

# Opportunities To Improve Maternal and Infant Health In Rural Areas

**2023 Arizona State Office of Rural Health Webinar for National Rural Health Day**



**November 16, 2023**

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**National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)  
Centers for Disease Control and Prevention (CDC)**

# Disclosures

I, Dr. Ada Dieke, have no relationships with any commercial interests that would represent a conflict of interest with the presentation that follows.

The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Where you live, can determine your health.

# Outline

- Disparities In Rural Health Outcomes
- Access to Care Challenges
- DRH Opportunities to Improve Rural Health Outcomes – Data
- DRH Opportunities to Improve Rural Health Outcomes – Programs
- CDC Workforce Development Opportunities

# Federal Definition Variation for Rural

Federal Agency	Rural Definition
U.S. Census Bureau	<ul style="list-style-type: none"><li>Any area that is not urban</li></ul>
Human Resources Services Agency (HRSA)	<ul style="list-style-type: none"><li>All non-metro counties</li><li>All Metro census tracts with Rural-Urban Commuting Area Codes (RUCA) 4-10</li><li>Large area Metro Census Tracts of at least 400 sq. miles or population density of &lt;35 per sq. mile with RUCA code 2-3</li><li>Outlying Metro Counties without an Urbanized Area</li></ul>
U.S. Department of Agriculture's (USDA)	<ul style="list-style-type: none"><li>RUCA Codes 4 –6 Micropolitan, 7-9 Small Town, 10-Rural</li><li>Created using U.S. Census tract data</li></ul>
Office of Management and Budget (OMB)	<ul style="list-style-type: none"><li>Micro area (Urban core of 10,000-49,999 people)</li><li>Counties outside of Metro or Micro Areas</li></ul>

**Sources:** <https://www.hrsa.gov/rural-health/about-us/what-is-rural>  
<https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/>

# 15% OF ALL AMERICANS LIVE IN RURAL AREAS

Compared with Urban Areas, Those in Rural Areas:

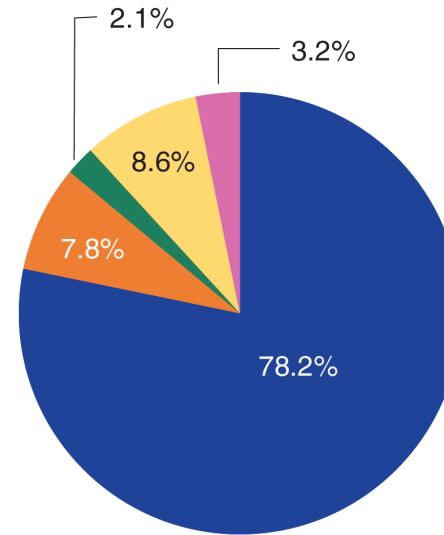
- Have More Space
- Fewer people
- Scenic Landscapes
- People have Common Sense of Community or sense of solidarity

# Race and Ethnicity of Rural Residents across America

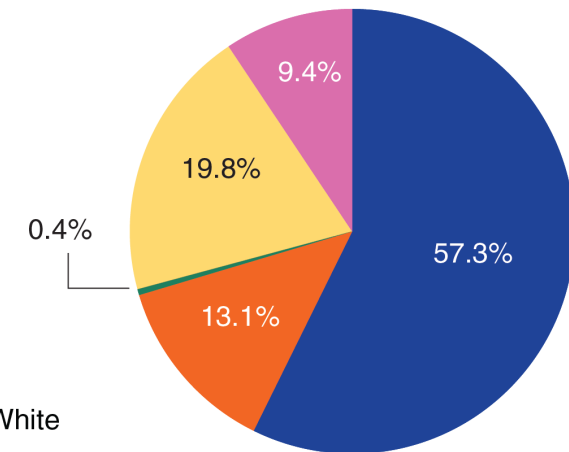
Percent of rural (nonmetro) and urban (metro) populations by race/ethnicity, 2018



Rural population shares, 2018



Urban population shares, 2018



■ White  
■ Black  
■ American Indian  
■ Hispanic  
■ Other

Notes: Statistics for Whites, Blacks, and American Indians include only non-Hispanic residents. Residents included in the Hispanic category may be of any race. Groups with relatively few residents (Asians, Pacific Islanders, and those reporting multiple races) are combined into a single "Other" category.  
Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census, Population Estimates Program.

# 15% OF ALL AMERICANS LIVE IN RURAL AREAS

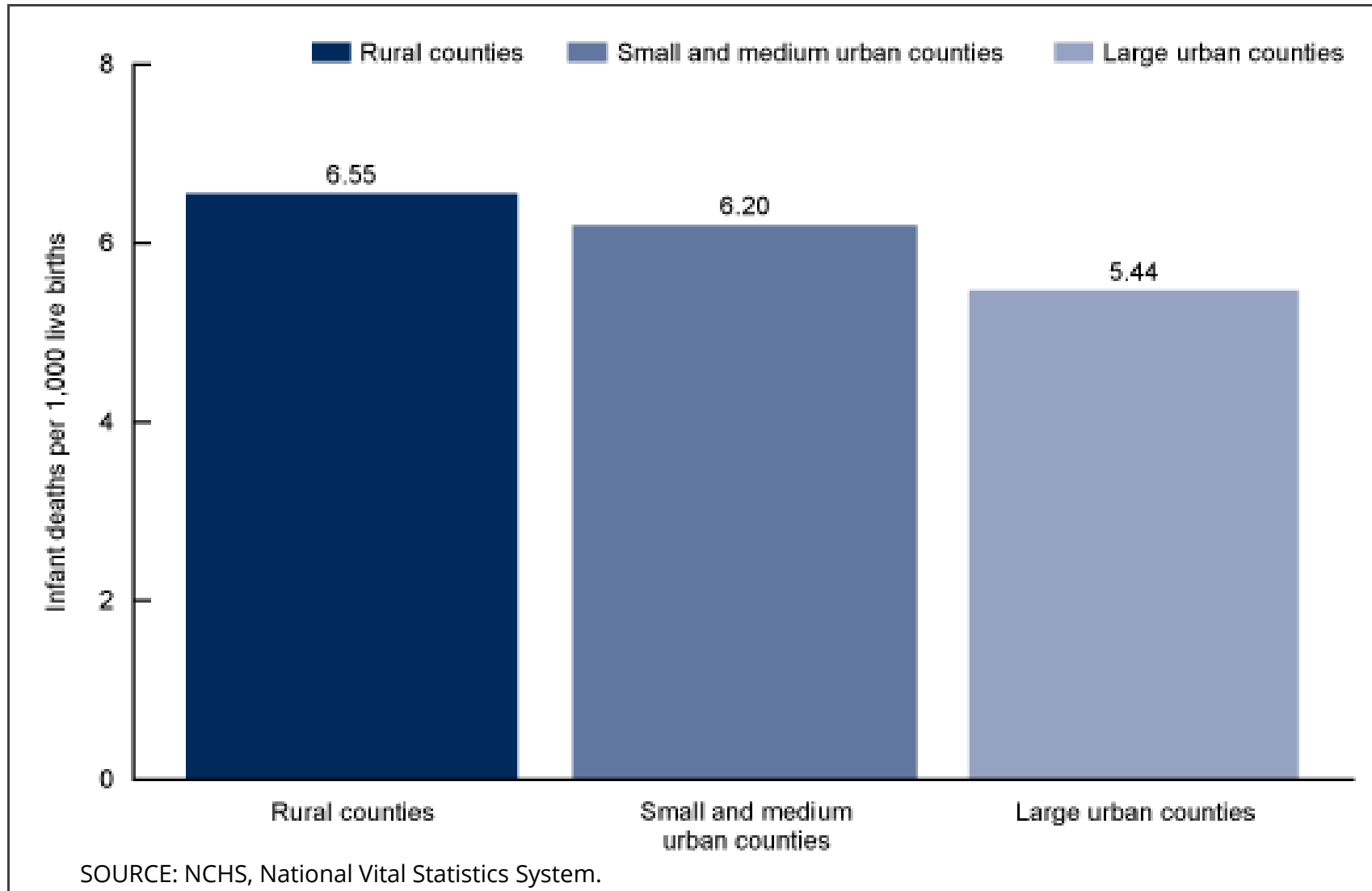
Rural Americans are at **greater risk of death** from 5 leading causes than urban Americans

- Heart Disease
- Cancer
- Unintentional Injury
- Chronic Lower Respiratory Disease
- Stroke



# Infant Mortality: Rural and Urban Areas in the U.S.

Infant mortality rates, by urbanization level: United States, 2014



# Pregnancy-Related Deaths: The Numbers



**CDC's Division of Reproductive Health (DRH) is committed to fully understanding and addressing the tragedy of pregnancy-related deaths.**

**2-4X**

**Considerable racial-ethnic disparities exist, with non-Hispanic Native Hawaiian and Pacific Islander, Black, and American Indian & Alaskan Native populations in the U.S. 2-4 times more likely to die from pregnancy-related complications than non-Hispanic White women.\***

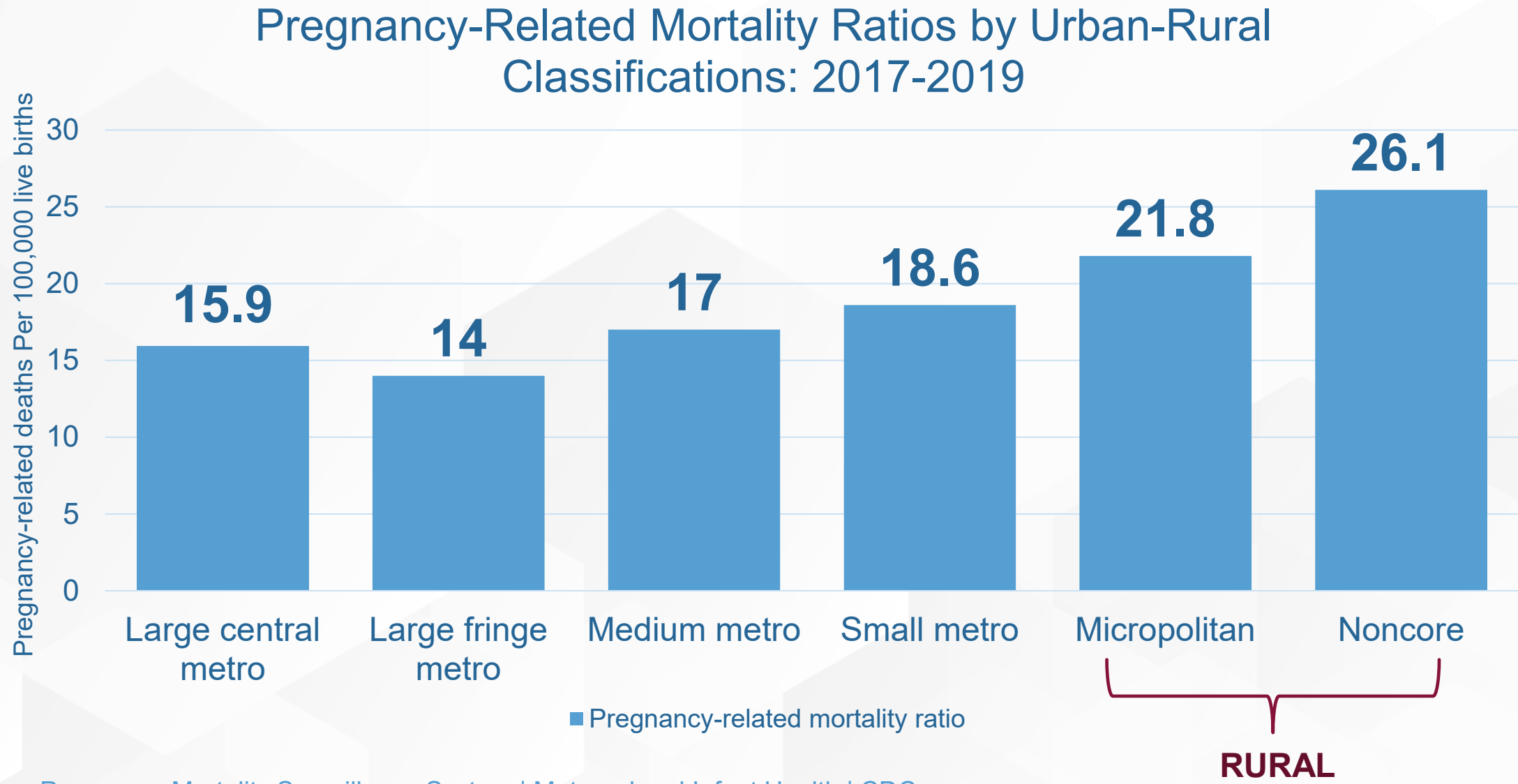
**84%**

**About 84% of pregnancy-related deaths were determined by Maternal Mortality Review Committees in 36 states, to be preventable.\*\***

\* <https://www.cdc.gov/reproductivehealth/maternal-mortality/pregnancy-mortality-surveillance-system.htm>

\*\* <https://www.cdc.gov/reproductivehealth/maternal-mortality/erase-mm/data-mmrc.html>

# Pregnancy-Related Mortality Disparities With Increasing Rurality



# Access To Care Challenges



Transportation



## Geographic Access

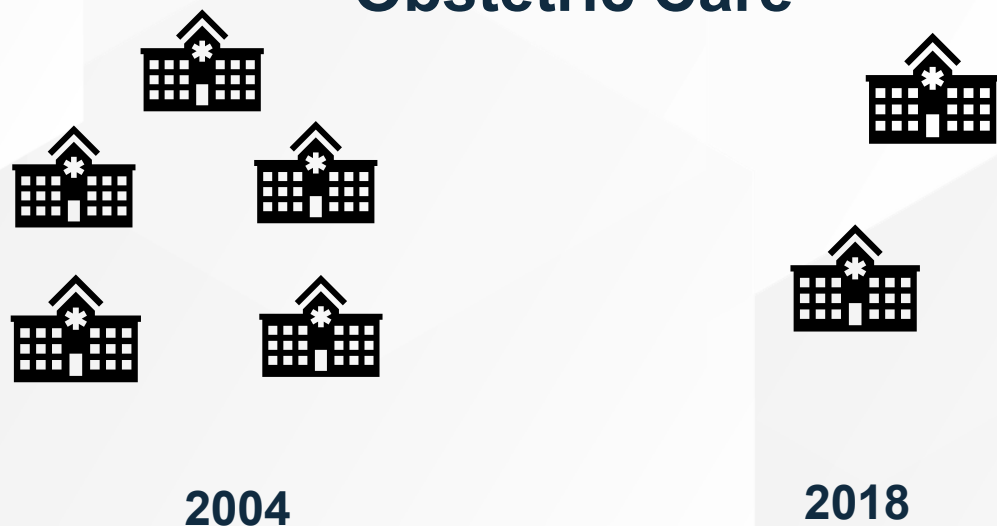
American Indian or  
Alaska Native and  
White, Non-Hispanic  
women had limited  
access to critical  
care obstetrics

Source: <https://www.sciencedirect.com/science/article/pii/S000293782030870X>



# Access To Care Challenges- Continued

## Closure of Rural Hospitals with Obstetric Care



↓  
# Rural Hospitals with  
Obstetrics Declined in  
Rural Counties with  
majority Black residents

## Physician Shortages



# OPPORTUNITIES TO IMPROVE RURAL HEALTH- DATA

# Pregnancy Risk Assessment Monitoring System (PRAMS)

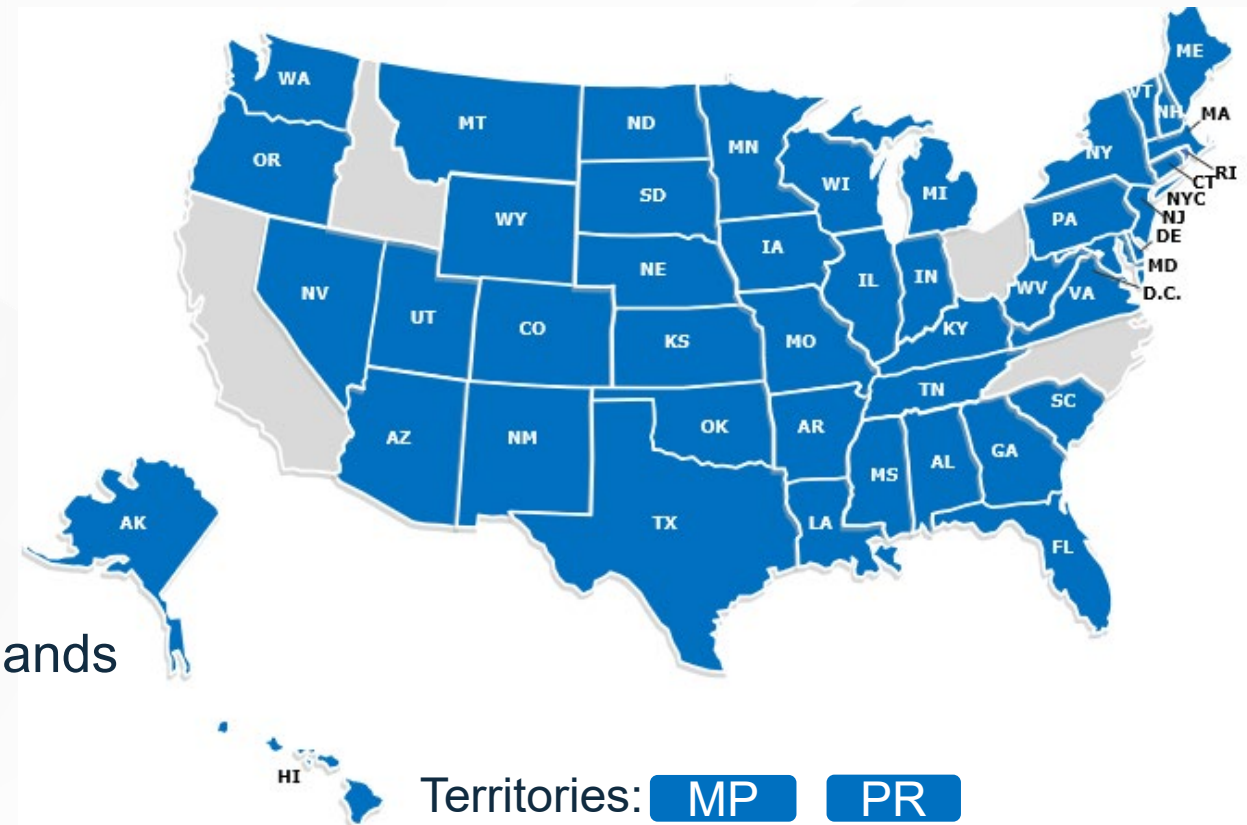
- Established in 1987, population-based surveillance system
- Self-reported maternal behaviors and experiences around time of pregnancy
- Supplements birth certificate information
- Jurisdiction-specific and near-national estimates





# PRAMS Surveillance: Current Funding Cycle, 2021-2025

- 50 jurisdictions
  - 46 states
  - 4 cities/territories
    - District of Columbia
    - New York City
    - Puerto Rico
    - Commonwealth of Northern Mariana Islands



■ Current PRAMS site    □ Not currently PRAMS site

# New Indicators in Phase 9 CORE Questionnaire

- Maternal disability
- Maternal warning signs
- Blood pressure monitoring
- Anxiety
- E-cigarette use
- Stressors
- Vaccinations (e.g., COVID-19)
- SDOH (specific indicators discussed later in presentation)

# SDOH Indicators in Phase 9

- New SDOH Indicators added to Core
  - Racism and Discrimination
  - Access to Transportation
  - Food Security
  - Housing Stability
  - Incarceration
  - Employment
- New SDOH Indicators added to Standard
  - Health Care Access and Quality
  - Health Literacy
  - Food Security
  - Housing Stability
  - Poverty
  - Social Support
  - Adverse / Positive Childhood Experiences
  - Racism and Discrimination

# What Else is CDC Doing to get better data?



# MATERNAL MORTALITY REVIEW COMMITTEES (MMRCs)

## Enhancing Reviews and Surveillance to Eliminate Maternal Mortality (ERASE MM) Program

- Supports jurisdictions to coordinate and manage Maternal Mortality Review Committees (MMRCs)

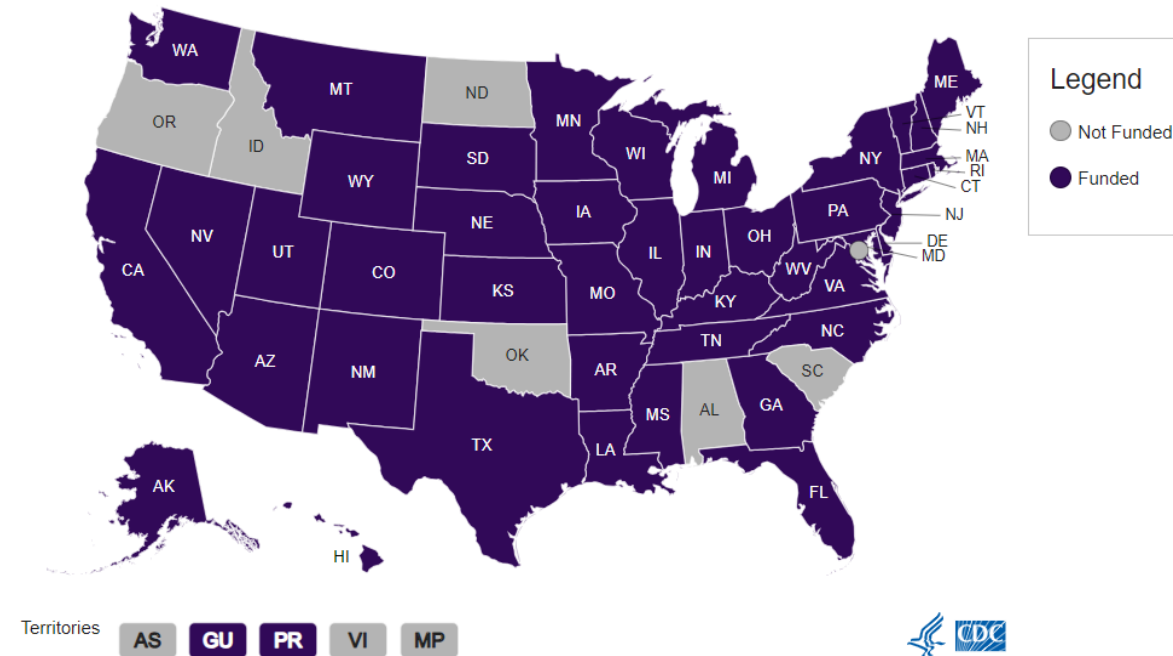
## MMRCs are multidisciplinary committees

- Convenes clinical and non-clinical experts at the state or local level to review deaths that occur within a year of the end of pregnancy

## MMRCs help inform prevention

- Facilitates an understanding of the medical and non-medical drivers of maternal mortality to inform prioritization of interventions that effectively reduce pregnancy-related deaths and the associated disparities

States and US Territories Funded Through ERASE MM



# MATERNAL MORTALITY REVIEW COMMITTEES (MMRCs) (continued)



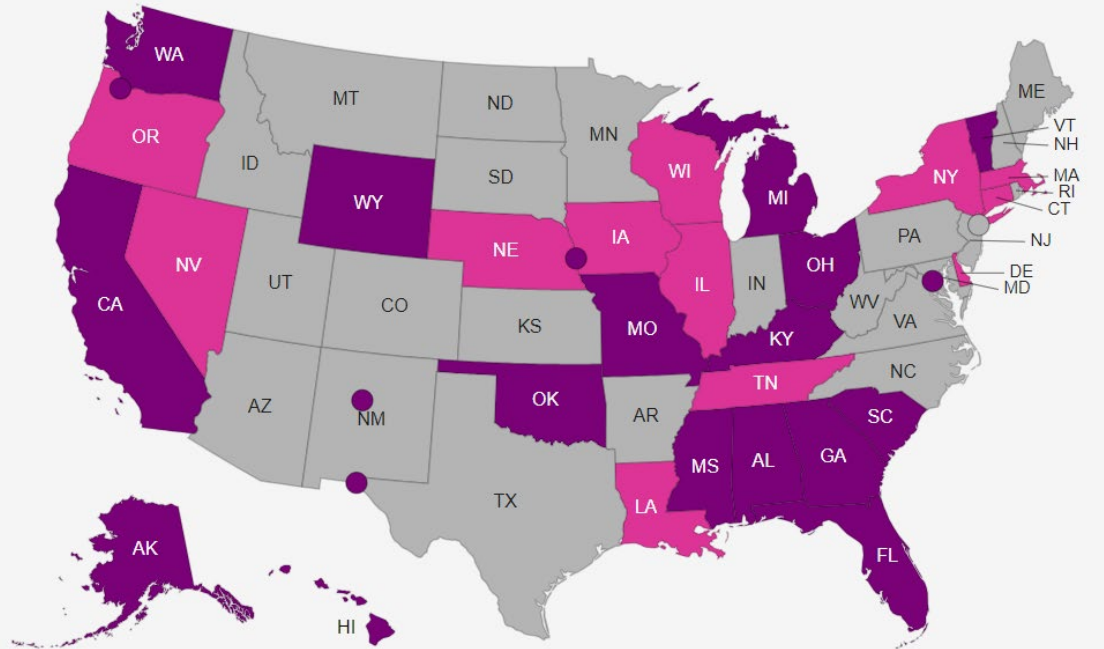
## Maternal Mortality Review Information Application (MMRIA)

- Data system designed to facilitate MMRC functions through a common data language
- CDC, in partnership with users from the committees and other subject matter experts, developed the system for MMRC use

**Supports MMRCs to look at the social and community factors that put a woman's life and her death into context by looking at community levels of:**

- Housing instability
- Discrimination
- Violence
- Unemployment
- Availability of transportation
- Availability of care providers and services
- Segregation

# MATERNAL AND CHILD HEALTH (MCH) EPIDEMIOLOGY PROGRAM



Territories **PR**

## Assignee Status

Never

Previous

Current

- Develops MCH Epidemiology Leaders
- Assigns Epidemiologists and Fellows at state, local, and/or tribal levels
- Embedded in health department to support Epidemiologic Research and Scientific Information for MCH

EXAMPLE

Source:

<https://www.cdc.gov/reproductivehealth/mche/pi/index.htm>

# OPPORTUNITIES TO IMPROVE RURAL HEALTH- PROGRAM



# Perinatal Quality Collaboratives (PQCs)

**State or multi-state** networks of **multidisciplinary teams** working to improve **population-level** maternal and infant health care and outcomes statewide



- Advance **evidence-based** clinical practices and processes using **quality improvement (QI)** principles
- **Convene and collaborate** with **diverse representatives** (clinical teams, experts, partners, patients, families) to **address gaps** and **reduce variation** in care and outcomes



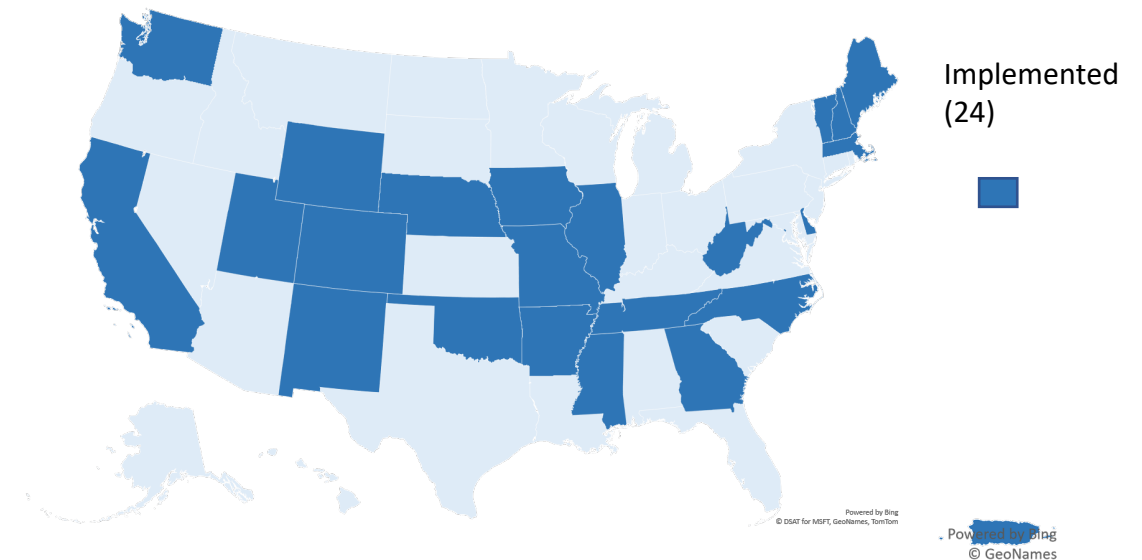
Source: [State Perinatal Quality Collaboratives](#) | [Perinatal](#) | [Reproductive Health](#) | [CDC](#)

# PQC State Example

- **Colorado Perinatal Care Quality Collaborative (CPCQC)**
  - Connects rural and frontier hospitals to community and statewide resources
    - Supported the virtual "Rural Maternal Behavioral Health Open House"
    - Connected hospitals with state-funded Peer Recovery Navigators and the Regional Health Connectors



- Created based on need identified by states working in risk-appropriate care, in partnership with ACOG/SMFM and AAP
- Completed on web-based platforms
- Produces standardized maternal and neonatal level of care assessments for birth facilities
- Aligns with guidelines<sup>1,2,3</sup> published by ACOG/SMFM and AAP

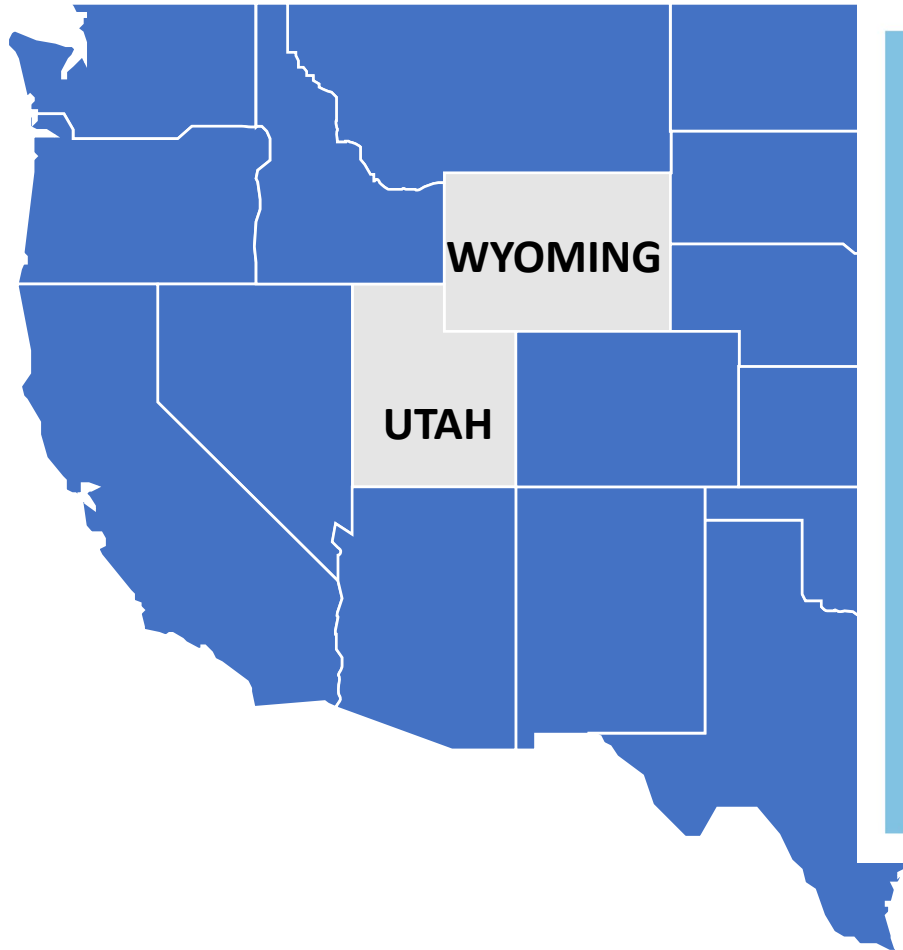


<sup>1</sup> AAP Committee on Fetus and Newborn (2012). "Levels of Neonatal Care." *Pediatrics* 130(3): 587-597.

<sup>2</sup> ACOG/SMFM (2019). "Levels of Maternal Care." *Obstetrics & Gynecology* 134(2):e41-55.

<sup>3</sup> AAP Committee on Fetus and Newborn and ACOG Committee on Obstetric Practice (2017). Guidelines for Perinatal Care, 8<sup>th</sup> Ed.

# Bringing the Pieces Together...





## Hear Her: A National Communication Campaign to Address Maternal Mortality

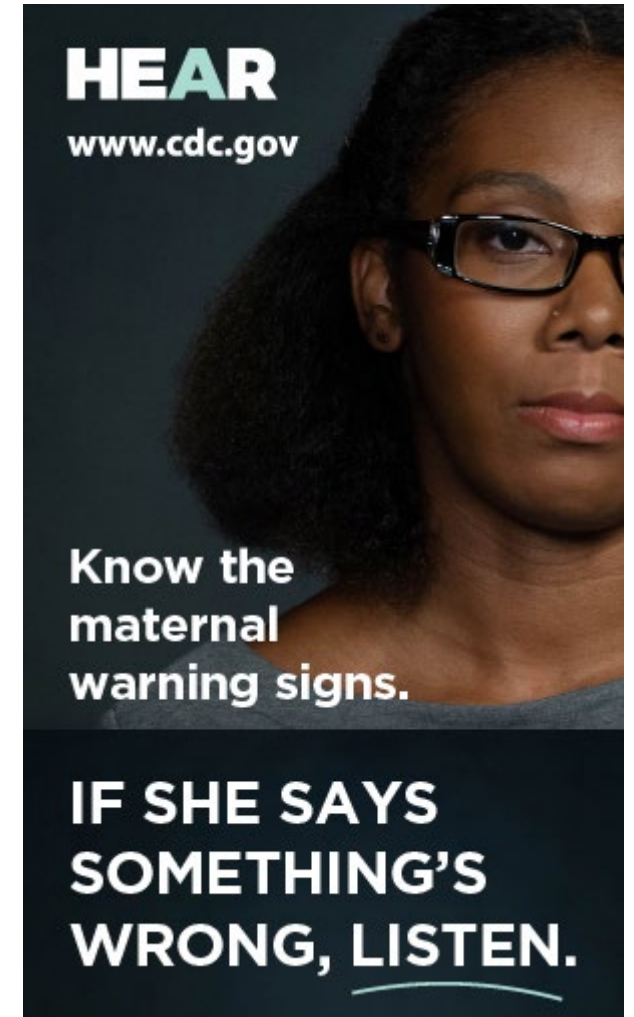
NAME

CDC Division of Reproductive Health



# Campaign Overview

- The Hear Her campaign seeks to
  - raise awareness of **urgent maternal warning signs** during and within the year after pregnancy, and
  - encourage support systems and healthcare professionals of pregnant and postpartum people to **really listen** when they express concerns.
- The Hear Her campaign's *priority audiences* are
  - **Pregnant and postpartum people**
  - **The people who support them**
  - **Healthcare professionals**



# Campaign Resources

- Website in [English](#) and [Spanish](#)
- [Microsites](#) and content syndication
- [Video testimonials](#)
- [Printable resources](#) (some in more than 25 languages)
  - Conversation guides/ palm cards
  - Urgent maternal warning signs poster
- [Quiz on Urgent Maternal Warning Signs](#)
- [Digital graphics/ media ads](#)
- [Social media toolkit](#)
- [Hear Her Facebook Page](#)
- [Public Service Announcements](#)
- [Matte Articles](#)

For questions about the campaign, email  
[HearHer@cdc.gov](mailto:HearHer@cdc.gov)



A vertical campaign graphic. At the top is the HEAR logo. Below it is a photograph of a female doctor in a white lab coat with a stethoscope, listening to a pregnant woman. Overlaid on the photo is the text 'Listening can be your most important tool.' Below the photo is a dark blue section with the text 'Hear her concerns. It could help save her life.' and the website 'www.cdc.gov/HearHer'. At the bottom is a light blue button that says 'Learn More'.

# Local Implementation Examples





# Illinois PQC uses Hear Her in Birth Equity Initiative

## Promoting Safe and Respectful Maternity Care for All Patients

### Our Commitment to You

#### What does it mean to give and receive respectful care during labor and delivery?

Maternal care teams throughout Illinois are coming together to address inequities in healthcare, and to improve birth experiences for all patients.

We are committed to providing you safe and respectful care. Respectful care ensures that patients receive patient-centered care, feel respected and listened to, and the individual needs and preferences of all birthing people are valued and met.

**We believe that respectful care is an essential component of what it takes for all patients to thrive.**



#### Supporting respectful care for all patients:

The Illinois Perinatal Quality Collaborative (ILPQC) works with patients, physicians, midwives, nurses, hospitals, and community groups to reduce maternal disparities and promote birth equity by ensuring all patients receive safe, high-quality compassionate, and respectful care.

### Here are our respectful care commitments to every patient


We commit to...



1. **Treating you with dignity and respect** throughout your hospital stay
2. **Introducing ourselves and our role** on your care team to you and your support persons upon entering the room
3. **Learning your goals for delivery and postpartum:** What is important to you for labor and birth? What are your concerns regarding your birth experience? How can we best support you?
4. **Working to understand you,** your background, your home life and your health history so we can make sure you receive the care you need during your birth and recovery
5. **Communicating effectively** across your health care team to ensure the best care for you
6. **Partnering with you for all decisions** so that you can make choices that are right for you
7. **Practicing "active listening"**—to ensure that you, and your support persons are heard
8. **Valuing personal boundaries and respecting your dignity and modesty at all times,** including asking your permission before entering a room or touching you
9. **Recognizing your prior experiences with healthcare may affect how you feel during your birth,** we will strive at all times to provide safe, equitable and respectful care
10. **Making sure you are discharged after delivery with an understanding of postpartum warning signs,** where to call with concerns, and with postpartum follow-up care visits arranged
11. **Ensuring you are discharged with the skills, support and resources** to care for yourself and your baby
12. **Protecting your privacy** and keeping your medical information confidential
13. **Being ready to hear any concerns** or ways that we can improve your care



**HEAR**<sup>™</sup>  
HEAR HER CONCERNS



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Health and Human  
Services

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**Maternal and Child Health**

**Programs & Activities - Maternal and Child Health**

Texas Mother-Friendly Worksite Program >

**Hear Her Texas** ▾


Maternal Risk Factors

Provider Resources - Urgent Maternal Warning Signs

Urgent Maternal Warning Signs


Hear Her Texas Campaign Resources

## Hear Her Texas




**You can help save her life.**

**HEAR**<sup>TM</sup>  
HEAR HER CONCERNS  
TEXAS

 **español**

*More than 700 women die each year in the U.S. from pregnancy-related complications up to one year after giving birth. In Texas, approximately 4 out of 5 of these deaths are preventable.*

**Look for Urgent Maternal Warning Signs.**  
If something doesn't feel right, get help.



**You know your body best. Talk to your health care provider. It can help save your life.**

If you are pregnant or were pregnant in the last year, it is important to talk to your health care provider about anything that doesn't feel right.

If you experience any of these urgent maternal warning signs, get medical care immediately:

- Severe headache that won't go away or gets worse over time
- Dizziness or fainting
- Thoughts about harming yourself or your baby
- Changes in your vision
- Fever of 100.4°F (38°C) or higher
- Extreme swelling of your hands or face
- Trouble breathing
- Chest pain or fast-beating heart
- Overwhelming tiredness

- Severe nausea and throwing up (*not like morning sickness*)
- Severe belly pain that doesn't go away
- Baby's movement stopping or slowing during pregnancy
- Vaginal bleeding or fluid leaking during pregnancy
- Heavy vaginal bleeding or leaking or fluid that smells bad after pregnancy
- Swelling, redness or pain of your leg

Learn more at [dshs.texas.gov/HearHerTX](https://dshs.texas.gov/HearHerTX)

HEAR and Hear Her Concerns are trademarks of U.S. Department of Health and Human Services (HHS).

# CDC WORKFORCE DEVELOPMENT OPPORTUNITIES



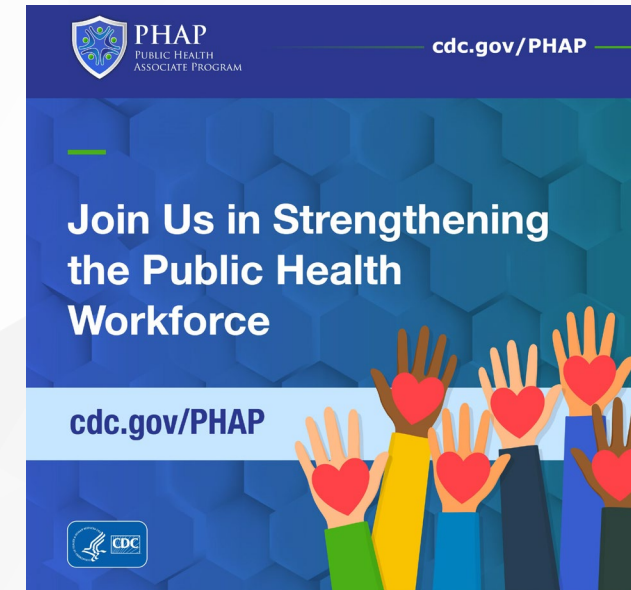


# Fellowships at CDC



# Public Health Associate Program (PHAP)

- PHAP is a competitive, two-year, CDC-funded training program where associates are assigned to state, tribal, local, and territorial public health agencies and nongovernmental organizations to support public health work
- Webinar for potential **rural** host sites on the [Public Health Associate Program \(PHAP\)](#), **2:00 – 3:00 pm (ET), Friday, November 17, 2023**
- PHAP host site supervisors and associates from rural settings to share their experiences and answer questions





A man with short brown hair, wearing a dark blue t-shirt with a CDC logo and dark blue pants, is crouching on a paved area next to a swimming pool. He is focused on a small, clear vial containing a yellowish liquid, which he is holding with both hands. On the blue mesh surface of a lounge chair next to him are several items: a black and silver digital water testing device, a small black cap, and a small white packet. A striped towel is rolled up on the lounge chair behind him. The pool's edge, with blue mosaic tiles and a small circular light, is visible to his right.

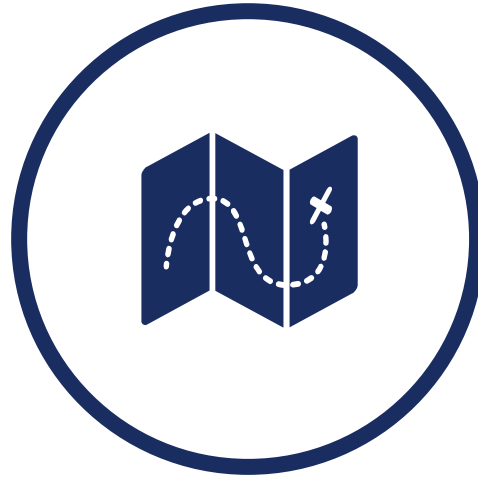
# Epidemic Intelligence Service (EIS)



# EIS trains the next generation of disease detectives.



**Hands-on  
training  
in applied  
epidemiology**

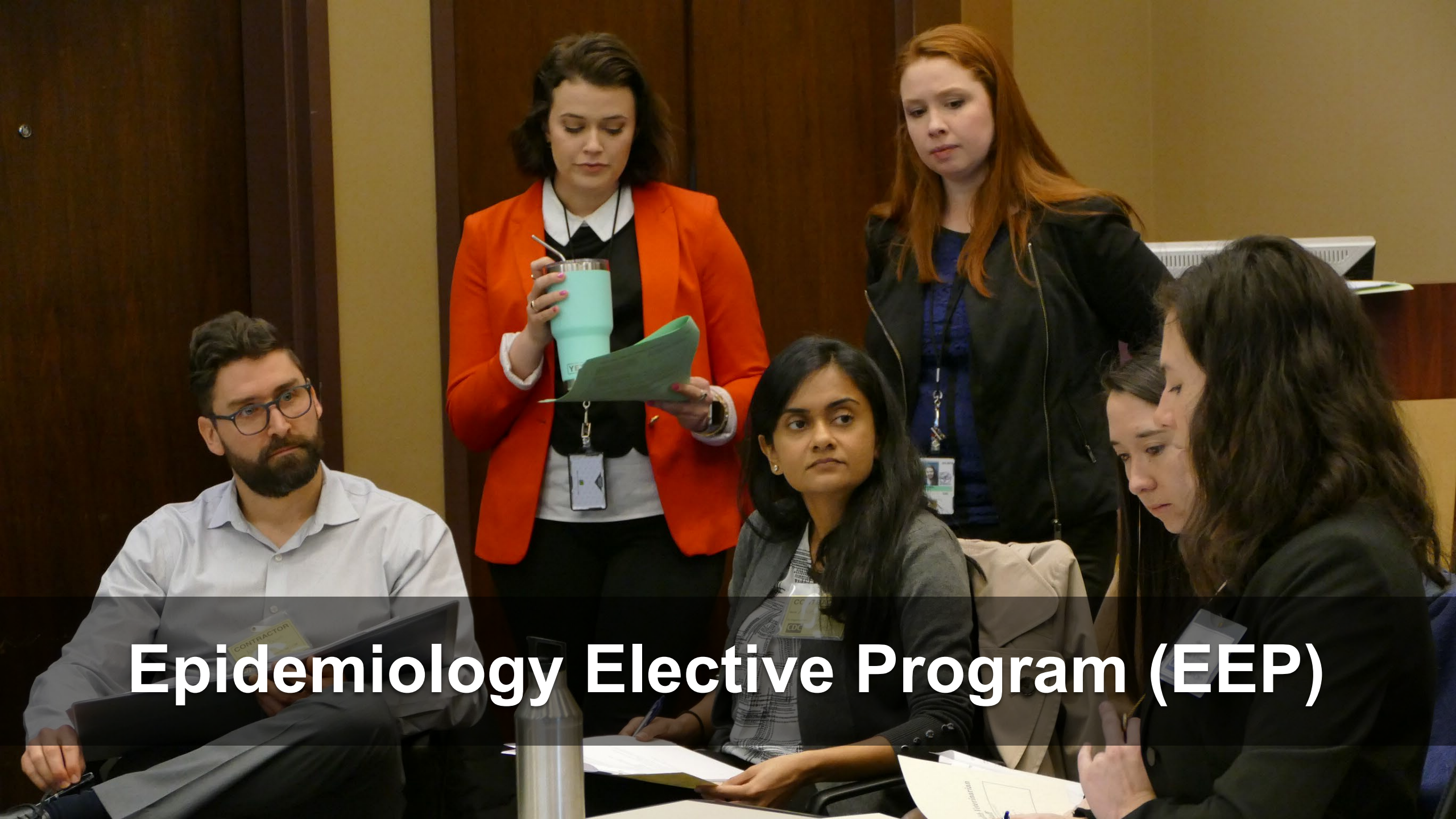


**Responding  
to outbreaks  
around the  
world**



**Protecting America  
and the world  
from health threats**

**[www.cdc.gov/EIS](http://www.cdc.gov/EIS)**



# Epidemiology Elective Program (EEP)



# Through short-term student rotations, EEP prepares the next generation of public health clinicians.



**Applied  
epidemiology  
training  
on-the-ground at  
CDC**



**Mentorship by  
CDC  
subject matter  
experts**



**Develop leadership  
skills through  
experiential service  
learning**

**[www.cdc.gov/EEP](http://www.cdc.gov/EEP)**



Centers for Disease  
Control and Prevention

**Preventive Medicine Residency and Fellowship (PMR/F)**



# **PMR/F trains the next generation of preventive medicine leaders.**



**Develop leadership and management skills in disease prevention and health promotion**



**Bridge medicine and public health to comprehensively address population health**



**Work at CDC or local health departments to address priority public health projects and initiatives**

**[www.cdc.gov/prevmed](http://www.cdc.gov/prevmed)**

# Other CDC Fellowships and Internships

- Public Health Informatics Fellowship Program
  - [Application Information | Public Health Informatics Fellowship Program | CDC](#)
- Prevention Effectiveness Fellowship
  - [Application Information | Prevention Effectiveness Fellowship Program | CDC](#)
- Lewis Ferguson Internships and Fellowships
  - [Lewis/Ferguson Internships and Fellowships | Minority Health | CDC](#)
- CDC Evaluation Fellowship
  - [Applying to CDC Evaluation Fellowship | CDC](#)

Subscribe to the CDC Fellowships & Training Opportunities Newsletter. Select :  
<https://tools.cdc.gov/campaignproxyservice/subscriptions.aspx#featured>

# PATHWAYS FOR STUDENTS AND GRADUATES

## Careers at CDC

CDC > Careers Home > Working at CDC > Student Internships and Jobs

- [Careers Home](#)
- [CDC Job Search](#)
- Working at CDC**
  - [Student Internships and Jobs](#)
    - Pathways for Students and Graduates**
    - [Veterans Employment Opportunities](#)
    - [Commissioned Corps](#)
    - [Overseas Opportunities](#)
    - [Employment for People with Disabilities](#)

## Pathways for Students and Graduates

[Print](#)

### On This Page

<a href="#">Opportunities for Students and College Graduates</a>	<a href="#">Student Worksite Experience Program - Volunteer Service</a>
<a href="#">Pathways Programs for Students and Recent Graduates</a>	<a href="#">Thurgood Marshall College Foundation/CDC Student Ambassador Program and Internship</a>
<a href="#">Public Health Training Opportunities</a>	<a href="#">Service Fellowship for U.S. Citizens and Non-Citizens</a>
<a href="#">Commissioned Corps</a>	<a href="#">Volunteer</a>
<a href="#">Federal Work Study Program</a>	<a href="#">Persons With Disabilities</a>



# Improving Maternal Health



# THANK YOU



**Centers for Disease Control and Prevention**

National Center for Chronic Disease Prevention and Health Promotion

Division of Reproductive Health

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



# QUESTIONS





# EXTRA SLIDES


# Literature using PRAMS assessing Rural Populations

- [Racial/Ethnic Disparities in Postpartum Health Insurance Coverage Among Rural and Urban U.S. Residents - PubMed \(nih.gov\)](#)
- [Publication Details: Rural/Urban Differences in Rates and Predictors of Intimate Partner Violence and Abuse Screening Among Pregnant and Postpartum United States Residents - Rural Health Research Gateway](#)
- [Publication Details: Rural and Urban Differences in Insurance Coverage at Prepregnancy, Birth, and Postpartum - Rural Health Research Gateway](#)

# RURAL POPULATIONS: WHAT WE NEED TO KNOW

- What are the factors that contribute to deaths in rural settings?
- What are the important interventions to prevent deaths?
- What tools are needed to inform prevention efforts?
- What are the measures needed to monitor our progress?

## Connecticut Department of Public Health (Conversation Guide)



**You know your body best**

If you experience something that seems unusual or is worrying you, don't ignore it.

**HEAR**  
HEAR HER CONCERNS

Learn about urgent warning signs and how to talk to your healthcare provider.

**During Pregnancy**

If you are pregnant, it's important to pay attention to your body and talk to your healthcare provider about anything that doesn't feel right. If you experience any of the urgent maternal warning signs, get medical care immediately.

**After Pregnancy**

Although your new baby needs a lot of attention and care, it's important to remain aware of your own body and take care of yourself, too. It's normal to feel tired and have some pain, particularly in the first few weeks after having a baby, but there are some symptoms that could be signs of more serious problems.

**Tips:**

- Bring this conversation starter and any additional questions you want to ask to your provider.
- Be sure to tell them that you are pregnant or have been pregnant within a year.
- Tell the doctor or nurse what medication you are currently taking or have recently taken.
- Take notes and ask more questions about anything you didn't understand.

Learn more about CDC's Hear Her Campaign at <https://www.cdc.gov/HearHer>

----- Tear this panel off and use this guide to help you start the conversation -----

**Urgent Maternal Warning Signs**

**If you experience any of these warning signs, get medical care immediately.**

- Severe headache that won't go away or gets worse over time
- Dizziness or fainting
- Thoughts about harming yourself or your baby
- Changes in your vision
- Fever of 100.4° F or higher
- Extreme swelling of your hands or face
- Trouble breathing
- Chest pain or fast beating heart
- Severe nausea and throwing up (not like morning sickness)
- Severe belly pain that doesn't go away
- Baby's movement stopping or slowing down during pregnancy
- Vaginal bleeding or fluid leaking during pregnancy
- Heavy vaginal bleeding or leaking fluid that smells bad after pregnancy
- Swelling, redness or pain of your leg
- Overwhelming tiredness

This list is not meant to cover every symptom you might have. If you feel like something just isn't right, talk to your healthcare provider.




**Use This Guide to Help Start the Conversation:**

- Thank you for seeing me. I am/was recently pregnant. The date of my last period/delivery was \_\_\_\_\_ and I'm having serious concerns about my health that I'd like to talk to you about.
- I have been having \_\_\_\_\_ (symptoms) that feel like \_\_\_\_\_ (describe in detail) and have been lasting \_\_\_\_\_ (number of hours/days).
- I know my body and this doesn't feel normal.

**Sample questions to ask:**

- What could these symptoms mean?
- Is there a test I can have to rule out a serious problem?
- At what point should I consider going to the emergency room or calling 911?

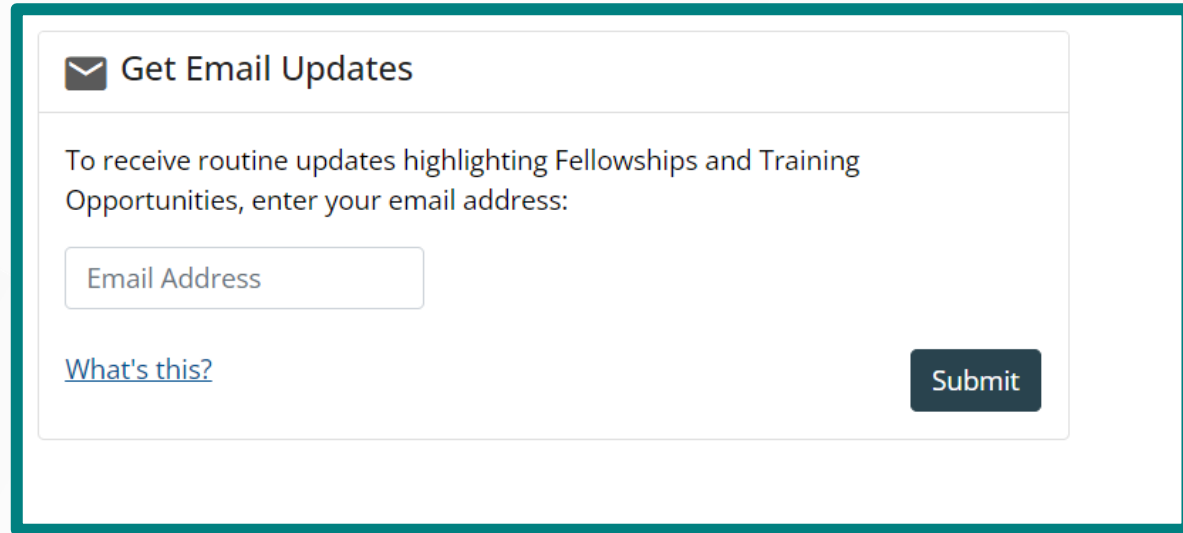
**Notes:**

Learn more about Connecticut's Family Wellness Healthy Start program at <https://portal.ct.gov/familywellnesshealthystart>

# SUBSCRIBE TO THE CDC FELLOWSHIPS AND INTERNSHIPS NEWSLETTER

- **Step 1:** Visit <https://www.cdc.gov/fellowships/index.html>
- **Step 2:** Look for this area of the webpage 
- **Step 3:** Enter your email addresses and follow the prompts.



✉ Get Email Updates

To receive routine updates highlighting Fellowships and Training Opportunities, enter your email address:

Email Address

[What's this?](#)



A man and a woman are standing in an office, looking at a computer monitor. The woman is pointing at the screen, which displays an e-learning module titled "PACKING AND SHIPPING DANGEROUS GOODS". The man is standing next to her, looking at the screen. The office has large windows in the background. The text "E-learning Institute (ELI)" is overlaid on the image.

# E-learning Institute (ELI)



**ELI provides hands-on experience to improve public health training.**



**Learn from  
expert education  
specialists**



**Build e-learning  
development  
skills**



**Create a quality  
online training  
product**

**[www.cdc.gov/elearninginstitute](http://www.cdc.gov/elearninginstitute)**