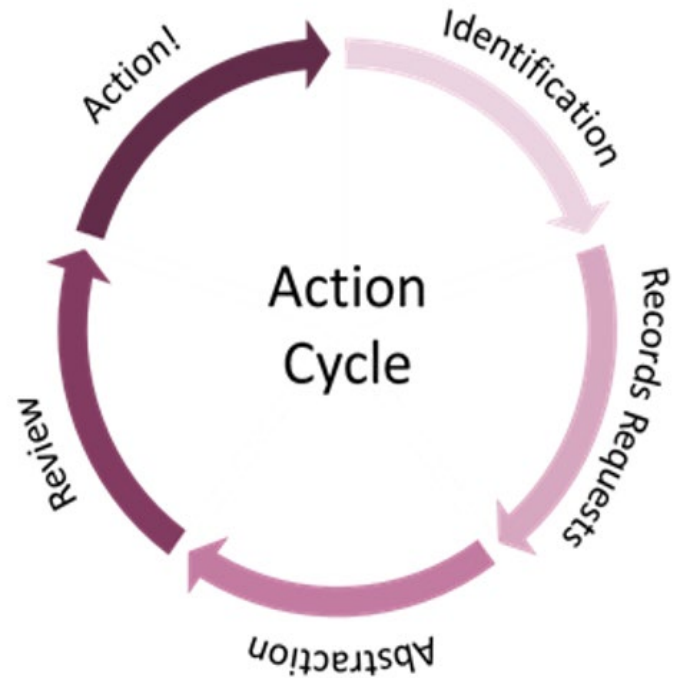
- Established by the Arizona Senate Bill 1121 on April 2011. Review of cases began July 2011.
- Awarded CDC's Enhancing Reviews and Surveillance to Eliminate Maternal Mortality (ERASE MM) in 2019
- Multidisciplinary team (i.e., MMRC) reviews cases of maternal mortality to identify preventative factors and produce recommendations for systems level changes.
- Currently reviewing 2022 deaths



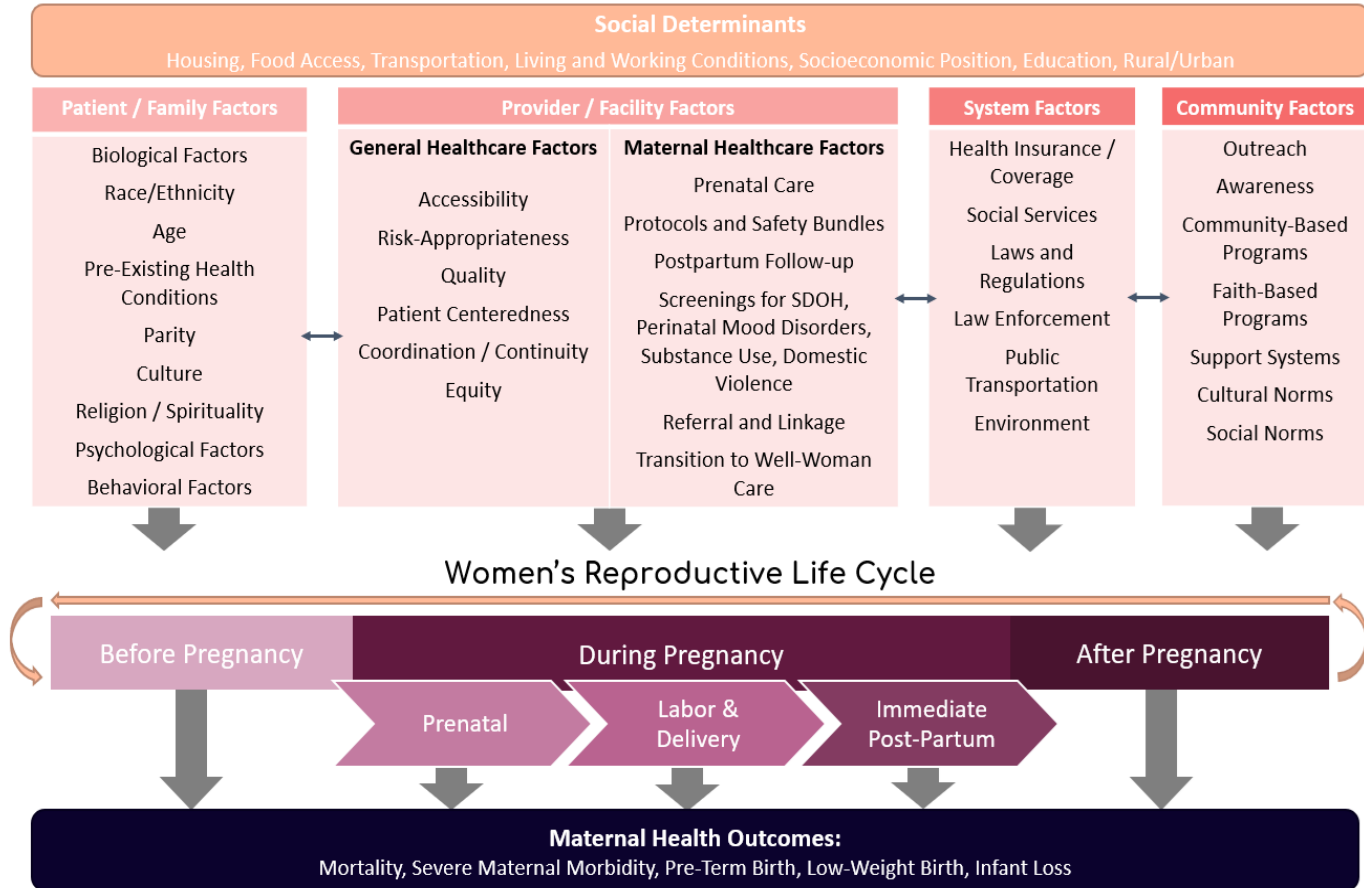
Review to Action Cycle

For every death, the MMRC aims to answer the following questions:

- Was the death pregnancy-related?
- What was the underlying cause of death?
- What are the contributing factors to the death?
- Was the death preventable?
- What specific and feasible actions might have changed the course of events (e.g., recommendations)?



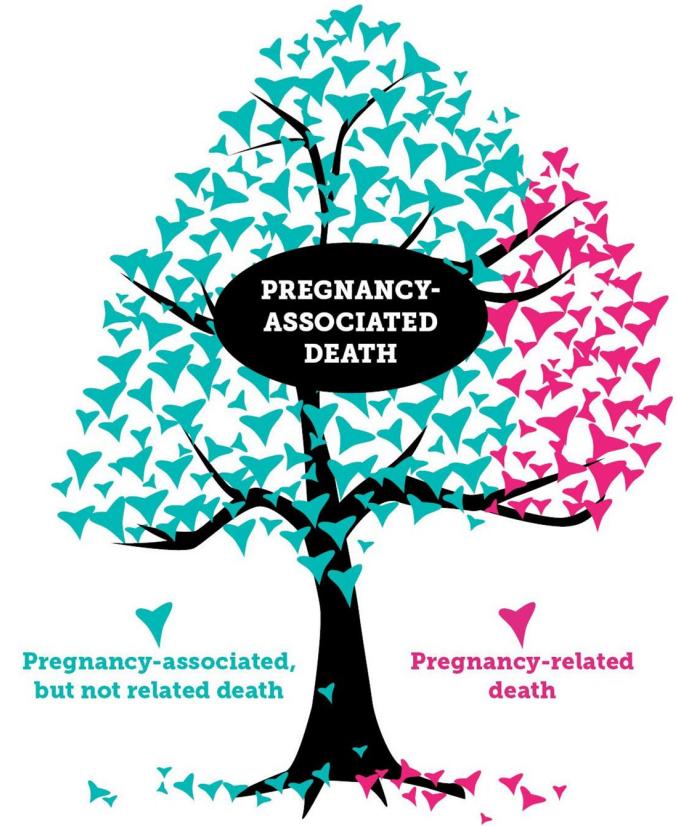
Factors Impacting Maternal Mortality and Morbidity



Maternal Mortality Terms

- **Pregnancy -associated death:** A death that occurs during or within one year of pregnancy regardless of the outcome, duration, or site of the pregnancy.
- **Pregnancy -related death:** A death that occurs during or within one 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.
- **Pregnancy -associated but NOT related death:** death that occurs during or within on year of pregnancy from a cause that is not related to pregnancy.

A



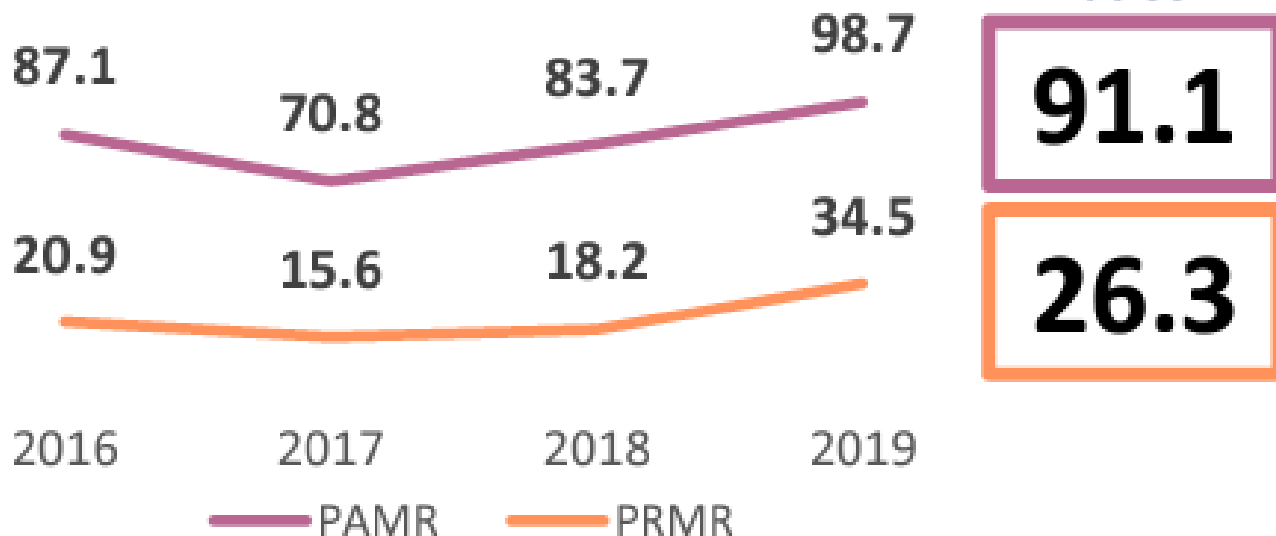
Sourced from: MMRIA Facilitation Guide and Review to Action
<https://reviewtoaction.org/content/mmria-committee-facilitation-guide>
Graphic sourced from: South Dakota DoH <https://doh.sd.gov/statistics/maternalmortality.aspx>

Maternal Mortality Key Findings



The PRMR and PAMR in Arizona slightly increased overall between 2016-2019.

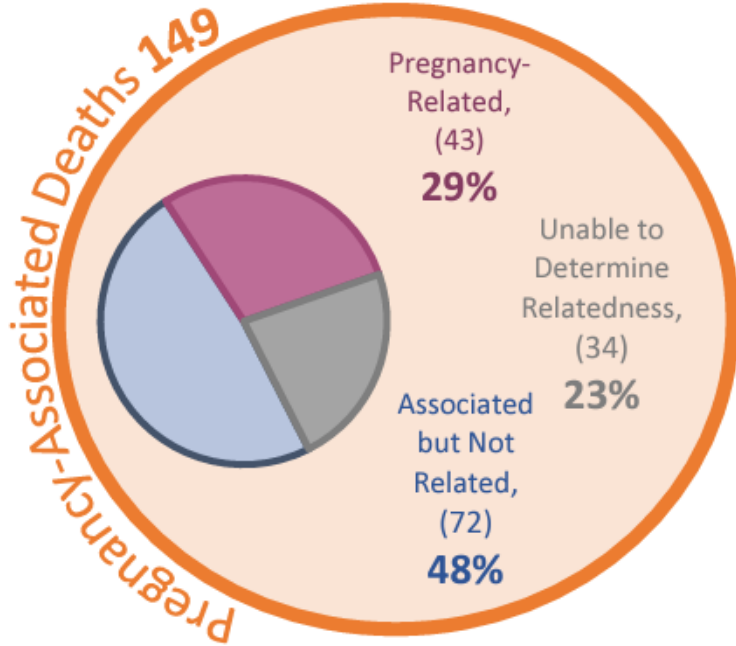
(Deaths per 100,000 live births)



**2016-2017 data includes maternal deaths ages 15-49 years;
2018-2019 data includes maternal deaths ages 10-60 years.*

(Ramirez et al., 2024)

Three (3) out of every 10 deaths of women within 365 days of pregnancy were determined to be Pregnancy-Related Deaths.



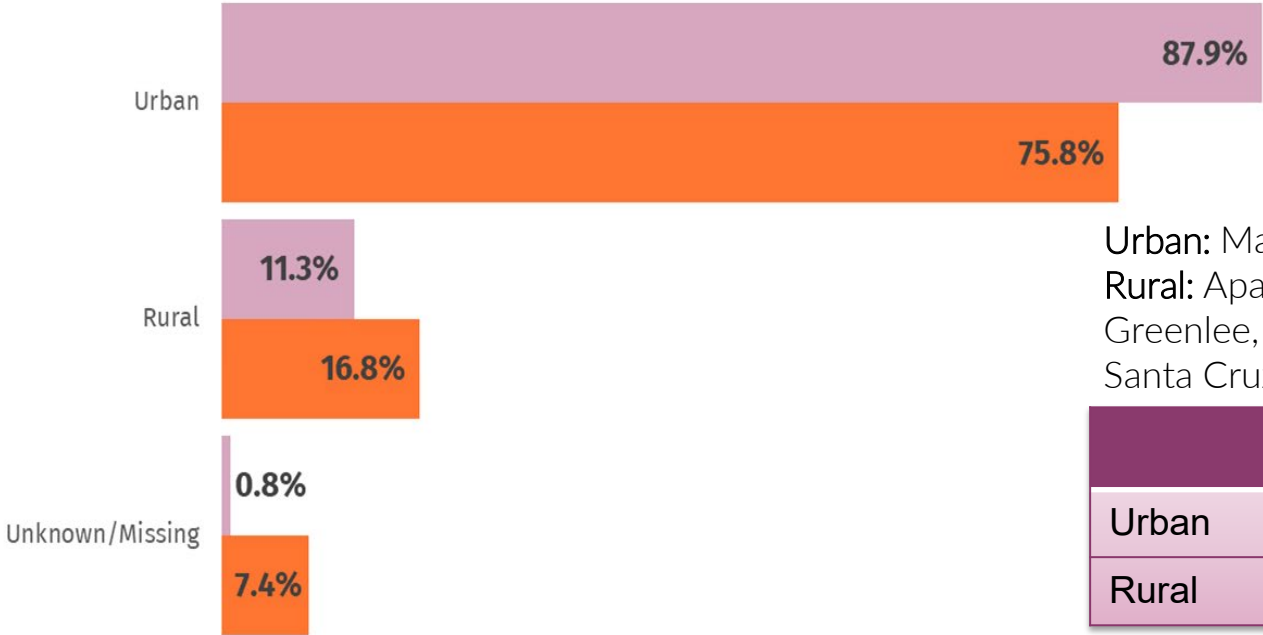
The Pregnancy-Associated Mortality Ratio in the Northern and Western Region of Arizona were the highest in the state. (Deaths per 100,000 live births)



(Ramirez et al., 2024)

MM by Maternal Residence

■ Percent of Live Births to Women 15-49 Years of Age
■ Percent of Pregnancy-Associated Deaths

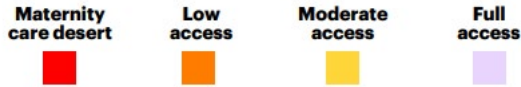
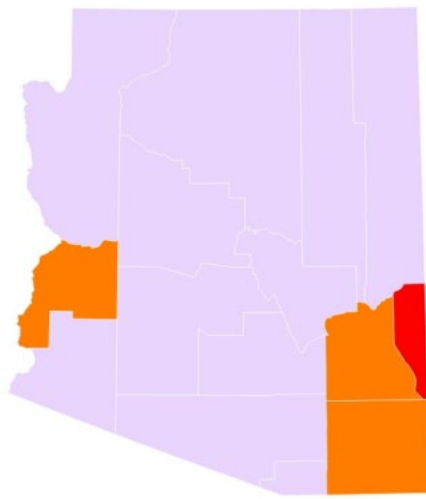


Urban: Maricopa, Pima, Pinal, Yuma
Rural: Apache, Cochise, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, Santa Cruz, Yavapai

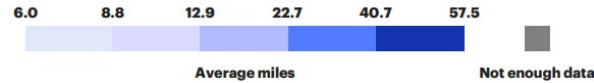
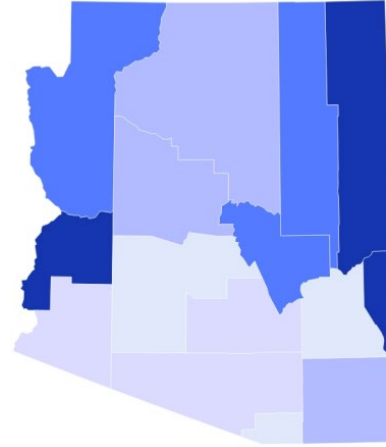
	PAMR	PRMR
Urban	81.5	39.0
Rural	149.9	74.9

(Ramirez et al., 2024)





DISTANCE TO BIRTHING HOSPITAL BY COUNTY

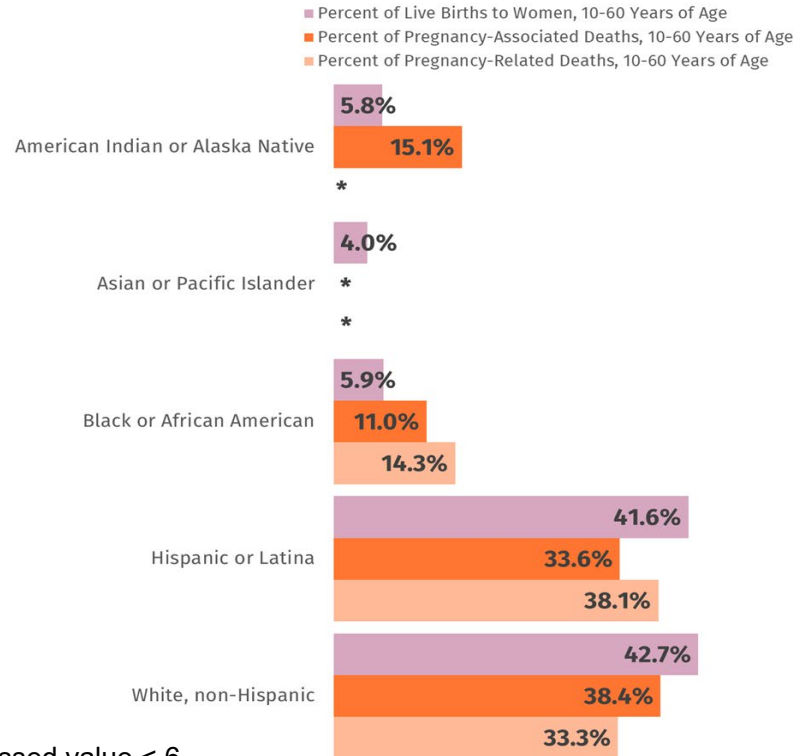


(Fontenat et al., 2023)

Definitions of maternity care deserts and access to maternity care

Definitions	Maternity care deserts	Low access to maternity care	Moderate access to maternity care	Full access to maternity care*
Hospitals and birth centers offering obstetric care	zero	<2	<2	≥2
Obstetric Providers (obstetrician, family physician†, CNM/CM per 10,000 Births)	zero	<60	<60	≥60
Proportion of women 18-64 without health insurance	any	≥10%	<10%	any

MM by Maternal Race and Ethnicity



* Suppressed value < 6

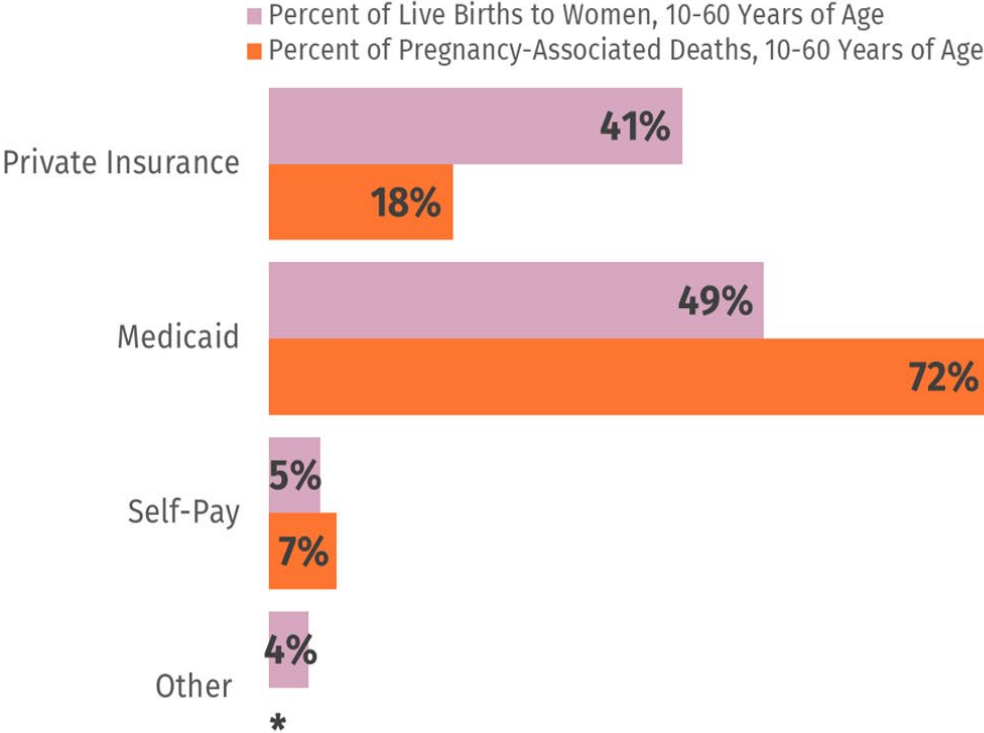
American Indian/Alaska Native women experienced the highest Pregnancy-Associated Mortality Ratio.
 (Deaths per 100,000 live births)



*Suppressed due to figures less than 6.
 (Misclassification bias may be present for cases &/or live births with multiple racial/ethnic identities. Please interpret data with caution.)

(Ramirez et al., 2024)

MM by Insurance Type

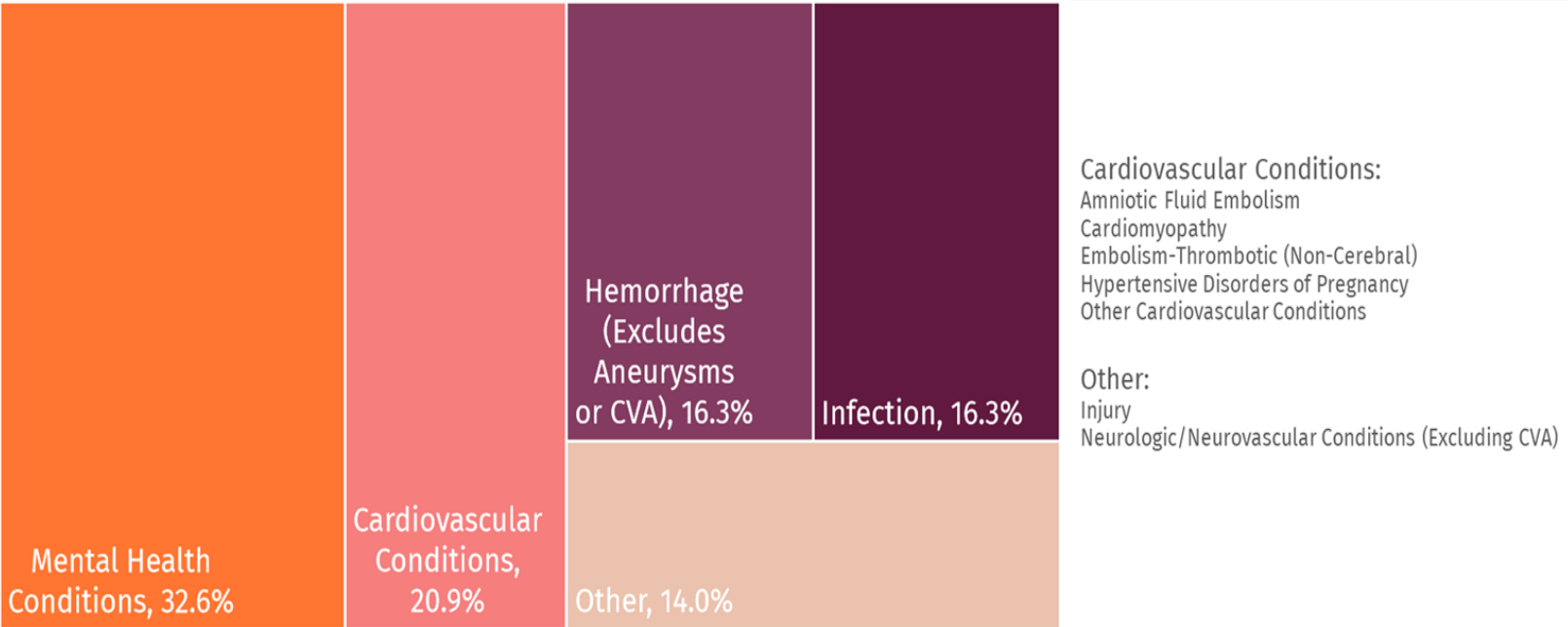


* Suppressed value < 6

(Ramirez et al., 2024)



MM by Primary Underlying Cause of Death



(Ramirez et al., 2024)



MM by Preventability and Timing of Death

MMRC Reviewed **Pregnancy-Related Deaths** in Arizona of Persons 10-60 Years Old, 2018-2019 (n=43)

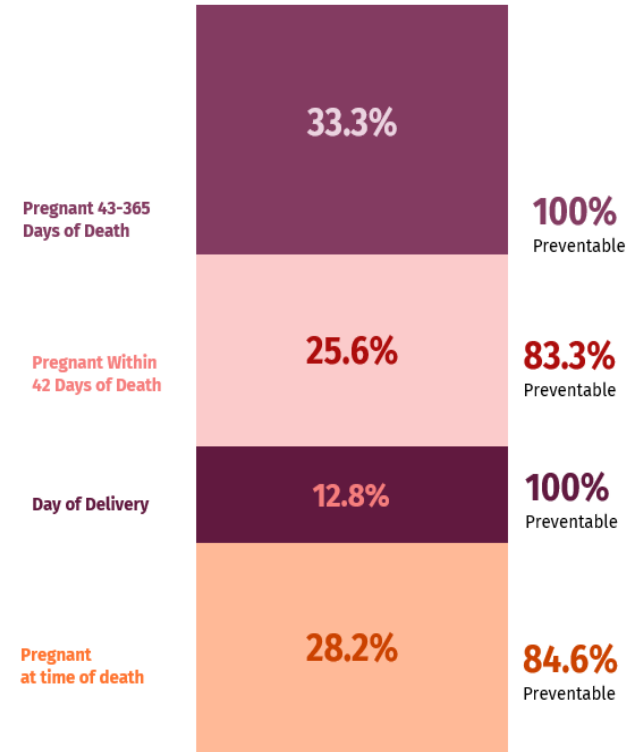
90.7% Of all Pregnancy-Related Deaths were Preventable

Among All **Preventable** Pregnancy-Related Deaths:



* Suppressed value <6

^ Unable to Determine, 4.5%



(Ramirez et al., 2024)

Recommendations to Improve Maternal Health Outcomes



MMRC's Top Recommendations

1. **Establish continuity of care to ensure timely care coordination between appropriate healthcare providers** (on or offsite) and wraparound services for the family to address social determinants of health.
2. **Increase adoption of trauma - and culturally -informed practices for providers...** includes the appropriate level of support, navigation, counseling and dialogue with patients and their families.
3. **Increase access to high quality mental and behavioral health services** and resources that are affordable, trauma -informed, and supportive of the family unit.
4. **Expand insurance coverage** to provide adequate, timely, and value -based reimbursement mechanisms for the range of maternal health services beyond one year postpartum.
5. **Ensure providers in all settings are screening pregnant persons and their partners** before, during, and after pregnancy or adoption for Domestic Violence, Mental Illness, Substance Use Disorder, and Adverse Childhood Experiences.

(Ramirez et al., 2024)

MMRC's Top Recommendations

- 6. Increase provider education about the perinatal period...** by securing funding for and requiring or incentivizing participation in continuing education classes.
- 7. Improve access to the full range of reproductive health services** including contraceptives.
- 8. Ensure facilities have adequate infrastructure, protocols, and procedures** to improve readiness, prevention, recognition and response to obstetric emergencies.
- 9. Address access to care barriers such as for pregnant and postpartum individuals related to income insecurity** while prioritizing assistance to those with children, experiencing domestic violence, using substances, and/or lack a support system.
- 10. Increase patient education about substance use and misuse** including overdose education, harm reduction strategies, and where to access treatment services. The education is most important for patients and families with a history of substance use as well as community members living in high -risk areas.

(Ramirez et al., 2024)

Additional MMRC Recommendations

Improve access to healthcare for people of reproductive age including prenatal and postpartum care, mental and behavioral health care, emergency care, specialty care, and Substance Use Disorder treatment.

Strategies to improve access to healthcare:

- Increase the number of culturally -congruent providers in underserved areas
- Ensure the affordability and accessibility of prescription medications
- Expand options for healthcare delivery (e.g., mobile units, group care, telehealth, birth centers)
- Improve broadband and cell phone coverage across the state
- Address underlying barriers through case management

(Ramirez et al., 2024)

Recent ***Preliminary*** Findings

Pregnancy Related Deaths
2016-2020

Rural & Urban Trends in Arizona



Pregnancy -Related Deaths

Preliminary data*, 2016 -2020

- From 2016 -2020 there were

100 pregnancy -related deaths.

- Urban/Rural maternal residency information was available for

94 of those cases

Rural Counties	Urban Counties
Apache	Maricopa
Cochise	Pima
Coconino	Pinal
Gila	Yuma
Graham	
Greenlee	
La Paz	
Mohave	
Navajo	
Santa Cruz	
Yavapai	

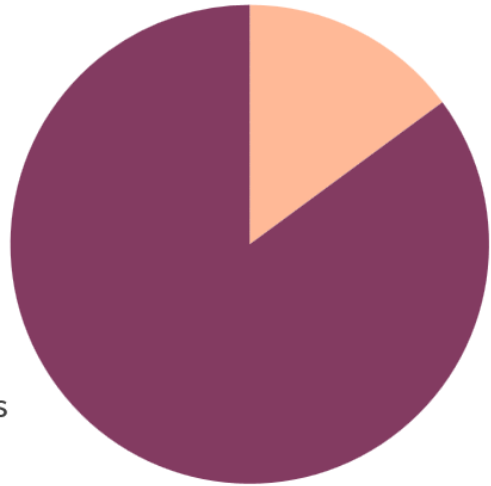
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Pregnancy -Related Deaths

Preliminary data* (n=94), 2016 -2020

Approximately
22
PR Deaths
for every 100,000 live births
in
Urban AZ counties

Urban PR Cases
85.1%
(80 cases)



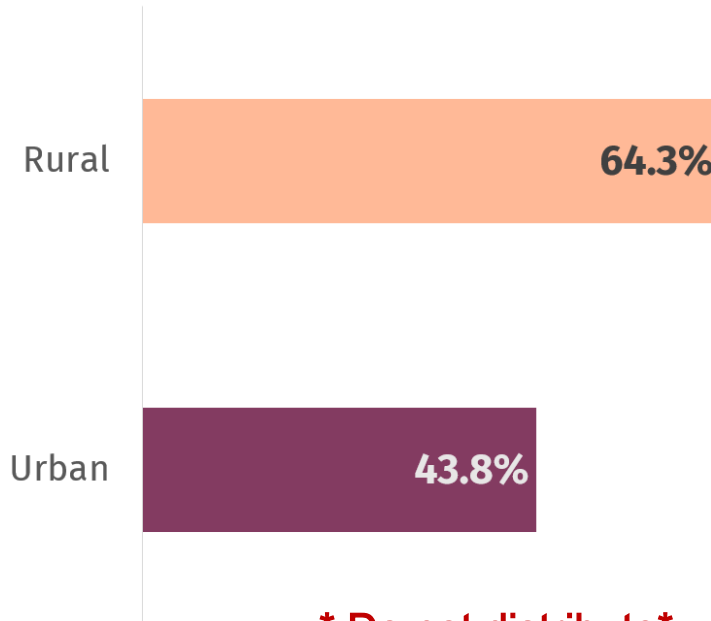
Rural PR Cases
14.9%
(14 cases)

Approximately
30
PR Deaths
for every 100,000 live births
in
Rural AZ counties

*** Do not distribute***

Pregnancy -Related Deaths: Medicaid Coverage

Preliminary data*, 2016 -2020



* Do not distribute*

Pregnancy -Related Deaths:

Preventability of Death

Preliminary data*, 2016 -2020

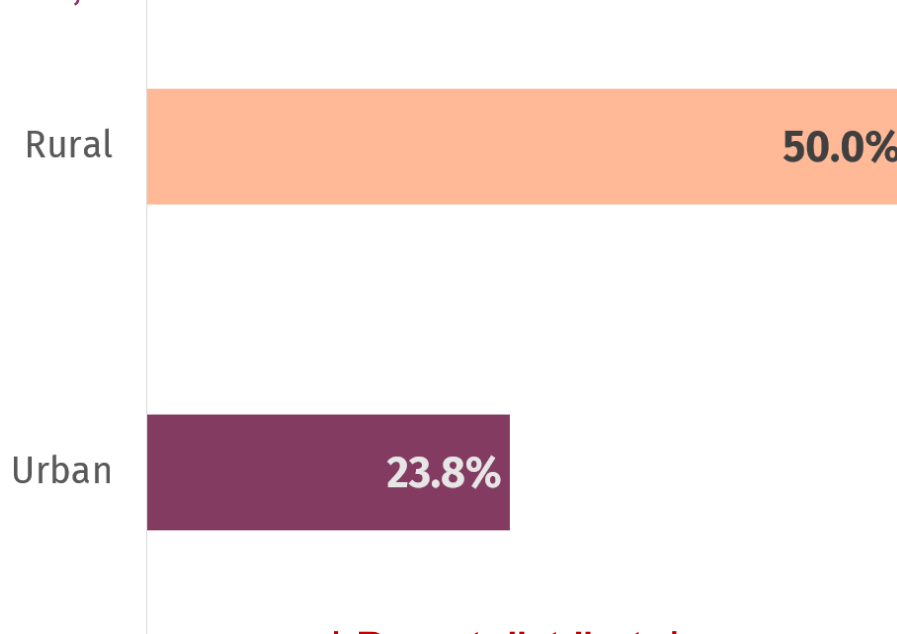


* Do not distribute*

Pregnancy -Related Deaths:

Timing of Death (43 days – 1 year after delivery)

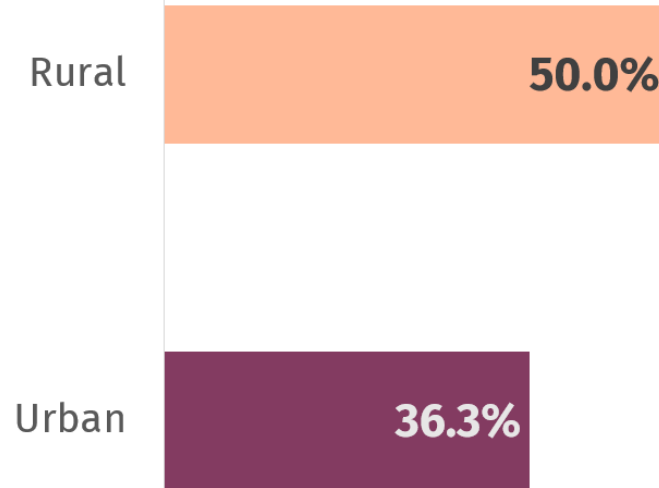
Preliminary data*, 2016 -2020



* Do not distribute*

Pregnancy -Related Deaths: Mental Health Conditions

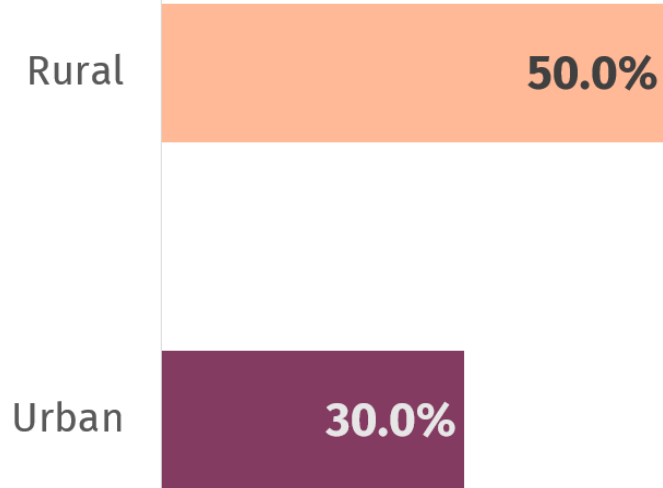
Preliminary data*, 2016 -2020



* Do not distribute*

Pregnancy -Related Deaths: Substance Use Disorder

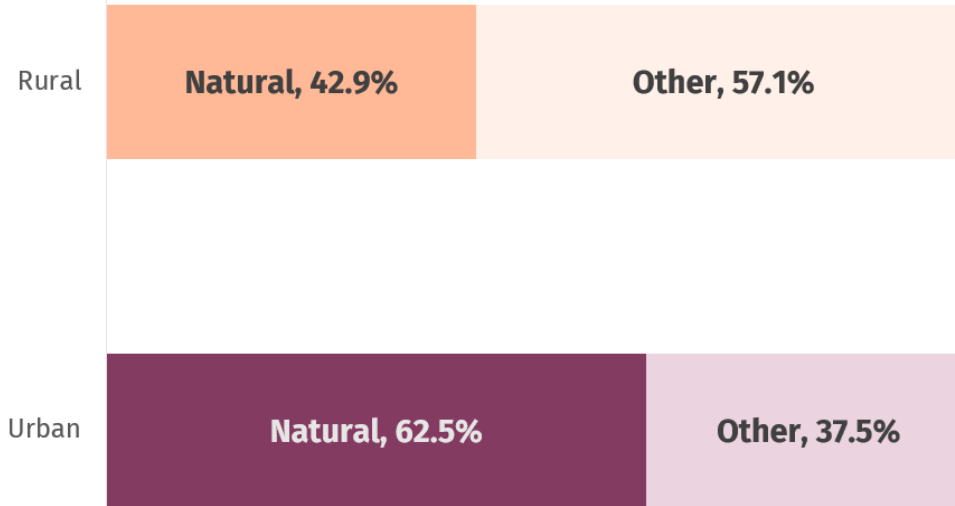
Preliminary data*, 2016 -2020



* Do not distribute*

Pregnancy -Related Deaths: Manner of Death (from Death Certificates)

Preliminary data*, 2016 -2020



Other:
Accident
Homicide
Suicide
Pending Investigation
Unknown

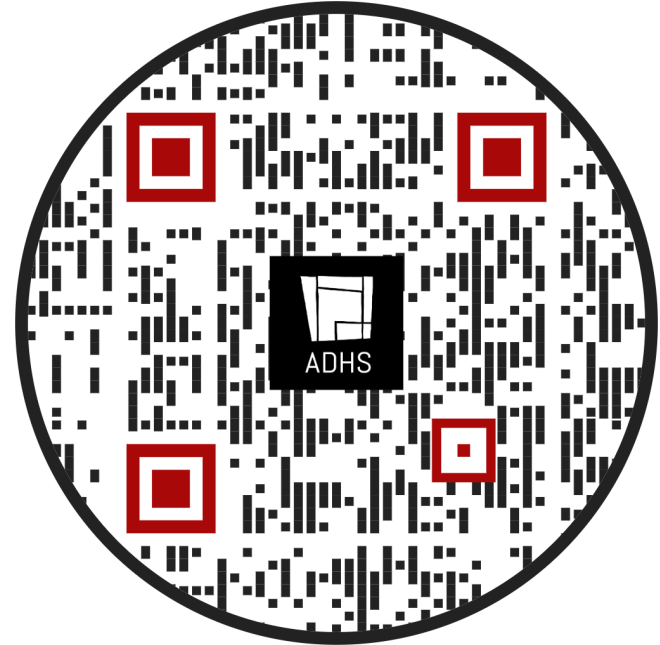
* Do not distribute*

For more information...



Arizona Maternal Mortality Reports and Infographics

- [Maternal Mortality in Arizona, 2018-2019](#)
- [Maternal Mental Health and Substance Use Related Deaths in Arizona, 2016 -2018](#)
- [Maternal Mortality and Severe Maternal Morbidity in Arizona, 2016-2019](#)



maternalhealth@azdhs.gov
<http://azdhs.gov/maternalhealth>

National MMRC Data

- Pregnancy -Related Deaths: Data from Maternal Mortality Review Committees in 38 U.S. States, 2020 <https://www.cdc.gov/maternal-mortality/php/data-research/2020-mmrc.html>
- Pregnancy -Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017 -2019 <https://www.cdc.gov/reproductivehealth/maternal-mortality/erase-mm/data-mmrc.html>
- Pregnancy -Related Deaths Among American Indian or Alaska Native Persons: Data from Maternal Mortality Review Committees in 36 US States, 2017 -2019 <https://www.cdc.gov/reproductivehealth/maternal-mortality/erase-mm/data-mmrc-aian.html>
- Circumstances Contributing to Pregnancy -Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017 -2019 <https://www.cdc.gov/reproductivehealth/maternal-mortality/erase-mm/data-mmrc-circumstances.html>

Resources

Arizona Perinatal Psychiatry Access Line

APAL is a statewide perinatal psychiatry access line. We assist **medical providers** in caring for their pregnant and postpartum patients with mental health and substance use disorders.

Perinatal psychiatrists are available by phone, **Monday-Friday, from 8:30 a.m.-4:30 p.m.**, to answer provider questions and review treatment options.

Call 888-290-1336

National Maternal Mental Health Hotline

1-833-TLC-MAMA (1-833-852-6262)

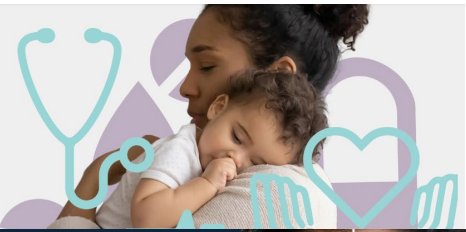


Free, confidential hotline: 1-888-688-4222



Hope *heals.*

Resources are available if you're a mother struggling with substance use disorder.



"I feel agitated and on edge all the time."

Know the Signs

Maternal Mental Health Conditions can happen to anyone. If you're not feeling like yourself, reach out to your doctor or call or text the National Maternal Mental Health Hotline:
1-833-9-HELP4MOMS.



1.800.944.4773



psidirectory.com/arizona

CERTIFICATION IN PERINATAL MENTAL HEALTH



Feedback Survey



[https://adhs.co1.qualtrics.com/jfe
/form/SV_bOsigCHkUrge1ts](https://adhs.co1.qualtrics.com/jfe/form/SV_bOsigCHkUrge1ts)

Questions?

maternalhealth@azdhs.gov

References

- Fontenot, J, Lucas, R, Stoneburner, A, Brigance, C, Hubbard, K, Jones, E, Mishkin, K. Where You Live Matters: Maternity Care Deserts and the Crisis of Access and Equity in Arizona. March of Dimes. 2023.
- Ramirez, GM, Davidson, S, Perez, A, Glidden, M, Rubio, V, Rouamba, A, Celaya, M. Maternal Mortality in Arizona, 2018 -2019. Phoenix, AZ: Arizona Department of Health Services; 2024.
- Trost SL, Busacker A, Leonard M, et al. Pregnancy -Related Deaths: Data from Maternal Mortality Review Committees in 38 U.S. States, 2020. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2024
- Trost SL, Beauregard J, Njie F, et al. Pregnancy -Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017 -2019. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services; 2022.