



Improving Maternal and Infant Health Outcomes in Arizona

Aubri Perez, BS | Maternal Mortality Review Program

Glenda M. Ramirez, MPH | Maternal and Child Health Epidemiologist

Inter Tribal Council of Arizona Webinar June 2023



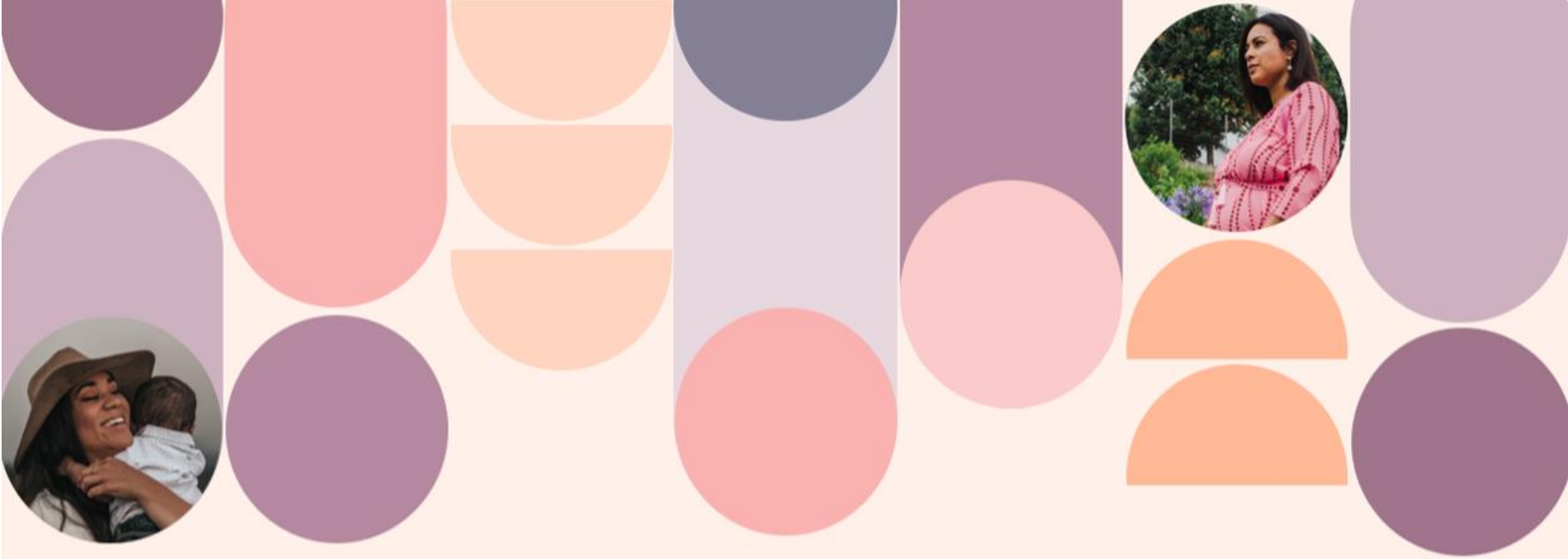
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Disclosure

We have no conflicts of interest to disclose.

Learning Objectives

1. Provide the latest data on maternal mortality and severe maternal morbidity in Arizona, with specific reference to American Indian and Alaska Native data findings
2. Share recommendations and resources that aim to improve maternal health outcomes in Arizona
3. Share information about the Arizona Maternal Mortality Review Committee and opportunities to get involved!



Maternal Mortality

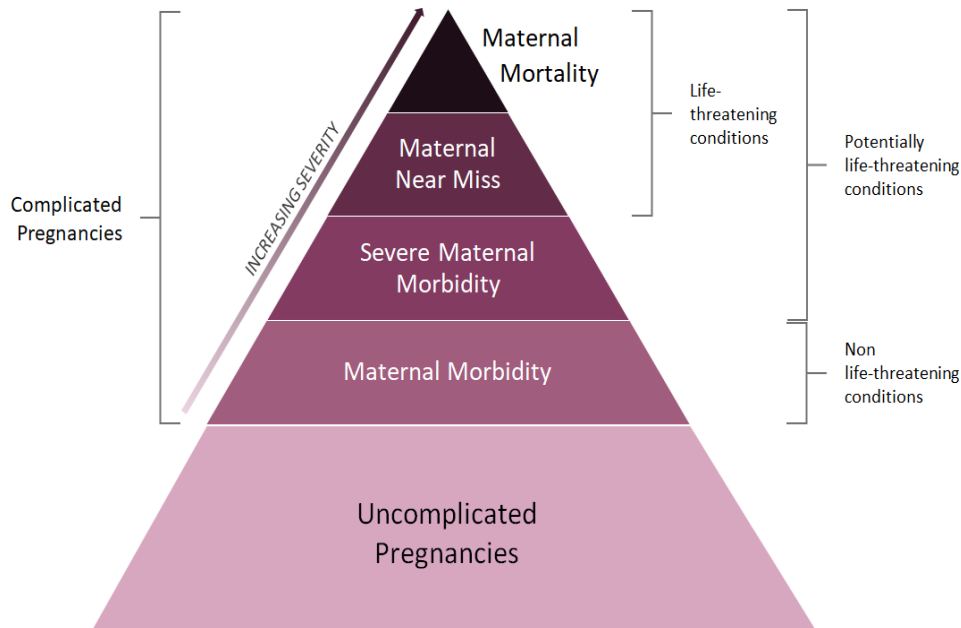


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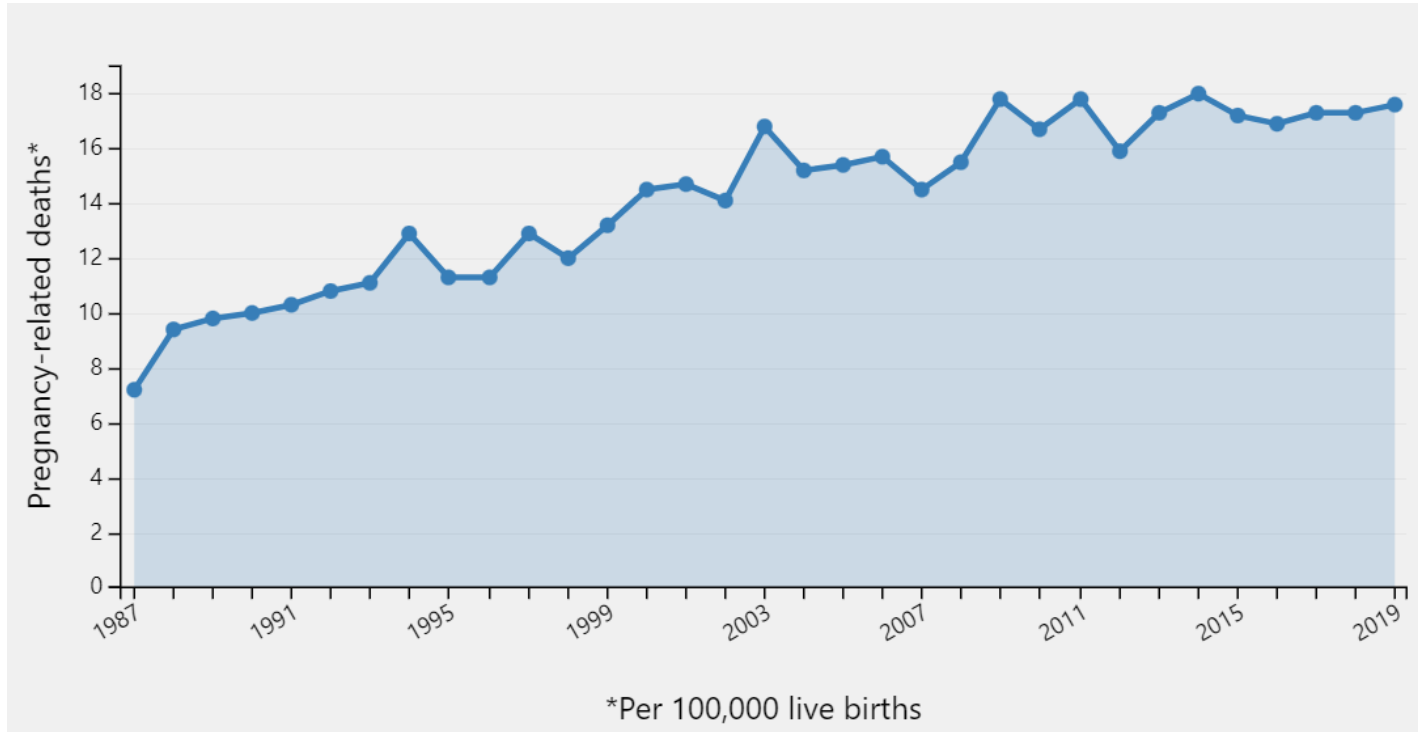
Spectrum of Maternal Health Outcomes

Maternal Mortality:

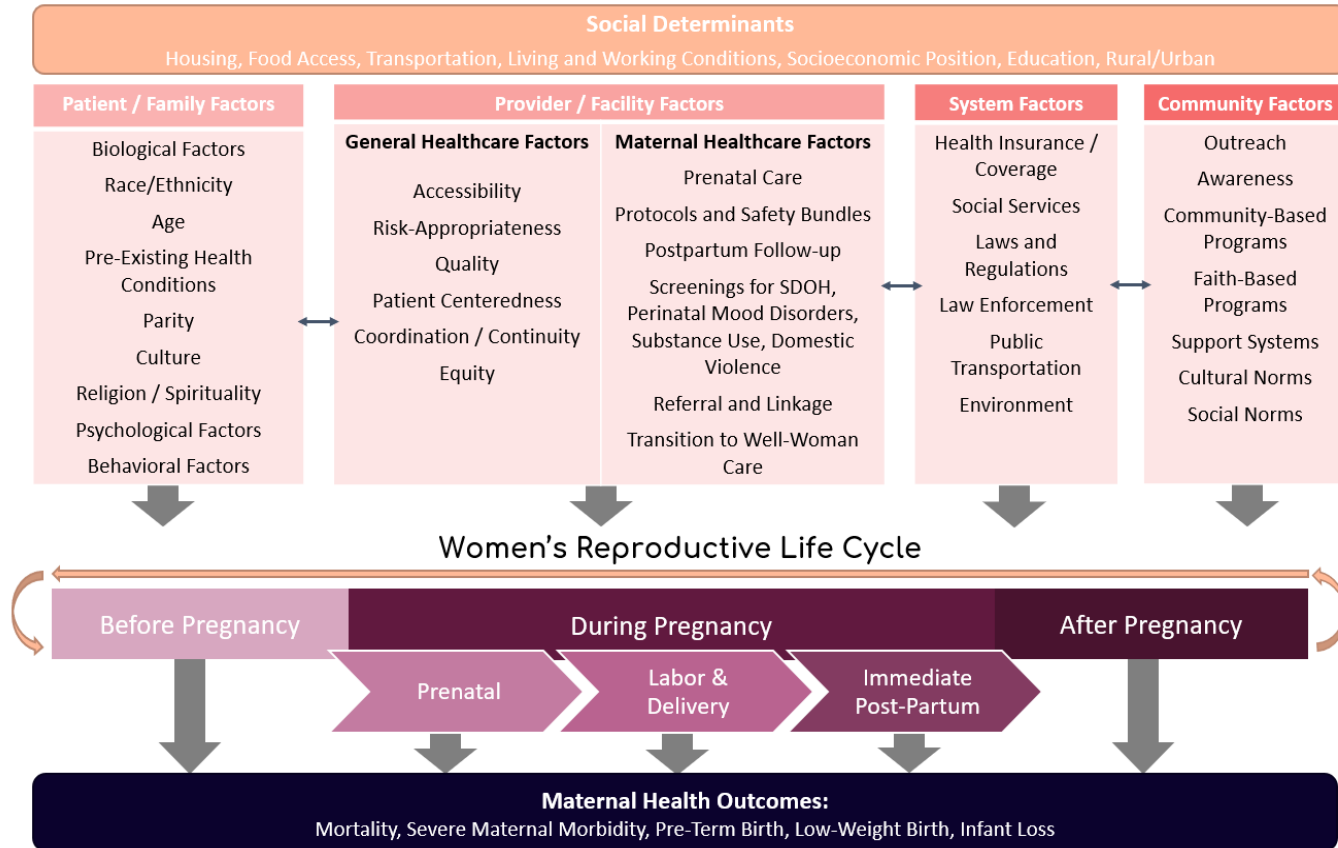
Death of a woman while pregnant or within 1 year of the end of a pregnancy – regardless of the outcome, duration or site of the pregnancy—from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. (CDC)



Pregnancy-Related Mortality Ratios in the United States: 1987 - 2019

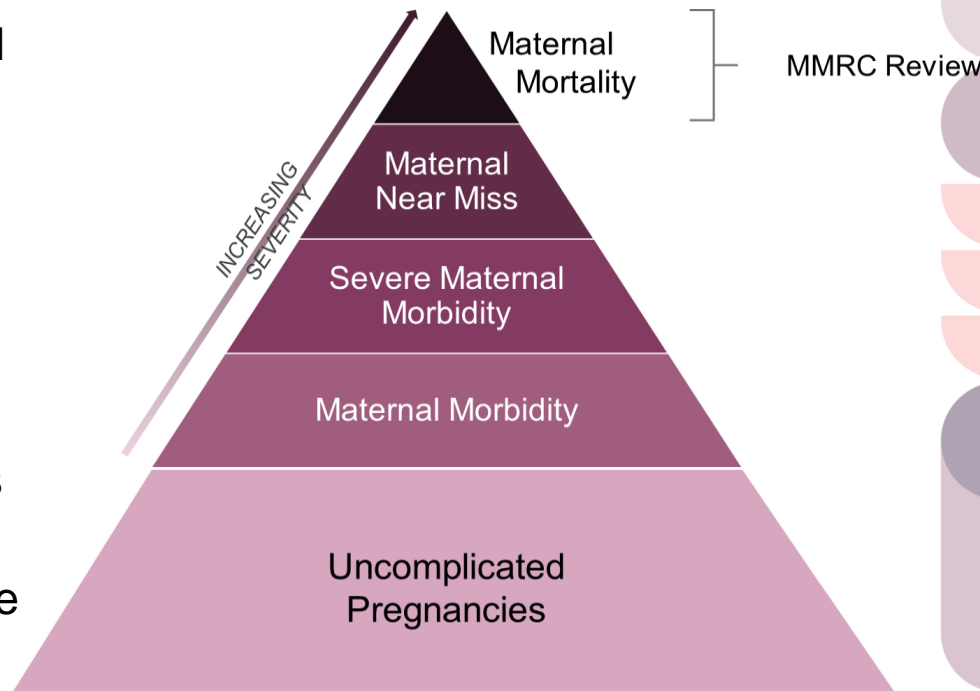


Factors Impacting Maternal Mortality and Morbidity



Arizona Maternal Mortality Review Program

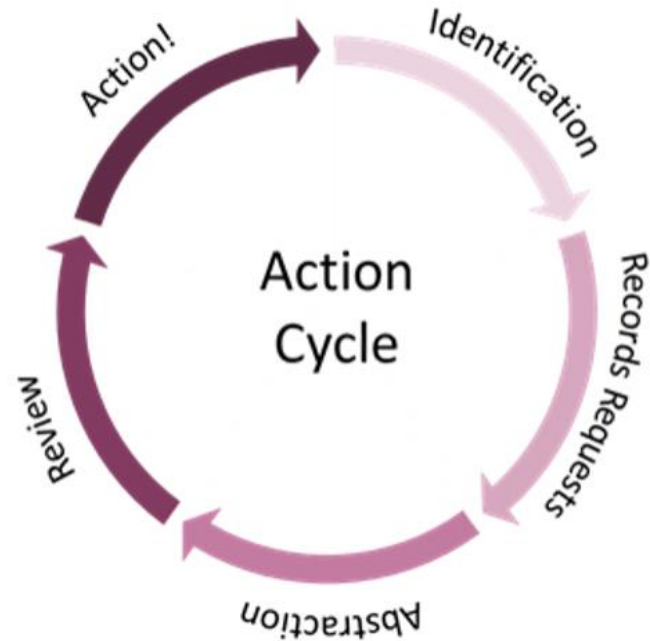
- Established by the Arizona Senate Bill 1121 on April 2011. Review of cases began July 2011.
- Awarded CDC's Enhancing Reviews and Surveillance to Eliminate Maternal Mortality (ERASE MM) in 2019
- Multidisciplinary team (i.e., MMRC) reviews cases to identify preventative factors and produce recommendations for systems level changes.
- Inclusion criteria: Arizona resident, age 10-60, any cause of death, pregnant within one year



MMRP Review Process

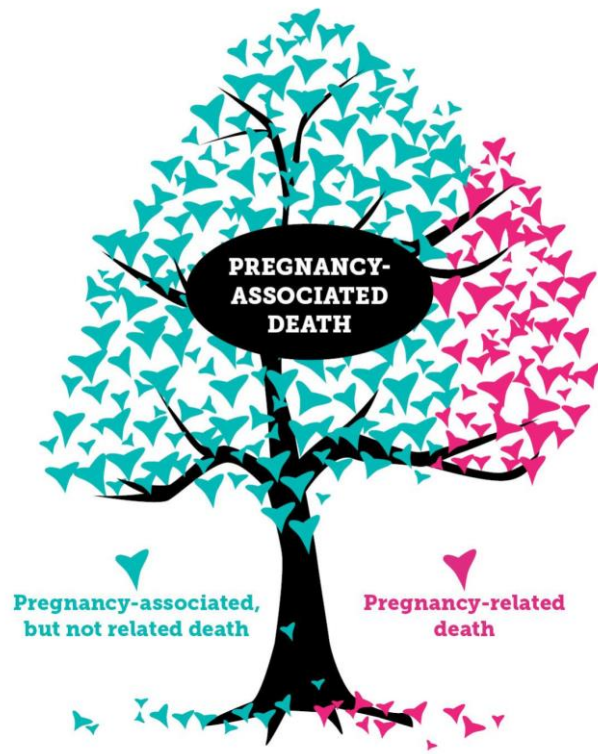
For every death, the MMRC aims to answer the following questions:

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



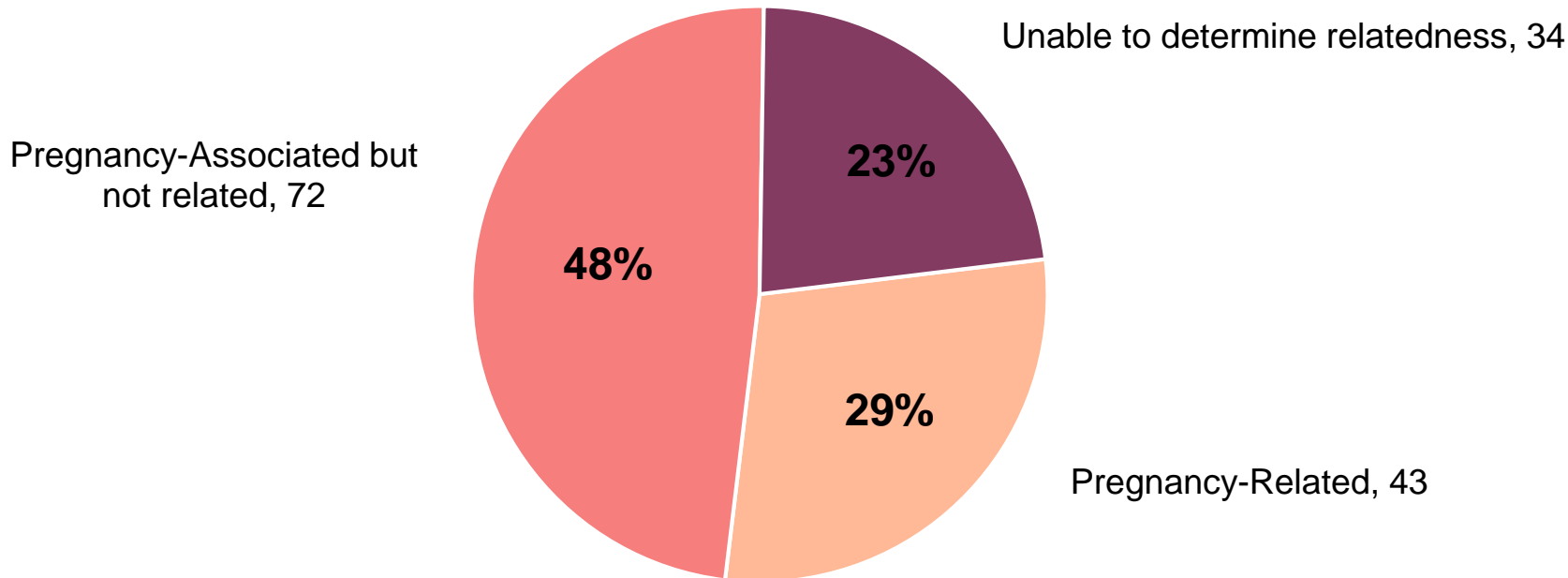
Pregnancy-Associated Deaths

- **Pregnancy-associated death:** The death of a woman while pregnant or within one year of the end of pregnancy, irrespective of cause.
- **Pregnancy-related death:** The death of a woman while pregnant or within one year of the end 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:** The death of a woman during pregnancy or within one year of the end of pregnancy from a cause that is not related to pregnancy.



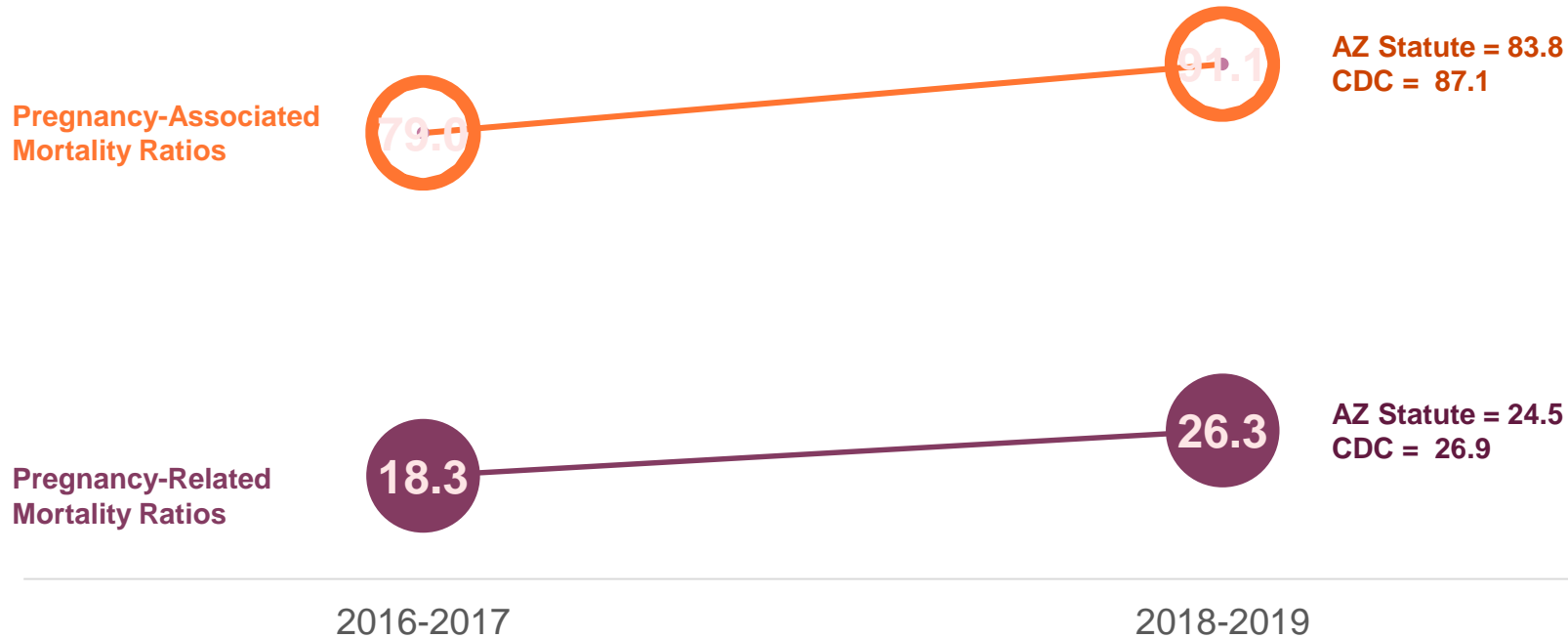
Maternal Mortality in Arizona: 2018-2019*

Pregnancy-Relatedness, n=149



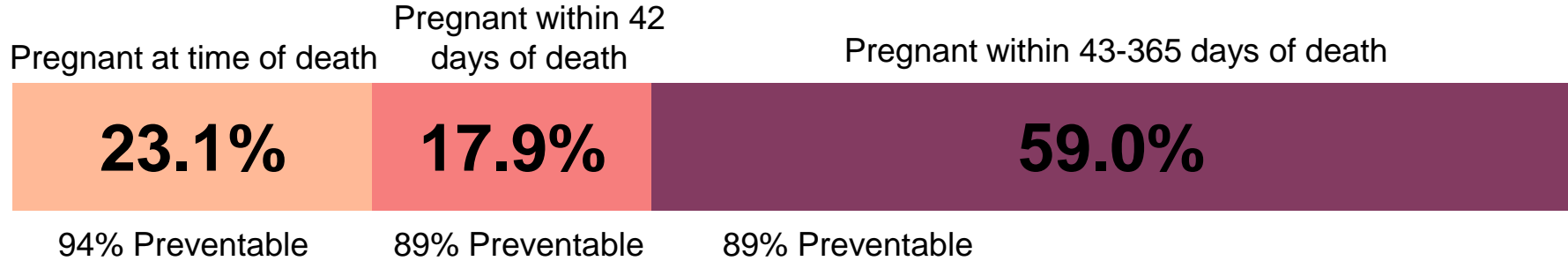
Maternal Mortality in Arizona: 2016-2019*

2-year Mortality Ratios per 100,000 live births



Maternal Mortality in Arizona: 2018-2019*

Timing, Preventability, Chance to Alter Outcome



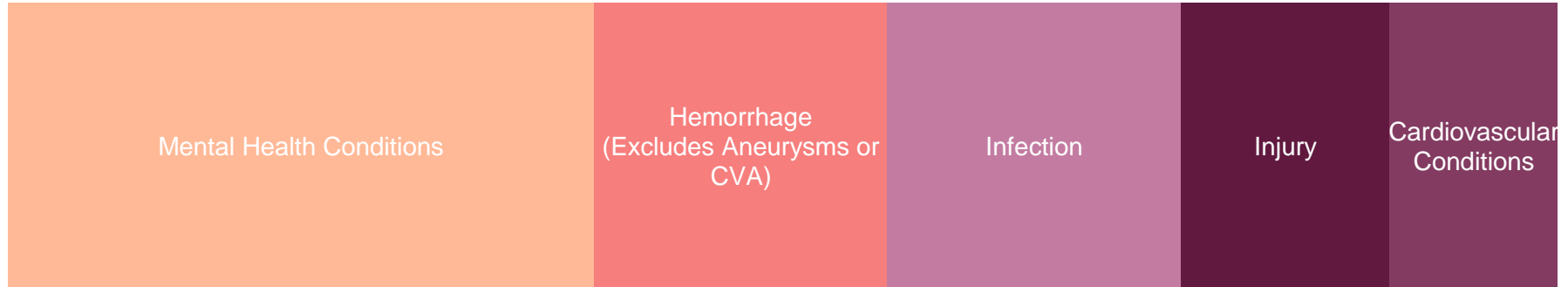
Among those deaths that were determined to be preventable, the chance to alter outcome:



Remaining 7.4% = no chance, unable to determine, or missing data
Individual counts are less than 6

Maternal Mortality in Arizona: 2018-2019*

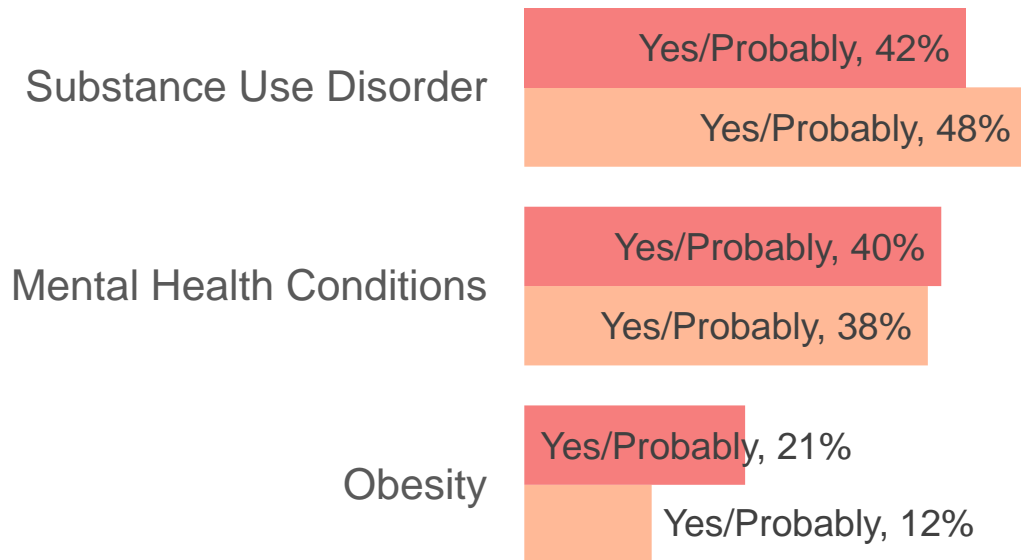
Underlying Cause of Death, Pregnancy-Related



Maternal Mortality in Arizona: 2018-2019*

Some Contributing Factors

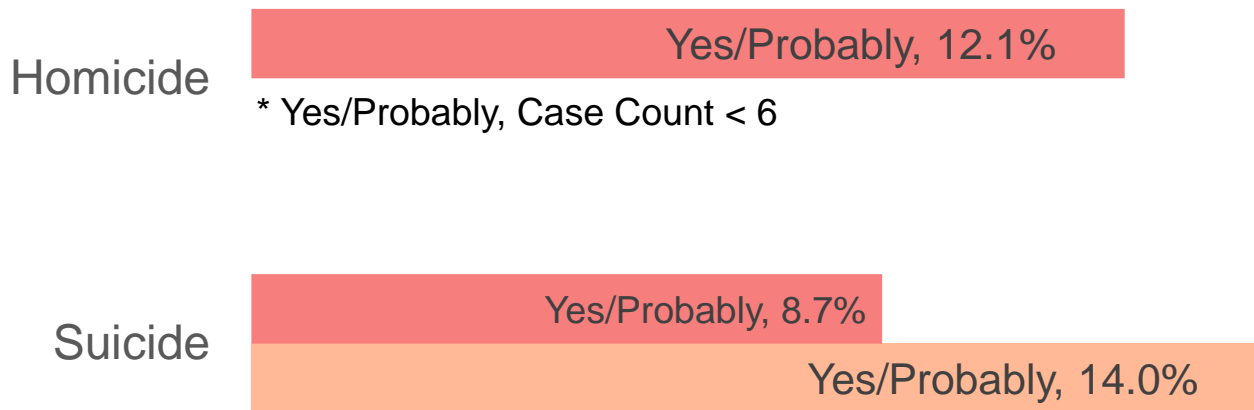
■ Among All Pregnancy-Related Deaths Only ■ Among All Pregnancy-Associated Deaths



Maternal Mortality in Arizona: 2018-2019*

Homicide and Suicide

- Among All Pregnancy-Associated Deaths
- Among All Pregnancy-Related Deaths Only

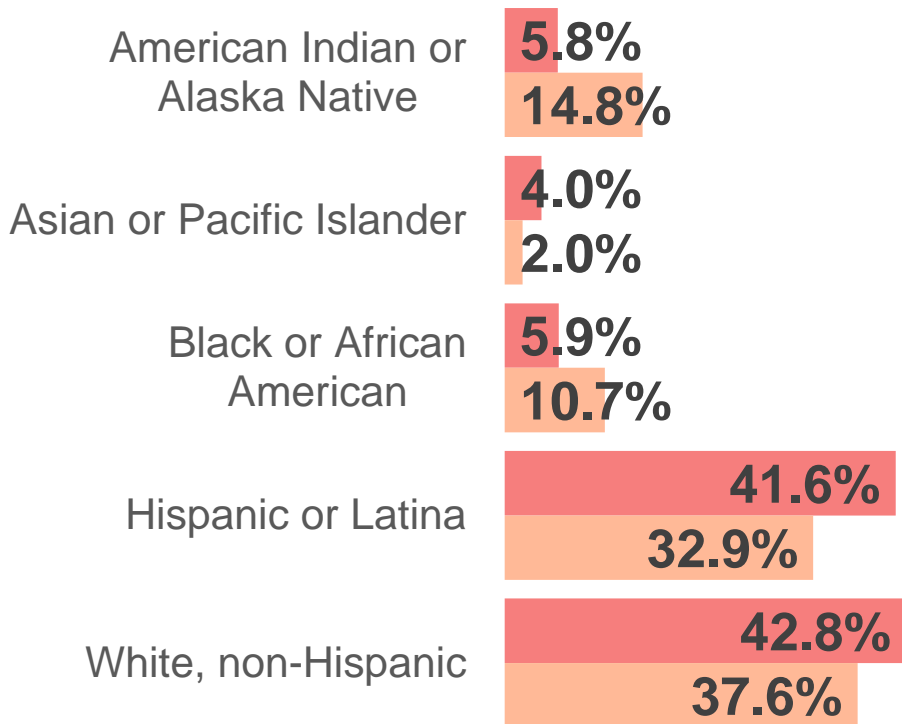


Maternal Mortality in Arizona: 2018-2019*

Race/Ethnicity

■ Percent of Live Births

■ Percent of Pregnancy-Associated Deaths



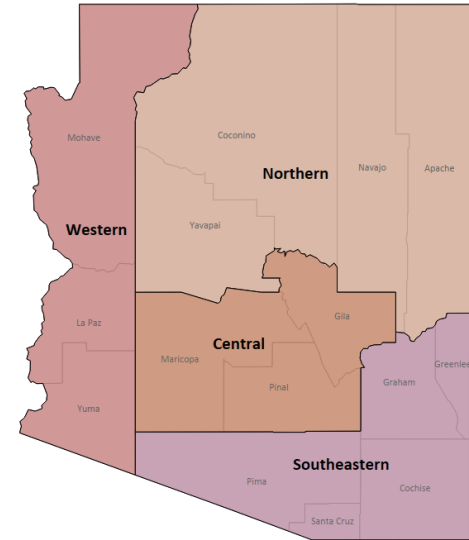
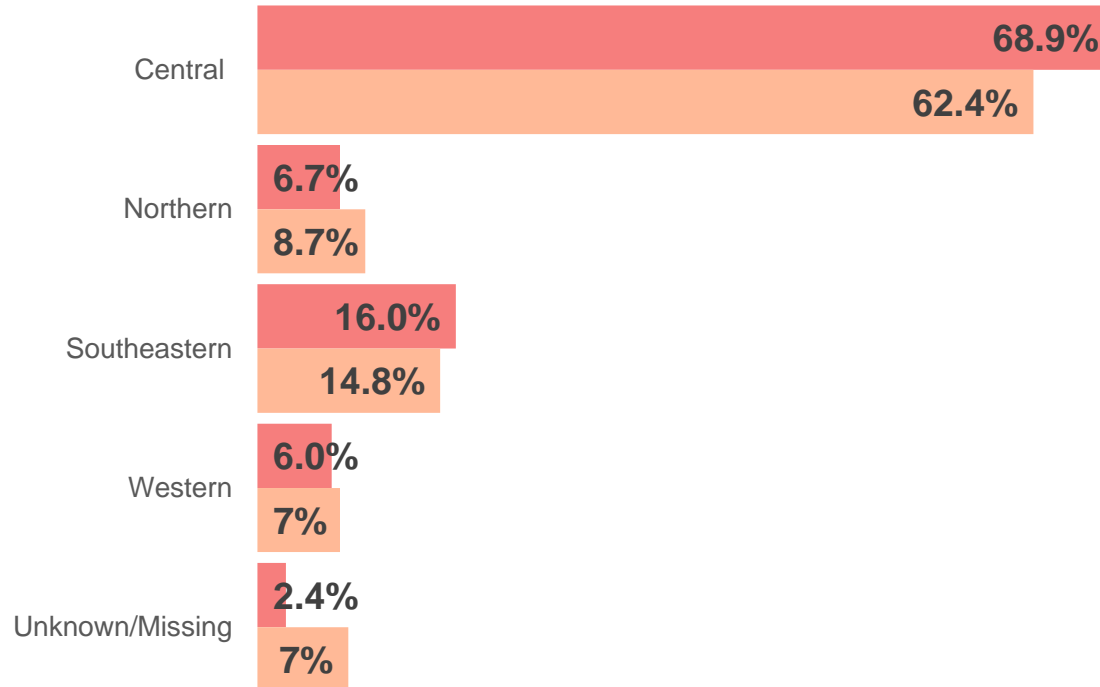
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*2018-2019 maternal mortality data is preliminary until official publication.

Maternal Mortality in Arizona: 2018-2019*

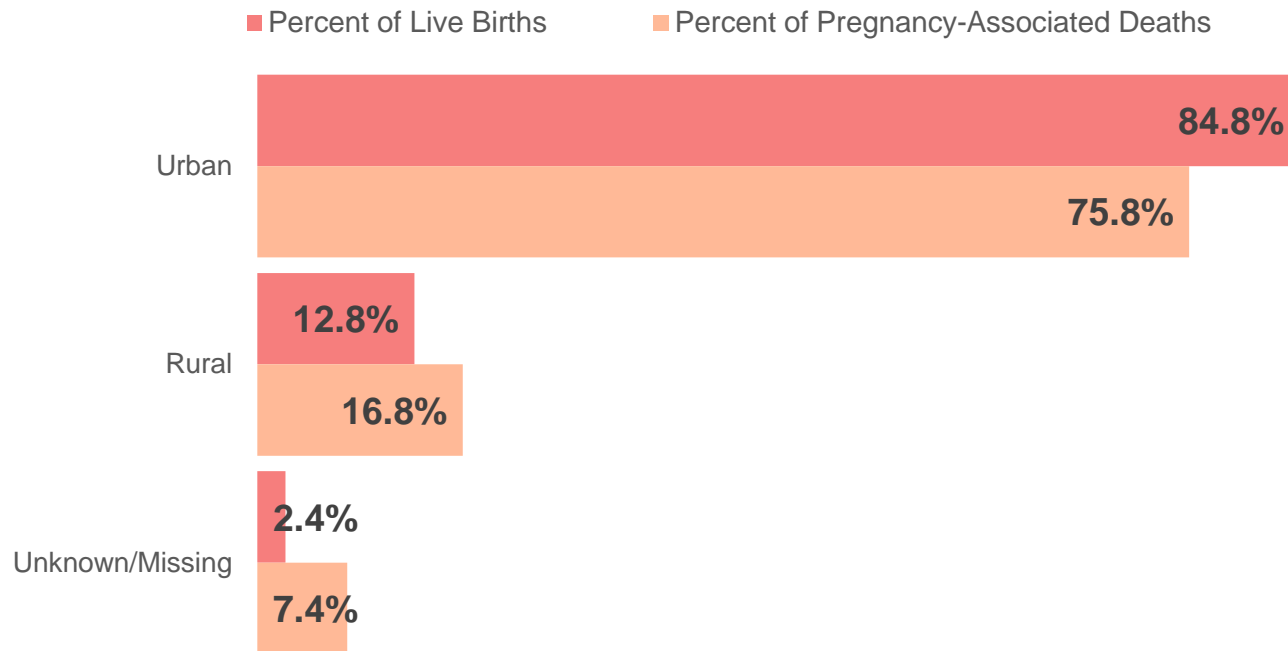
Geographic Region

■ Percent of Live Births
■ Percent of Pregnancy-Associated Deaths



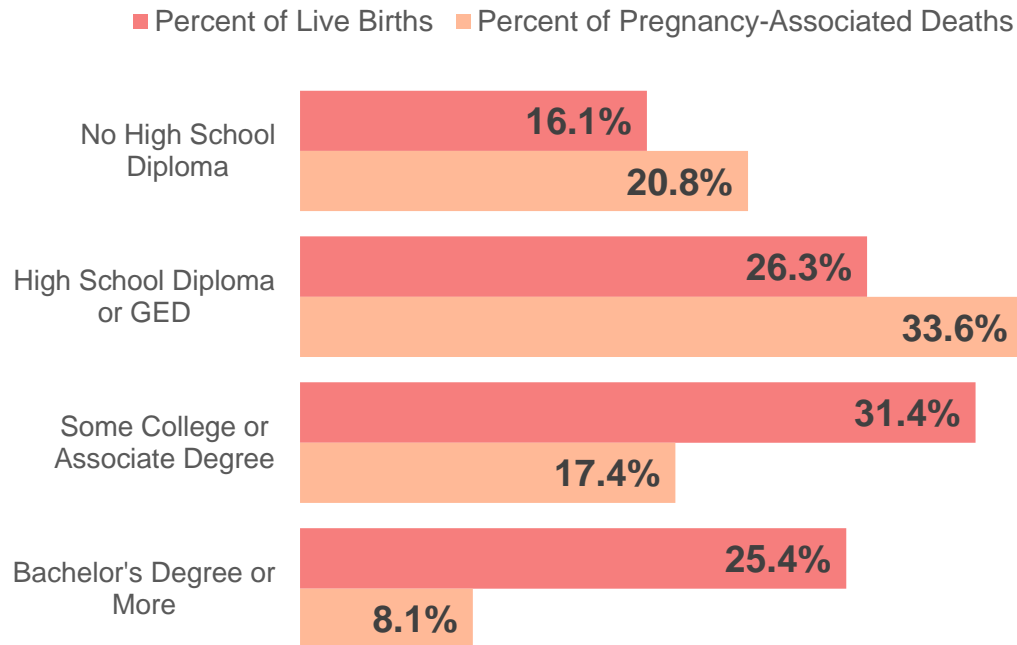
Maternal Mortality in Arizona: 2018-2019*

Urban/Rural



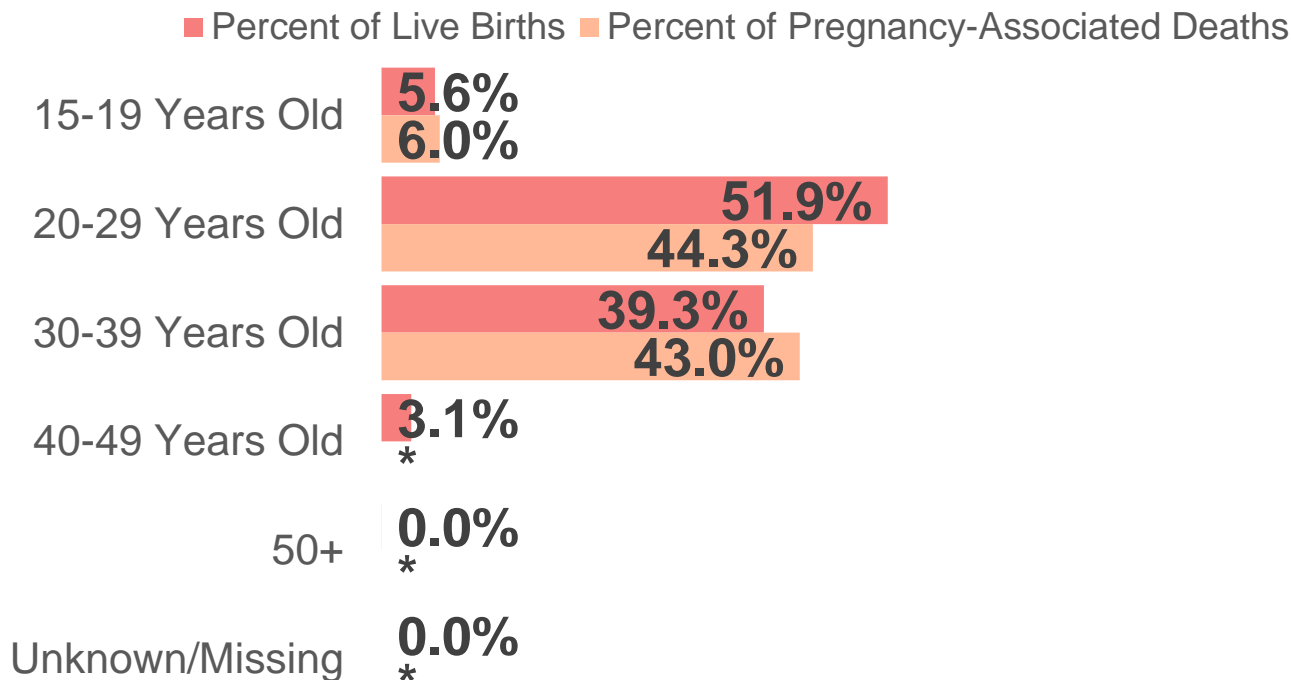
Maternal Mortality in Arizona: 2018-2019*

Education Status



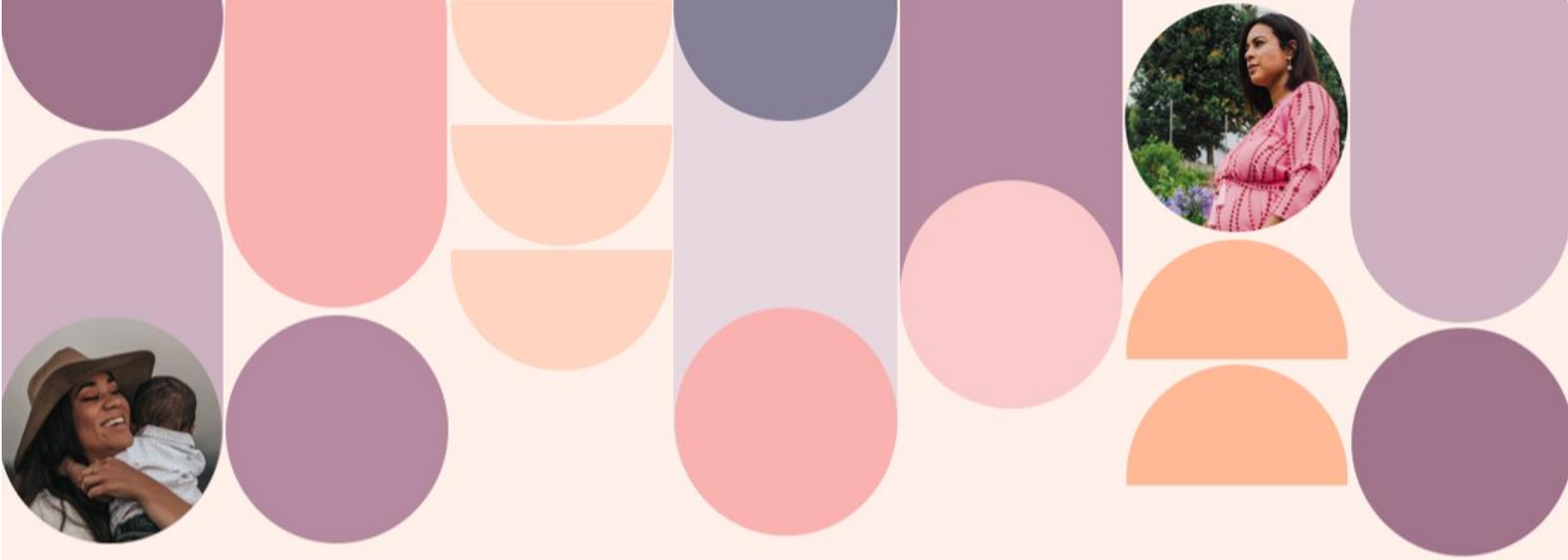
Maternal Mortality in Arizona: 2018-2019*

Age



* = count is less than 6





Severe Maternal Morbidity

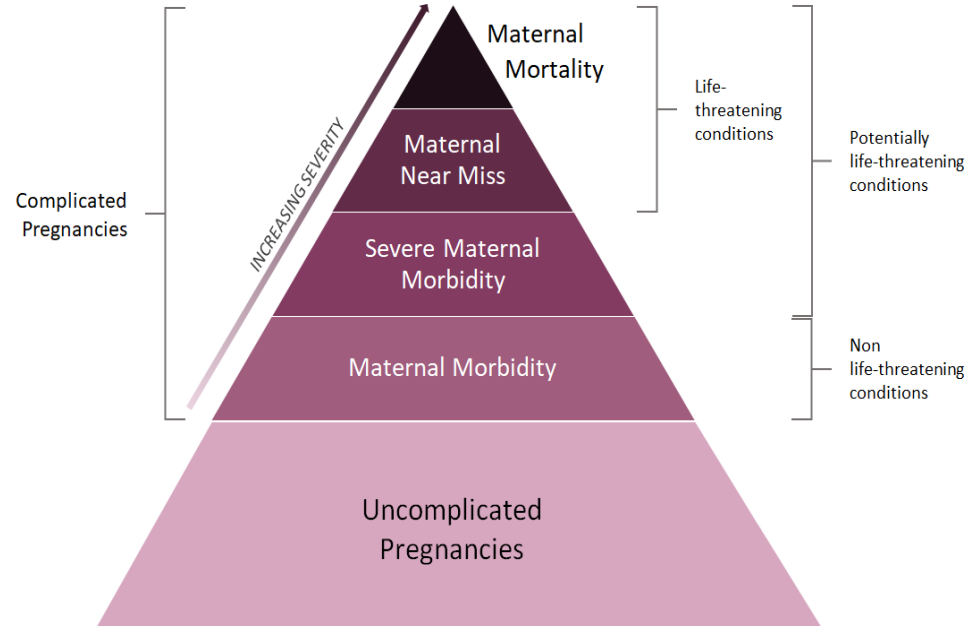


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Spectrum of Maternal Health Outcomes

Severe Maternal Morbidity:

Severe Maternal Morbidity (SMM) results from unexpected outcomes of labor and delivery such as hemorrhage, organ failure and stroke that lead to significant short- or long-term consequences to a woman's health.
(CDC)



Identification of Severe Maternal Morbidities

Hospital Discharge Data:

- Billing discharge data for inpatient and emergency department visits from all Arizona licensed hospitals
- Excludes Indian Health Service, tribal, and federal facilities
- This data is released every 6 months.

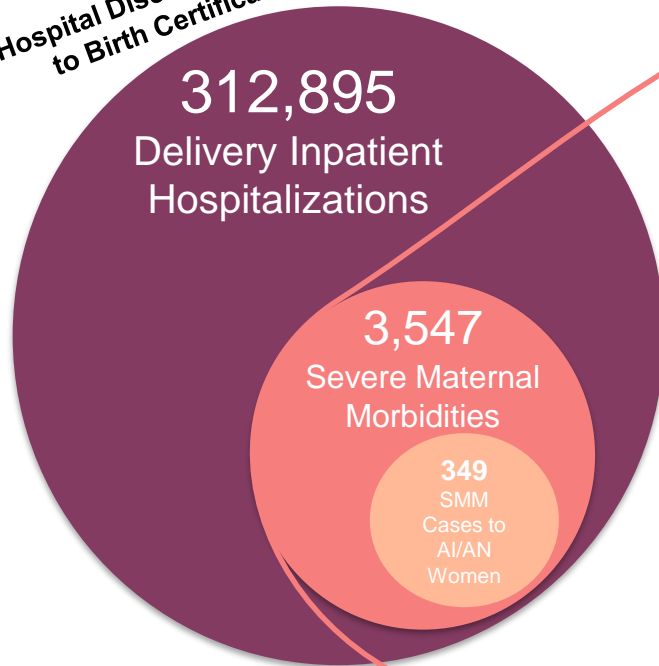
Birth Certificate Data:

- Information on live births from vital statistics
- Available annually

Limited to Arizona Residents

*For 2016-2019, linked dataset included **62% of all American Indian or Alaska Native** births (including non-facility births)*

Hospital Discharge Data linked
to Birth Certificate Data



Severe Maternal Morbidities 2016-2019

Diagnosis-based indicators (16):

- Acute myocardial infarction
- Acute Renal Failure diagnosis
- Adult Respiratory Distress Syndrome diagnosis
- Amniotic fluid embolism
- Aneurysm
- Cardiac arrest/ventricular fibrillation
- Disseminated Intravascular Coagulation
- Eclampsia
- Heart failure/arrest during procedure or surgery
- Puerperal Cerebrovascular Disorder
- Acute Heart Failure / Pulmonary edema
- Severe anesthesia complications
- Sepsis
- Shock
- Sickle Cell Disease with Crisis
- Air and thrombotic embolism

Procedure-based indicators (5):

- Blood transfusion
- Conversion of cardiac rhythm
- Hysterectomy
- Temporary tracheostomy
- Ventilation

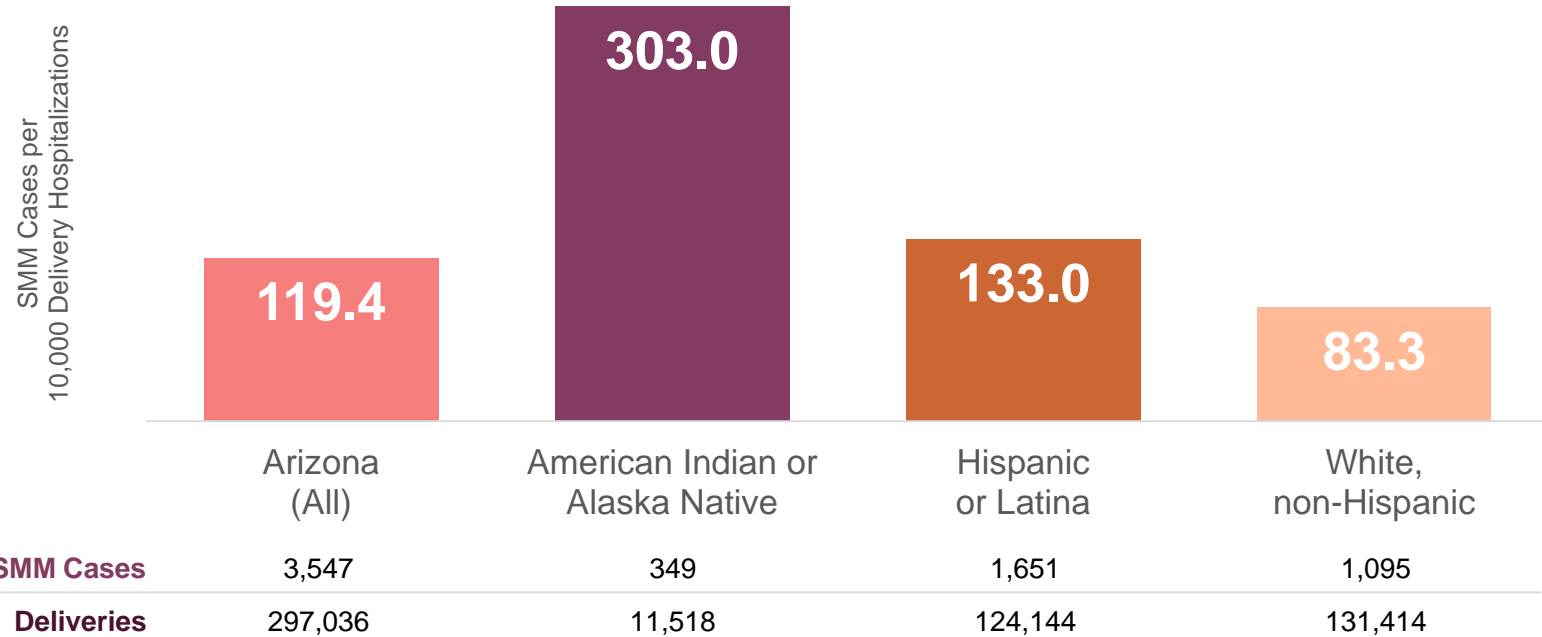
Also must have been transferred in or out of the hospitalization, had a procedure indicator, died while admitted, or had a length of stay $\geq 90^{\text{th}}$ percentile (≥ 3 days vaginal, ≥ 4 days repeat cesarean, ≥ 5 days primary cesarean)



Rate of Severe Maternal Morbidities by Race & Ethnicity

among Arizona Resident Delivery Hospitalizations 2016-2019

Overall SMM Rate:
Arizona: 119.4



Leading Indicators of SMM

by Race & Ethnicity

Either Diagnosis or Procedure Indicators

Arizona - all races	
Blood Transfusion	67.6%
Adult Respiratory Distress Syndrome	8.4%
Hysterectomy	7.8%
Acute Renal Failure	7.7%
Sepsis	7.6%
Disseminated Intravascular Coagulation	6.5%
Pulmonary Edema / Acute Heart Failure	6.0%
Shock	5.6%
Ventilation	4.5%

American Indian or Alaska Native	
Blood Transfusion	71.6%
Acute Renal Failure	11.5%
Adult Respiratory Distress Syndrome	9.7%
Pulmonary Edema / Acute Heart Failure	7.7%
Ventilation	7.4%
Shock	6.9%
Hysterectomy	6.0%
Disseminated Intravascular Coagulation	4.3%
Sepsis	4.3%

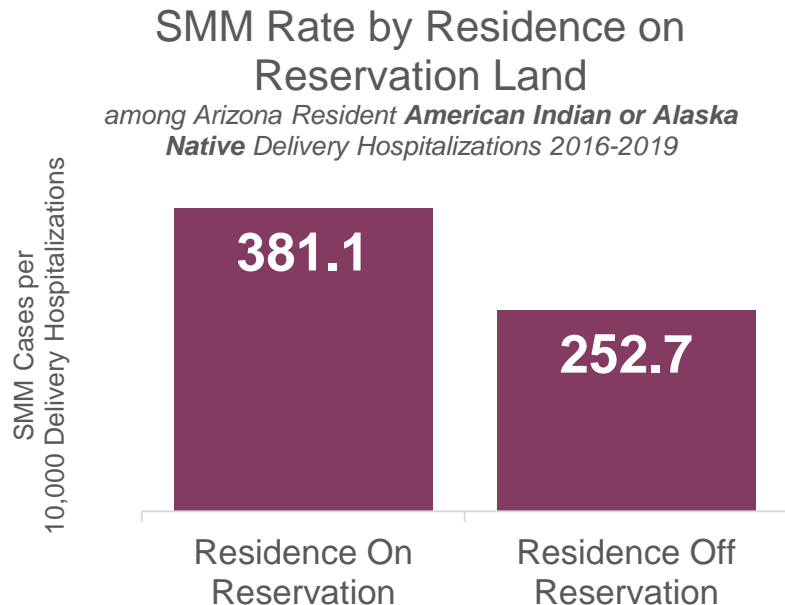


SMM Rate by Residence

among American Indian and Alaska Native deliveries

Overall SMM Rates:

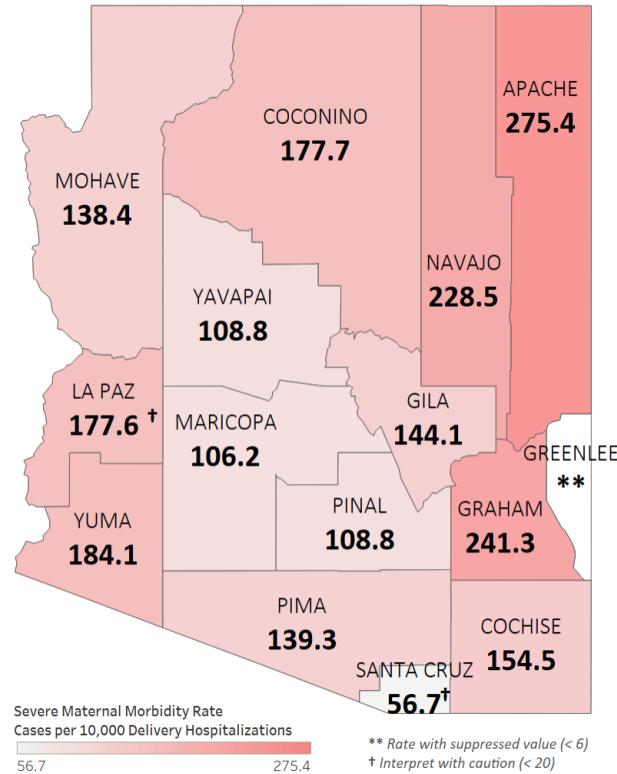
- Arizona: 119.4
- AI/AN: 303



SMM Rate by County of Maternal Residence

among Arizona Resident Delivery Hospitalizations, 2016-2019

**SMM rates for all residents, not just AI/AN women

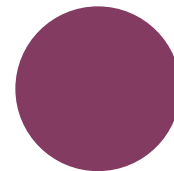
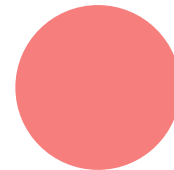
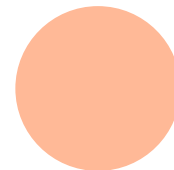
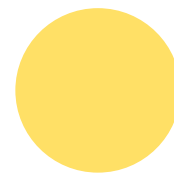


Overall SMM Rates:

- Arizona: 119.4
- AI/AN: 303



Reflection



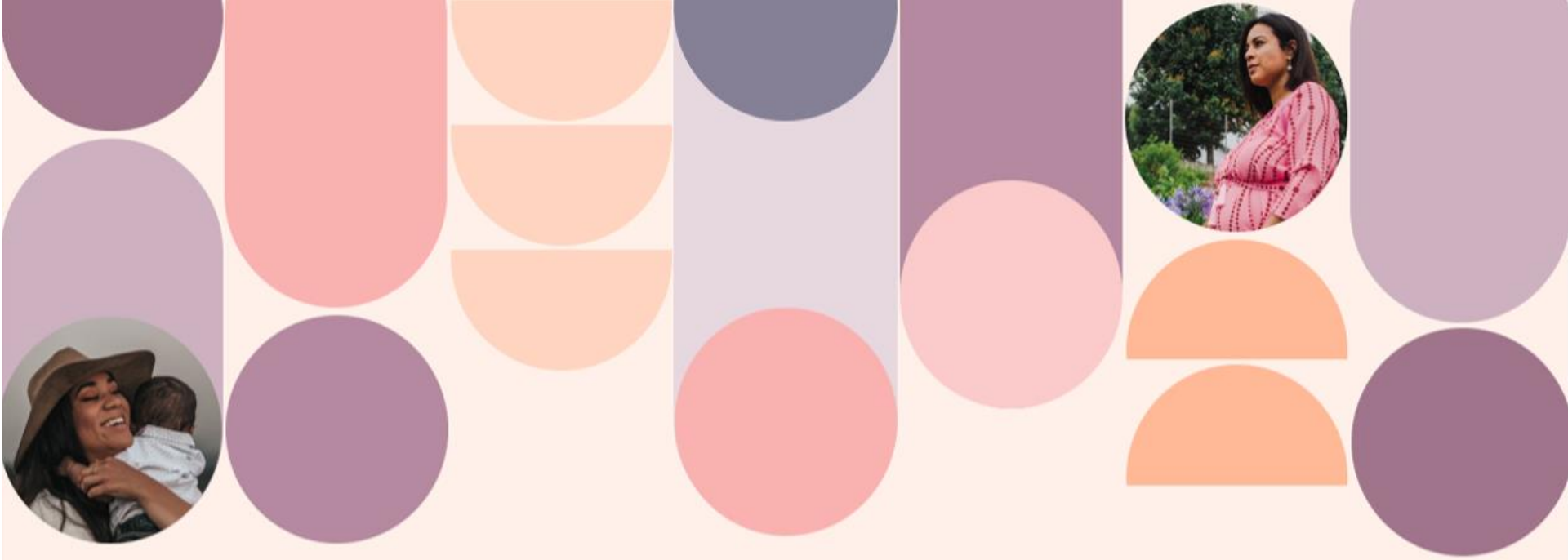
Data Summary

Key Findings for Arizona:

- Maternal Mortality Rates show an increase from 2016 to 2019 for both Pregnancy-Associated and Pregnancy-Related deaths.
- Maternal Mortality & Severe Maternal Morbidity is the highest among AI/AN populations.
 - Higher SMM rates among AI/AN birthing people are seen on reservation compared to off reservations.
 - SMM differences in top indicators when comparing AZ overall to AI/AN populations
E.g. Adult Respiratory Distress Syndrome compared to Acute Renal Failure among AI/AN

Limitations & Considerations:

- Preliminary data for Maternal Mortality
- Missing data for AI/AN for SMM
- No statistical tests were performed
- *Not meant to draw conclusions, but instead more research to understand why & continue optimal services.*



Recommendations to Improve Maternal Health Outcomes



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At Least 14 Recommendations Currently Implemented

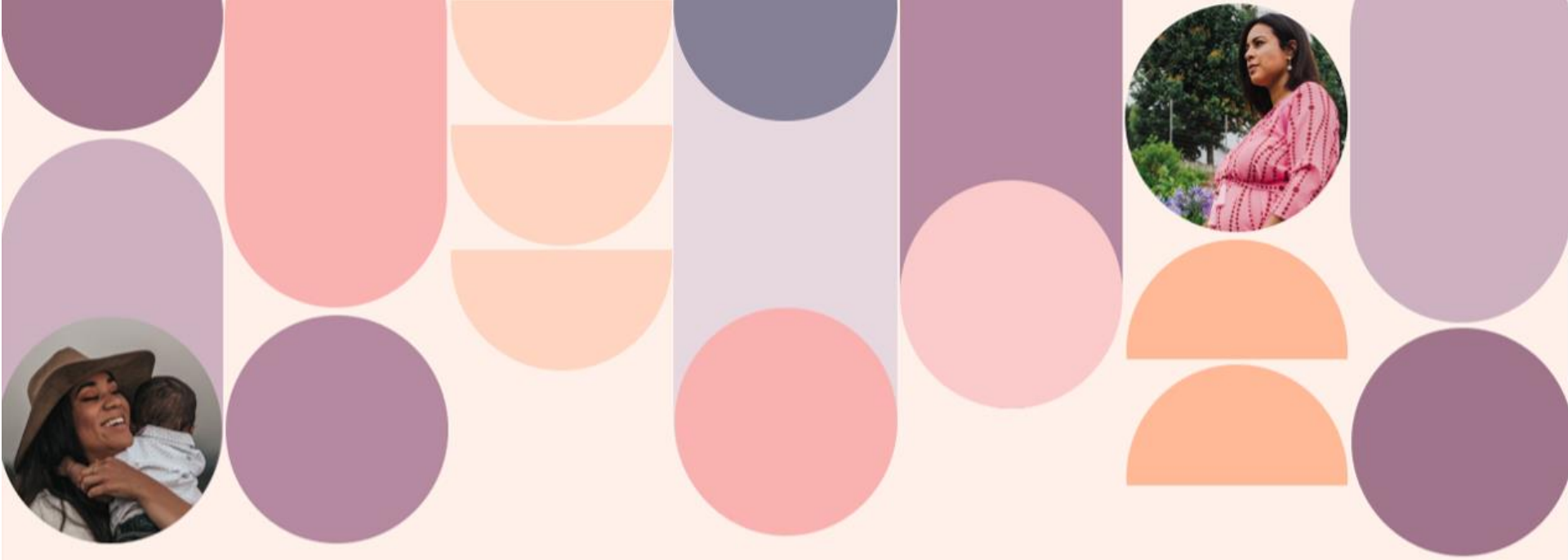
1. Implementation of a maternal health Implicit Bias Training with over 245 professionals in Arizona.
2. Collaboration with two Arizona home visiting programs (Health Start and High Risk Perinatal Program) to deliver postpartum warning signs education to Arizona moms and families.
3. An initiative to train Arizona providers in perinatal mood and anxiety disorders via PSI.
4. A training related to maternal mental health and substance use for over 150 professionals in Arizona.
5. A public health campaign aimed at women, families, and providers focused on postpartum warning signs (adopted from the HearHer campaign)
6. A stigma reduction campaign for maternal substance use aimed at mothers and providers.
7. Dissemination of MMR data to cross-sector partners, including home visitors, tribes, etc.
8. Support for perinatal provider networking and education (maternal health ecosystem).
9. Implementation of the Arizona AIM Collaborative, including 36 of 42 participating birthing facilities.
10. Development of a resource for Arizona emergency medical service (EMS) providers to educate on urgent maternal warning signs and maternal resuscitation strategies.
11. Establishment of a perinatal telehealth program in Southeastern Arizona connecting a rural community with Maternal Fetal Medicine support in Tucson.
12. Launched the Know the Signs campaign to increase awareness about urgent maternal warning signs.
13. Arizona extended postpartum coverage from 60 days to 12 months, effective April 1, 2023.
14. Establishment of the Arizona Perinatal Access Line (APAL) for providers to access real-time perinatal psychiatric consultation, effective June 1, 2023.

Patients and Families	Providers	Facilities	Communities
<p><i>(With the support and education from providers):</i></p> <p>Become active participants and shared decision-makers in their care</p> <p>Adhere to recommendations for timely and appropriate care regarding early prenatal care, <u>postpartum warning signs</u>, management of chronic conditions, and treatment for perinatal mood disorders and substance use disorders</p>	<p><i>(With the support of facilities):</i></p> <p>Implement standardized procedures for assessing patient knowledge and effectively communicating pertinent health information in their preferred language</p> <p>Advance skills and awareness of obstetrical emergencies (readiness, recognition, and response)</p>	<p>Participate in Arizona's state-wide implementation of the <u>Alliance for Innovation on Maternal Health</u> (AIM) Patient Safety Bundles</p> <p>Improve continuity of care through integrated, patient-centered and/or family levels of care models</p> <p>Adopt a health equity framework (e.g., conduct organizational assessments, provide equity and inclusion trainings for providers, adopt equitable hiring and retention practices)</p>	<p>Develop and provide community-based outreach and education to enhance awareness of various helplines, availability of local resources, proper life saving strategies, elements of healthy relationships, etc.</p> <p>Ensure access to faith-based or other services that support social determinants of health</p> <p>Establish models of peer support across the perinatal period that include voluntary access and referral to appropriate resources</p>



Regulatory or State Policy	Payers	First Responders and Law Enforcement	Other Systems
<p>Expand opportunities to diversify the maternal health workforce particularly in rural areas (e.g., loan reimbursement and incentives)</p> <p>Establish continuing education requirements about perinatal conditions and obstetric emergencies</p> <p>Identify opportunities to achieve a universal medical record (e.g., Arizona Health Information Exchange)</p>	<p>Reimburse all levels of providers with patient-centered, family levels of care, and peer-support models</p> <p>Adopt maternity care incentive plans</p> <p>Adopt American Indian Medical Home models</p> <p>Provide access to full range of reproductive resources and other resources that address SDOH</p> <p>Ensure collaborative care codes allow behavioral health and perinatal mental health providers to be reimbursed</p> <p>Recognize perinatal behavioral health specialists as a contracted medical specialty</p>	<p>Dispatch behavioral health providers on all calls involving domestic violence, substance use, mental health challenges, or social/economic instabilities</p> <p>Establish harm reduction programs and protocols for those experiencing a substance use disorder</p> <p>Establish supportive environments for those experiencing domestic violence or intimate partner violence</p>	<p>Confirm qualifying conditions for medical examiners</p> <p>Ensure roadways and sidewalks are well lit</p> <p>Become a Trauma-Informed State</p> <p>Prepare and disseminate maternal mortality data</p> <p>Expand access to telehealth services</p> <p>Adopt outreach and education practices to reduce stigma of maternal mental health and substance use disorders</p>





MMRC – Opportunities to Get Involved!



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MMRC Recruitment

Volunteer Membership – representing professional organizations

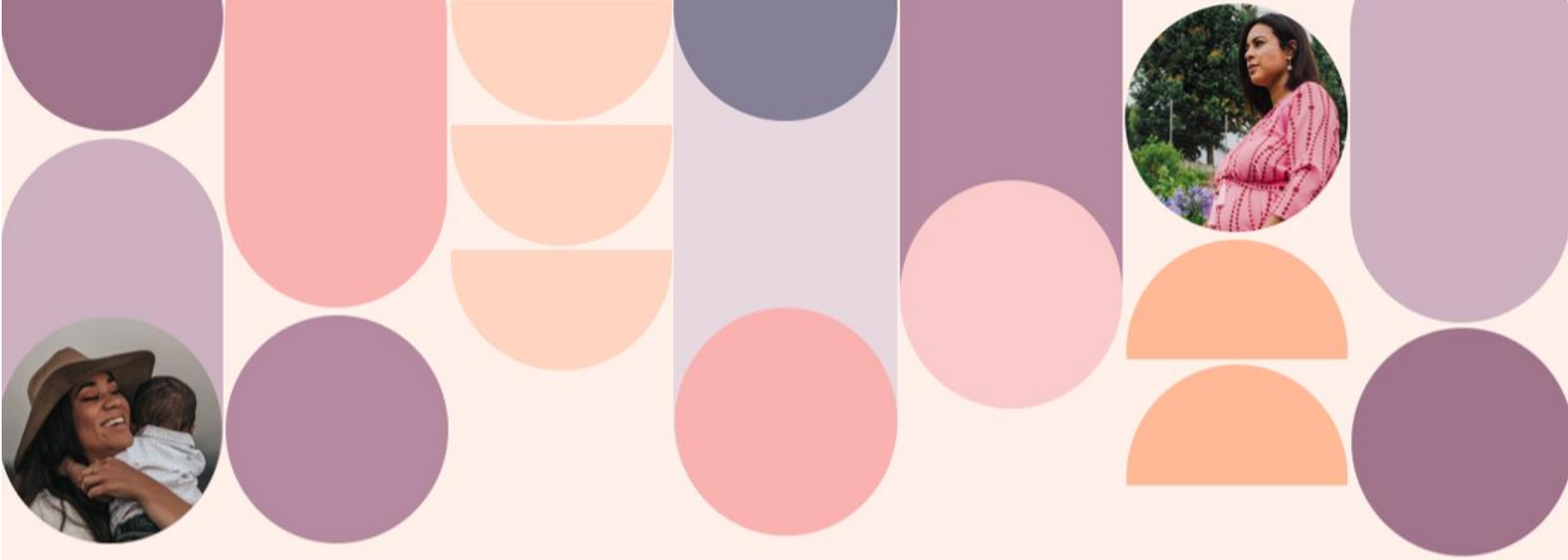
- Applications open Fall 2023!
- No compensation available

Patient/Family Advisor – representing direct or indirect lived experience

- Currently recruiting for two vacancies
- Compensation available depending on level of participation

Community Advocate – representing (1) urban, (1) rural, and (2) tribal communities

- Currently recruiting for four vacancies
- Compensation available depending on level of participation



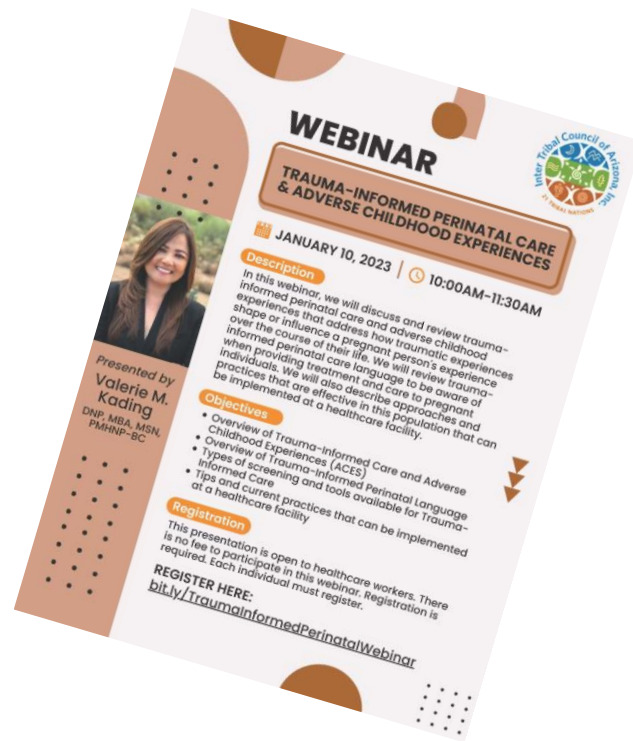
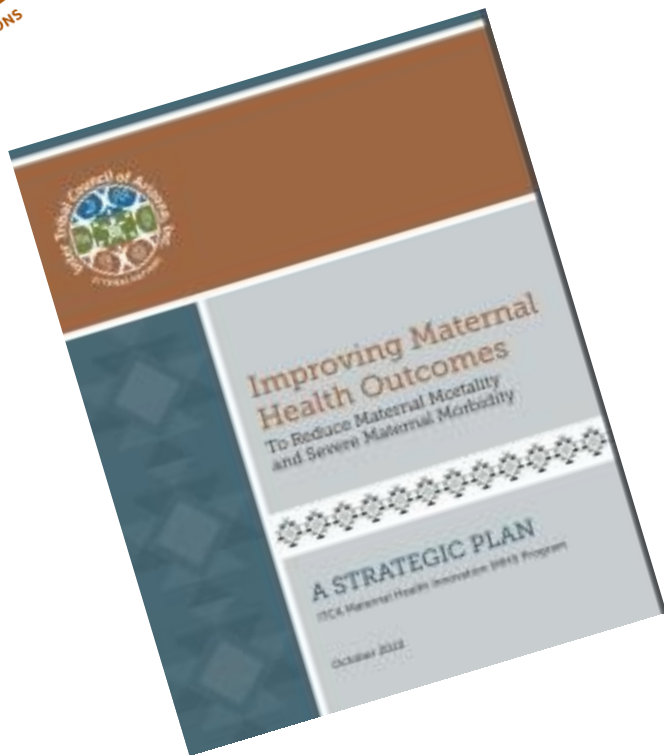
Resources and Upcoming Events



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Inter Tribal Council of Arizona Contract



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Diné Contract



NAVAJO MATERNAL HEALTH WEBINAR

AUGUST 30, 2022
9AM-3PM MDT

REGISTER AT THIS LINK:
[HTTPS://FORMS.GLE/SW0SGHBMJU](https://forms.gle/SW0SGHBMJU)
NWULAA

Presenting the latest information and resources on maternal health priorities!

First 10 mothers/birthing people to register will receive a postpartum package!

SPECIAL PRESENTATIONS BY:

- Nicolle Gonzales - Midwife & Director of Changing Woman Initiative
- Amanda Singer- Lactation Counselor, Diné Doula & Director of Diné Nation Breastfeeding Coalition
- Jolene Holgate - Co-founder and Task Force Member, Missing & Murdered Diné Relatives
- Panel session - Sharing of birthing experiences

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CONTACT INFO:

Amber-Rose Begay
(505) 421-8817
aribegay@dinecollege.edu

Stacey Litsen
(928) 714-6038
slj276@nau.edu

Healthy
NAVAJO K'É

Maternal and Child Health

Supported by Diné College, Northern Arizona University and Arizona Department of Health Services

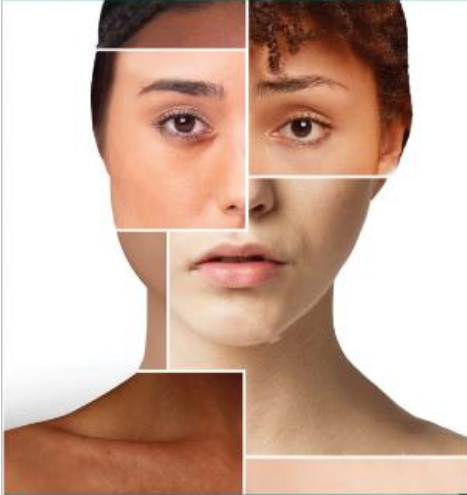


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Know the Signs

Maternal Mental Health Awareness



Newly Released Awareness Campaign

- ✓ Campaign Landing Page
- ✓ Social Media Toolkit
- ✓ Targeted Radio & Social Media Advertising
- ✓ State & National Resources

What's Next

- ☐ Additional resources & information
- ☐ Infographics

www.azhealth.gov/KnowTheSigns

**1 in 7 women suffer
from maternal mental
health conditions**

National Maternal Mental Health Hotline

1-833-9-HELP4MOMS



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Tribal Support

4th Trimester
ARIZONA

Indigenous Village
"Perinatal Mental Health Check-In"

Led by


Kimberly Moore-Salas


Amanda Singer

WEDNESDAY, January 11
12 - 1:30 PM
Join Us on Zoom

— 2023 —

Maternal and Infant Mortality Summit

Systems and Communities - Creating Change for Better Outcomes

Register for this free two-day virtual event!

August
23



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August
24



CEU eligible.

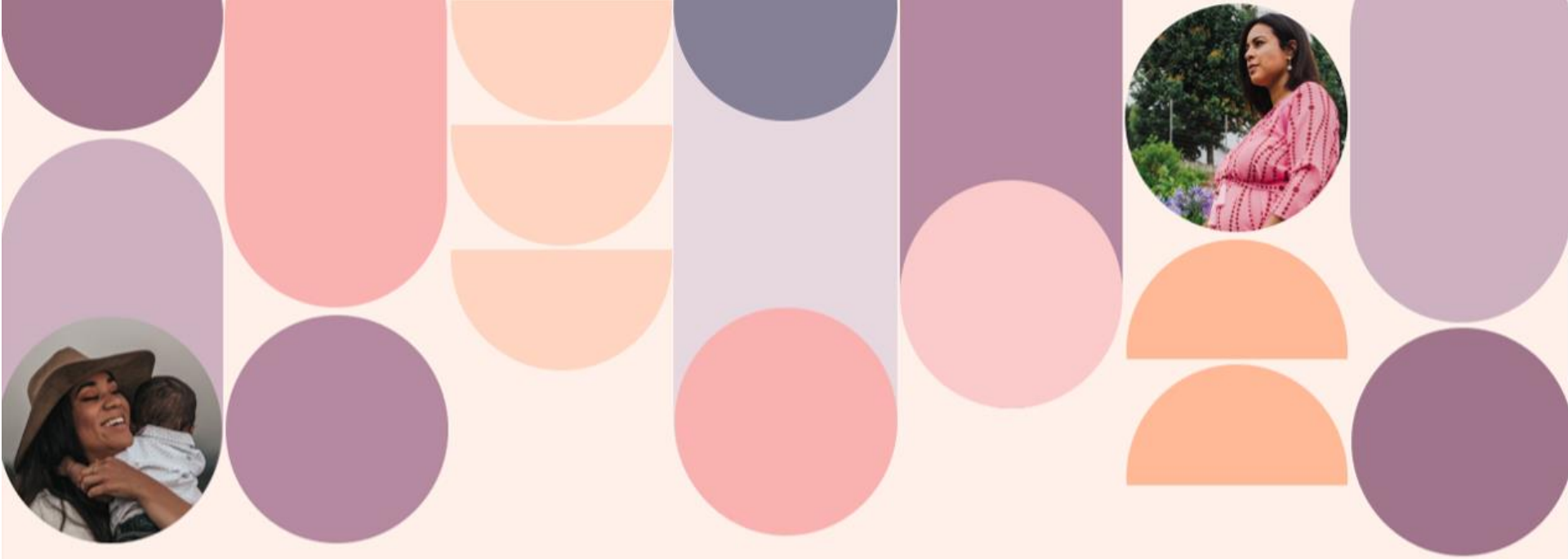


Registration link:

<https://us06web.zoom.us/join/zoom-join-link?from=addon&addon=maternal-infant-mortality-summit-2023>



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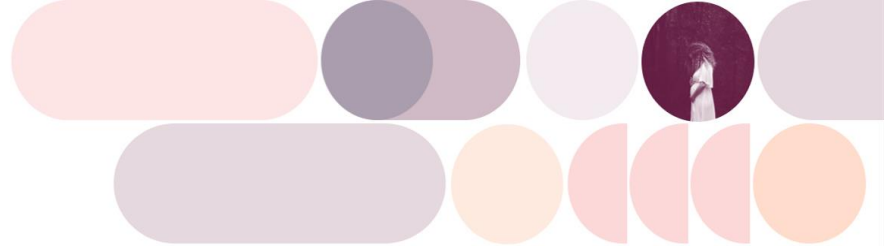


Questions?



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Thank you!



Maternal Mortality Review Program

Office of Assessment and Evaluation
Bureau of Women's and Children's Health, ADHS

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

[Twitter](#) [Instagram](#) [Facebook](#) [YouTube](#) [Blog](#)

Aubri Perez, BS

Maternal Health Program Manager
Aubrianna.Perez@azdhs.gov

Glenda M. Ramirez, MPH

Maternal and Child Health Epidemiologist
Glenda.Ramirez@azdhs.gov



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