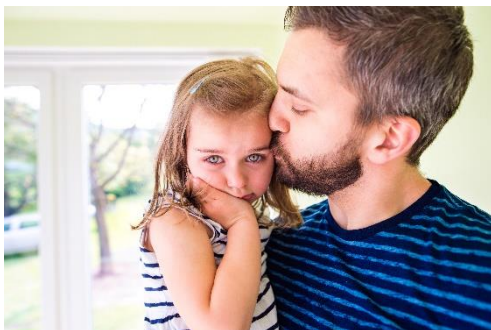


ERASE Maternal Mortality: MMRIA and DVIII States Update





ERASE-MM

Enhancing Reviews and Surveillance to Eliminate Maternal Mortality

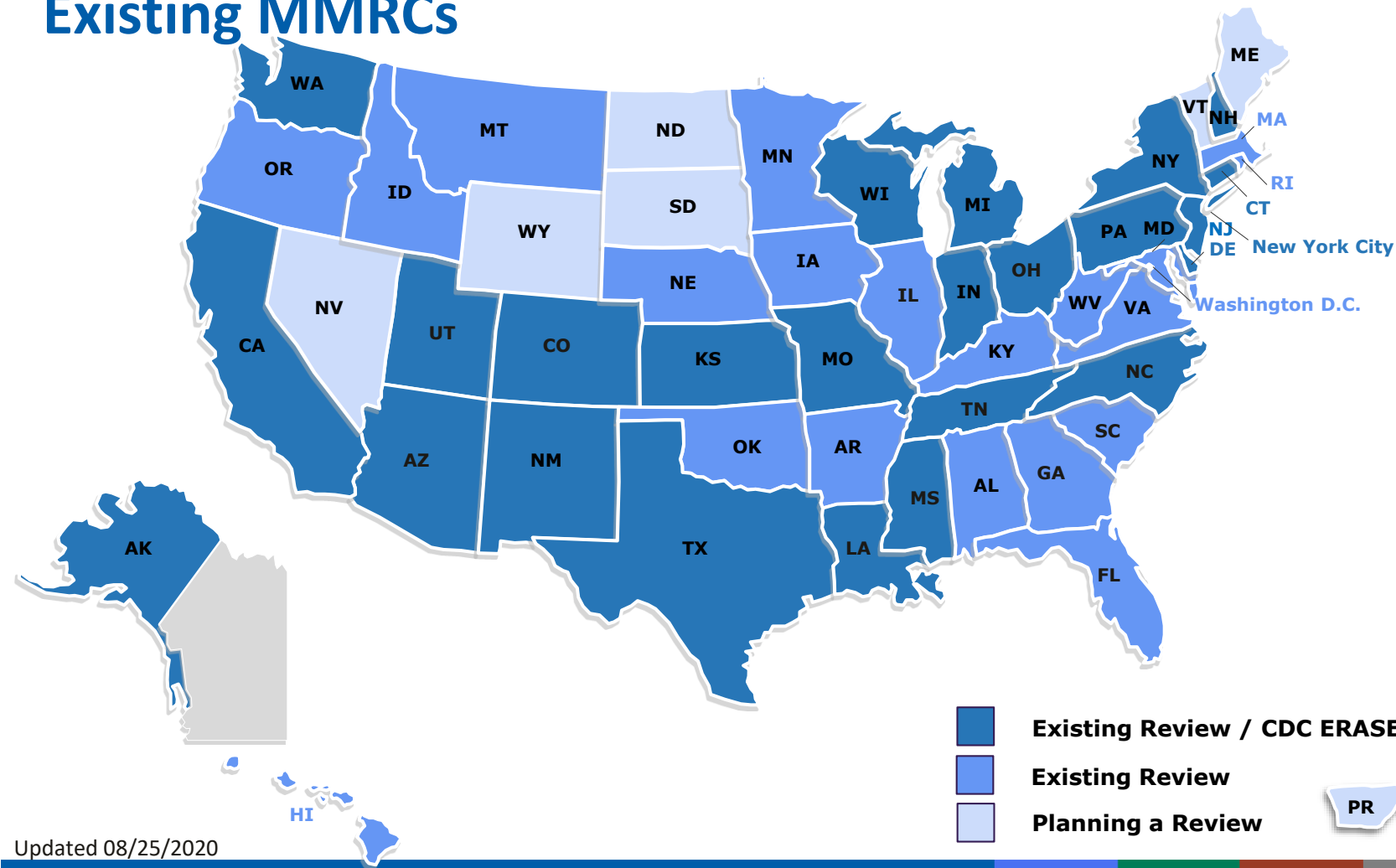


Funding and Technical Assistance

- 24 awards / 25 states
- Awards made in September 2019
- Ongoing technical assistance and training to all interested MMRCs



Existing MMRCs

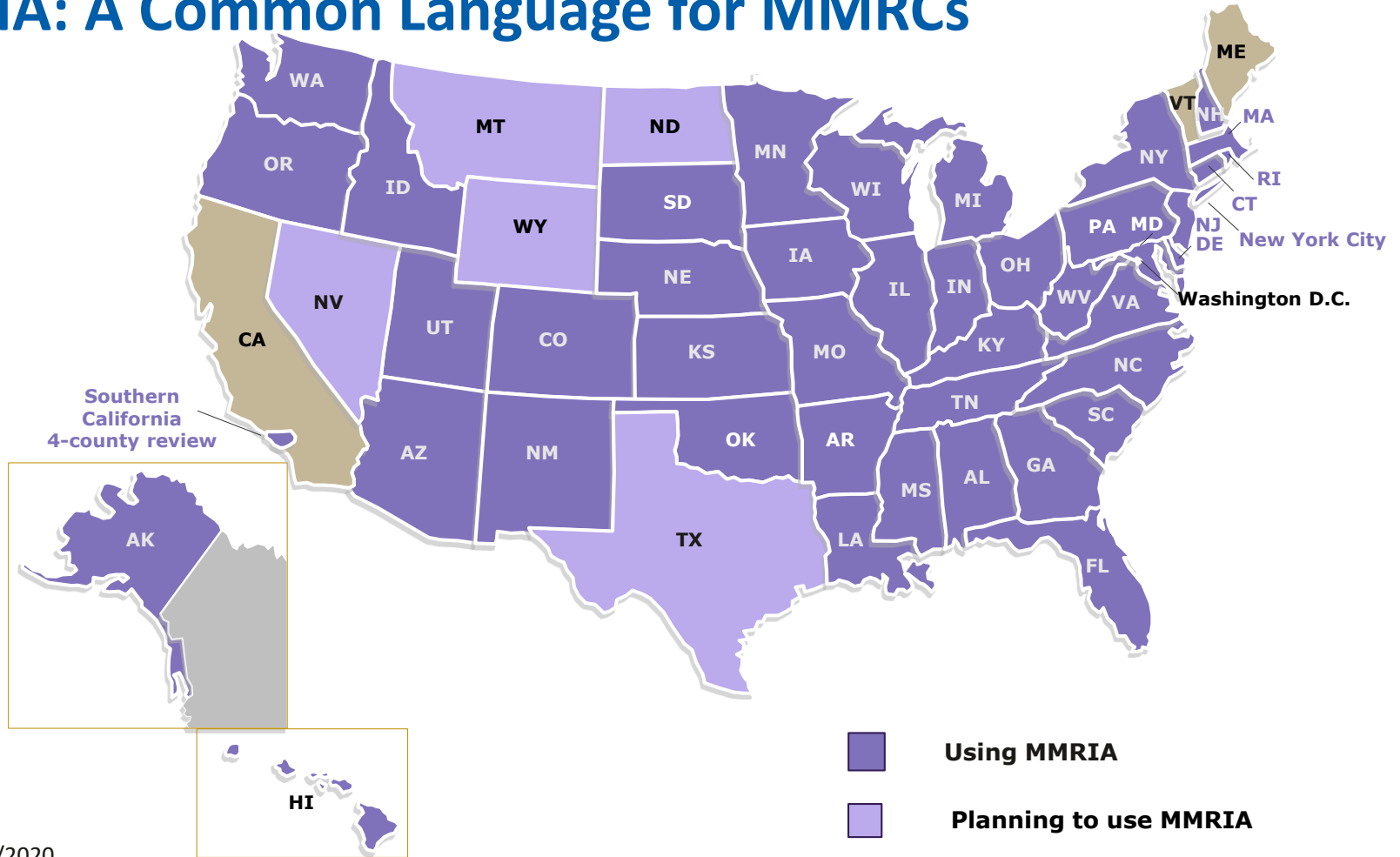


Data Standardization: How does Maternal Mortality Review Information Application (MMRIA) help?

- Brings together data across jurisdictions for a comprehensive picture of the problem
- Of 47 existing MMRCs in the U.S., 44 use MMRIA to guide deliberation



MMRIA: A Common Language for MMRCs



Ensuring Strong Data

- Quality assurance processes will improve data quality, completeness, and timeliness
- Recipients and CDC will analyze data and share findings with stakeholders to inform policy and prevention strategies
- Awardees must have:
 - Authorities and Protections in place
 - Access to vital records
 - Ability to share data through a common system

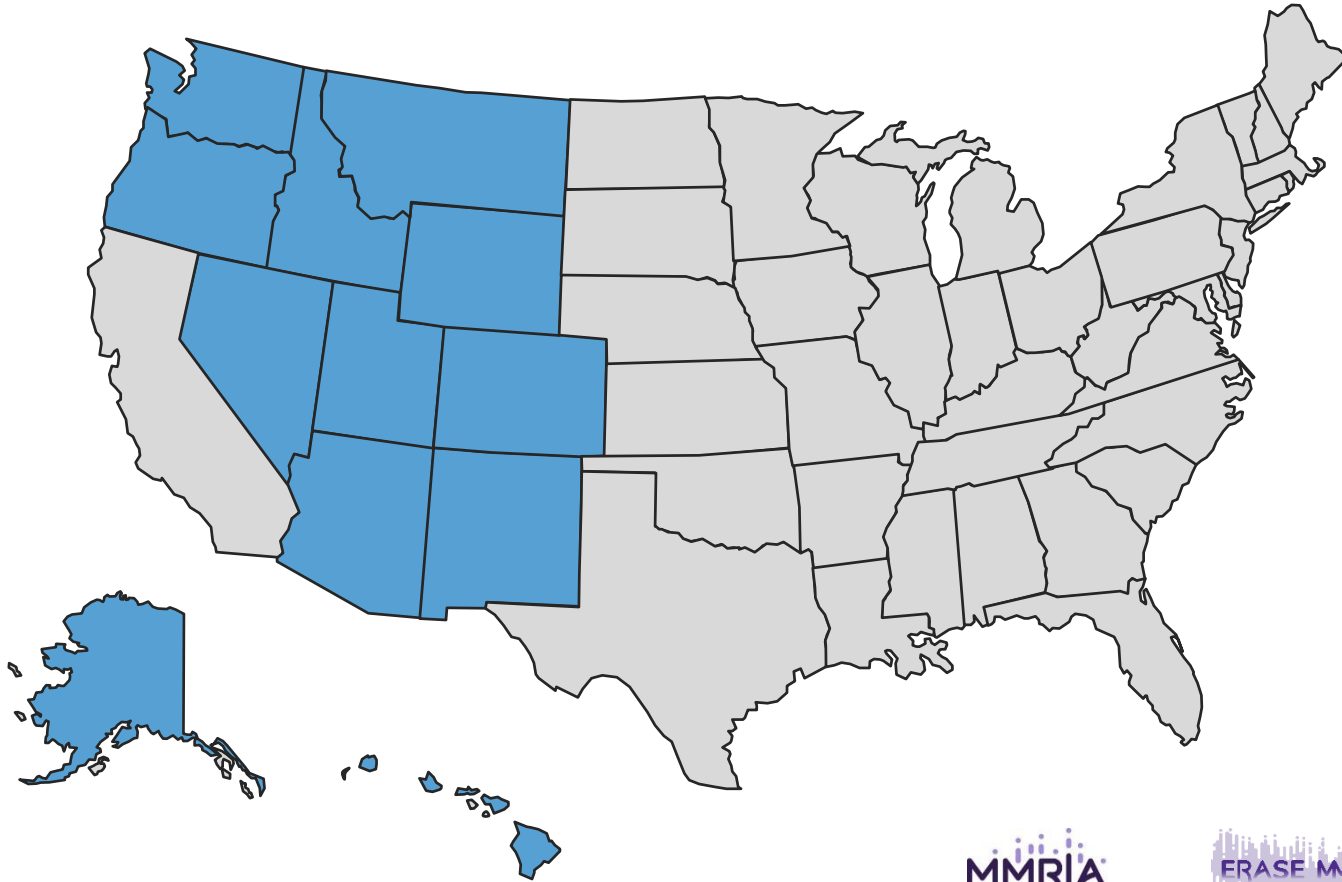


Robust, Comprehensive Data to

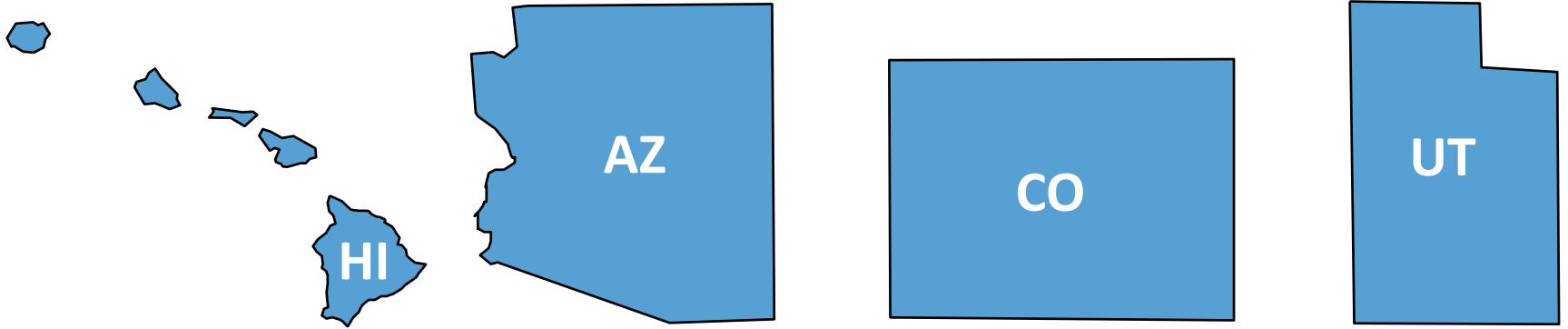
- Facilitate an understanding of the drivers of maternal mortality and complications of pregnancy and associated disparities
- Determine what interventions will have the most impact at patient, provider, facility, system and community level
- Identify initiatives to implement in the right places for families and communities who need them most



ACOG District VIII states

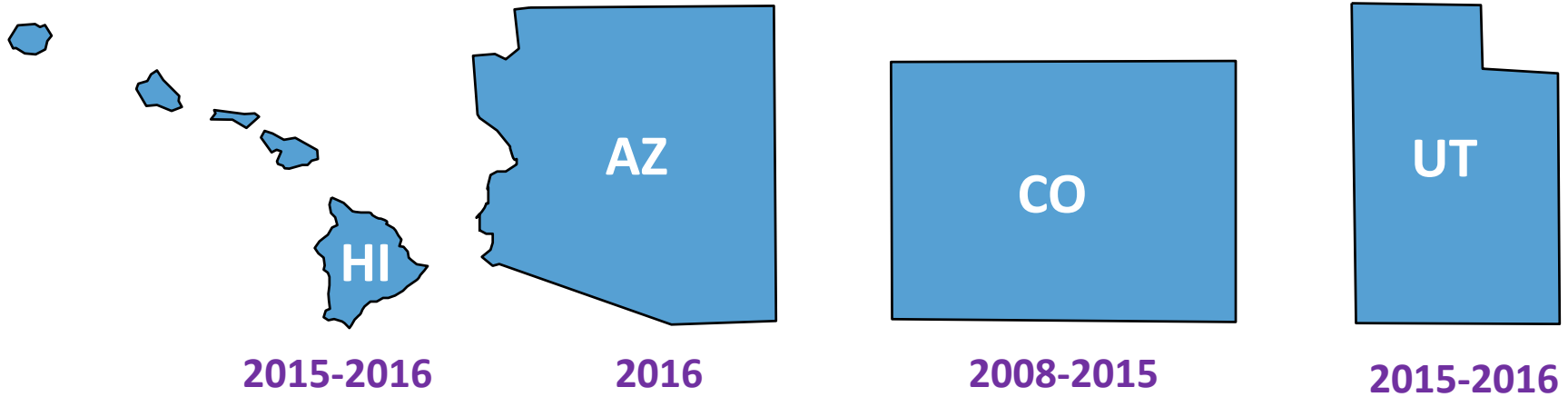


MMRIA data as submitted by four DVIII states



MMRIA data as submitted by four DVIII states

Data from 2008-2016 • Years vary by state



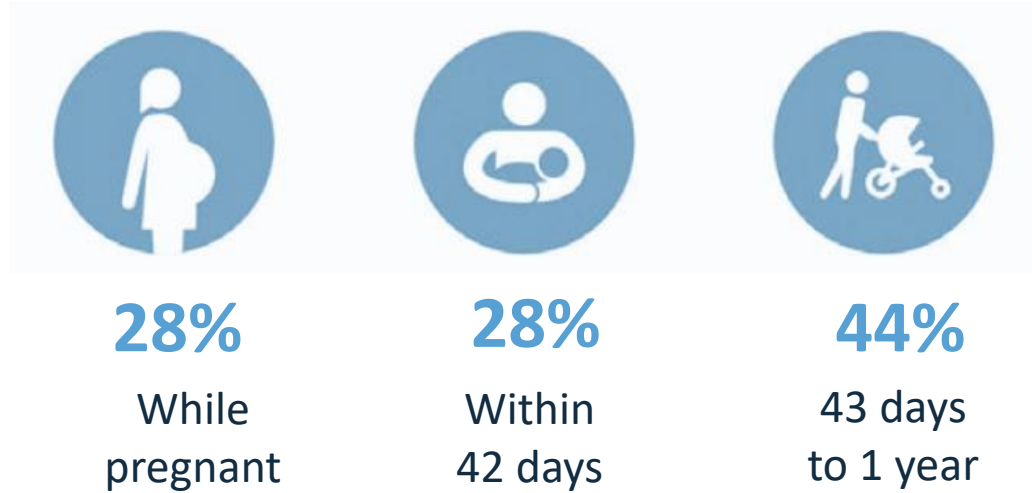
MMRIA data as submitted by four DVIII states

Total pregnancy-related deaths

59

MMRIA data as submitted by four DVIII states

Timing of pregnancy-related deaths



Higher % of pregnancy-related deaths at 43+ days and fewer at ≤ 42 days in District VIII than in 14-state data



28%

While
pregnant

33%



28%

Within
42 days

43%

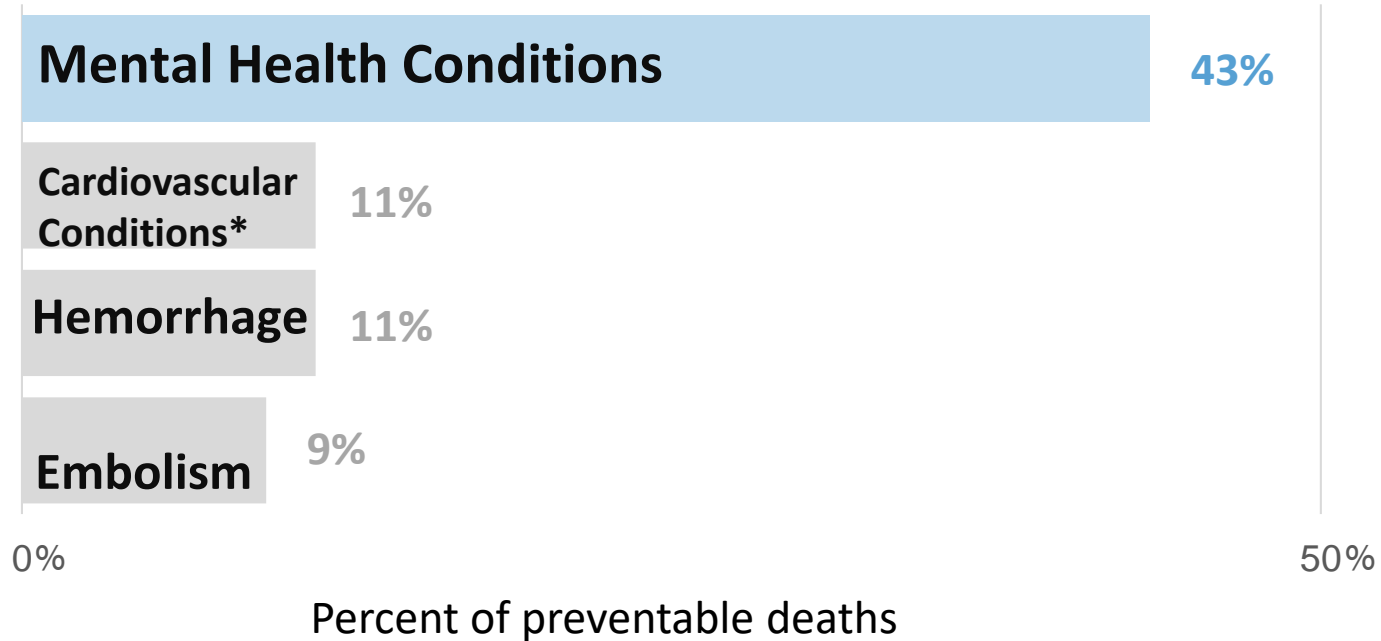


44%

43 days
to 1 year

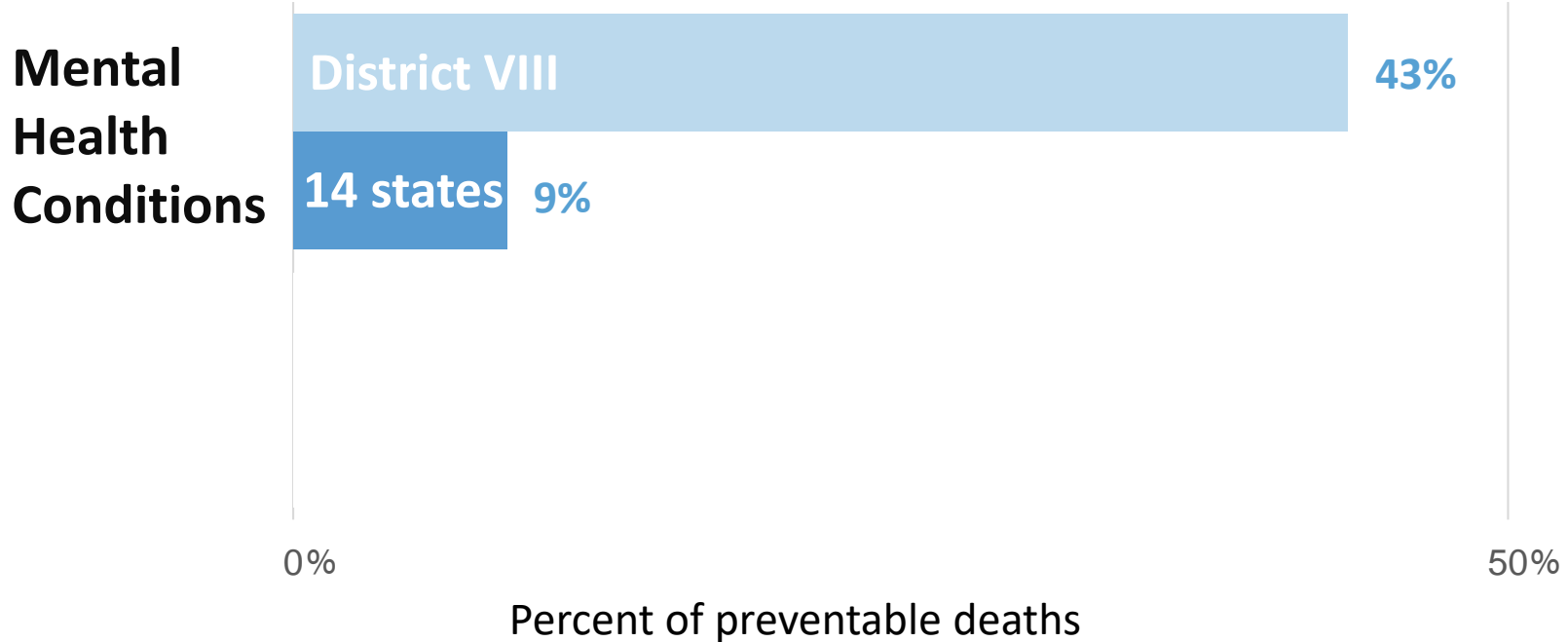
23%

Leading causes of pregnancy-related deaths in District VIII



*includes cardiomyopathy

Higher % of deaths due to mental health conditions in District VIII than in 14-state data



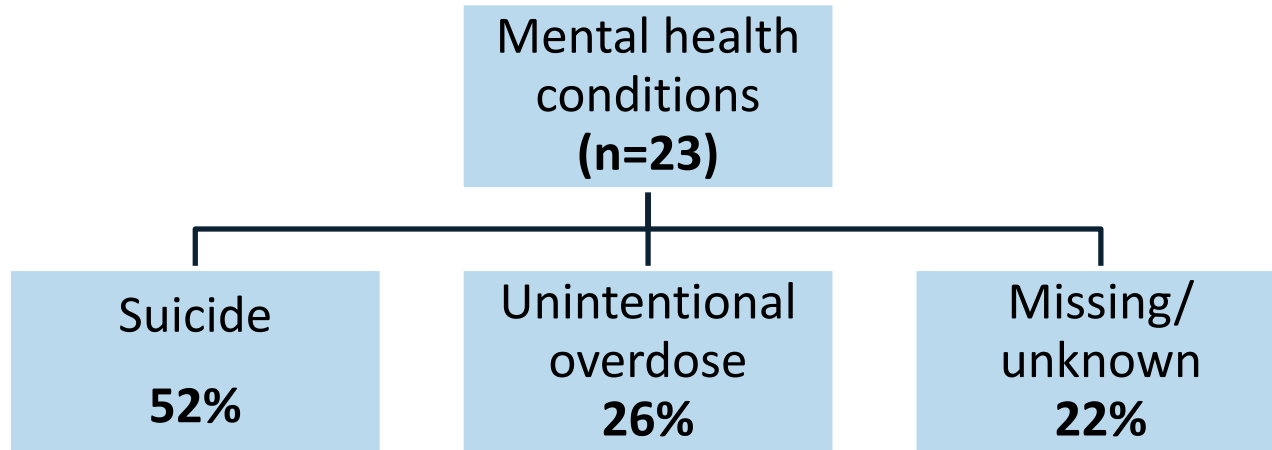
Utah Criteria

Pregnancy-relatedness criteria for mental health-related deaths, including overdose and suicide

- Pregnancy complications
- Chain of events initiated by pregnancy
- Aggravation of an unrelated condition by the physiologic effects of pregnancy

Utah Criteria available at <https://reviewtoaction.org/content/criteria-mental-health-related-including-drug-related-and-suicide-deaths-be-considered>

Causes of pregnancy-related deaths due to mental health conditions in District VIII



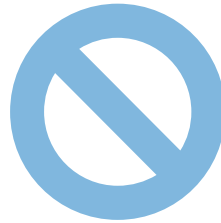
MMRIA data as submitted by four DVIII states

80% of pregnancy-related deaths were preventable



80%

Preventable



18%

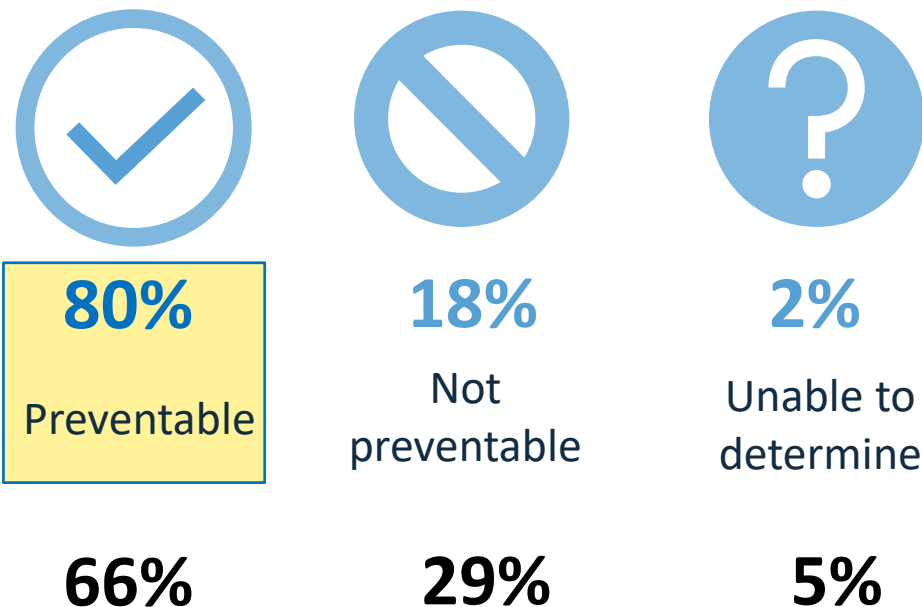
Not
preventable



2%

Unable to
determine

Higher % of pregnancy-related deaths determined to be preventable in District VIII than in 14-state data



Preventability Example

- 21-year-old first time mom with trauma history, current use of heroin and tobacco, presenting to late prenatal care at 20 weeks.
- Concern for intimate partner violence (IPV) and scored in severe range of depression at prenatal intake.
- Referral to methadone clinic and initiation of antidepressant treatment; patient engages in treatment for both disorders.
- Sporadic prenatal care, citing transportation issues. Presents at 34 weeks gestation with bleeding; strongly suspect further IPV, but screening deferred.
- Delivers viable infant at 36 weeks gestation. Mild neonatal abstinence syndrome symptoms noted.
- Given social factors, child protective services took custody of infant.
- Died at 2 months postpartum secondary to acute fentanyl intoxication
- Additional history: Did not attend scheduled postpartum (PP) visits. Lost Medicaid coverage at 6 weeks PP and could not afford continuing to obtain methadone nor antidepressant medication. Had initially moved in with mother after delivery of infant, but back in with abusive boyfriend at some point.

Preventability Example

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Preventability Considerations

- Preventability determinations are often a reflection of MMRC composition.
- Inadequate information can make any case determination difficult.
- Discuss the factors that contributed to the death, and recommendations to address those contributing factors first.

MMRIA Form Options

| | | |
|-----------------------------|--------------------------------------|--|
| WAS THIS DEATH PREVENTABLE? | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| CHANCE TO ALTER OUTCOME? | <input type="checkbox"/> GOOD CHANCE | <input type="checkbox"/> SOME CHANCE |
| | <input type="checkbox"/> NO CHANCE | <input type="checkbox"/> UNABLE TO DETERMINE |

Contributing Factors:

(1) Patient/Family, (2) Provider, (3) Facility, (4) System, (5) Community

Recommendations to prevent future deaths may be identified
at all five levels

Specific and Actionable Recommendations from State MMRCs

_____ should _____.

(who?) (do what?) (when?)

WHO is the entity/agency who would have been/be responsible for the intervention?*

WHAT is the intervention and **WHERE** is the intervention point?*

- Patient/Family
- Provider
- Facility
- System
- Community

WHEN is the proposed intervention point?

- Among women of reproductive age (“preconception”)
- In pregnancy and in the postpartum period
 - Labor & Delivery (L&D)
 - Prior to L&D hospitalization discharge
 - First 6 weeks postpartum
 - 42-365 days postpartum

Maternal Mortality Review Committee Contributing Factors and Recommendations for Action

MMRIA data submitted by fourteen states

| Contributing Factor | Recommendations to Address Contributing Factor |
|--|---|
| Access to clinical care | Expand office hours; Increase number of providers who accept Medicaid; Increase availability of group prenatal care |
| Unstable housing | Prioritize pregnant women for temporary housing programs |
| Lack of/inadequate transportation options | Strengthen/build systems that link persons to affordable transportation; Provide vouchers for non-emergency transportation |
| Obesity and associated chronic condition complications | Improve access to healthy food options; Improve education and promotion of health eating habits and weight management strategies |
| Limited experience with OB emergencies | Implement OB emergency simulation training for Emergency Dept. staff; Ensure Emergency Dept staff ask about recent pregnancy history and consult with OB on call if pregnant within prior year |
| Lack of appropriate personnel or services | Increase access to telemedicine by facilities with no OB onsite; Ensure Medicaid managed care organizations' contracts include sufficient access to high risk care specialists |
| Lack of guiding protocols | Ensure sepsis, hemorrhage, and mass transfusion protocols are in place and monitor for staff use; Develop/implement relevant patient safety bundles; Implement systems that foster care coordination across providers; Increase use of patient navigators |

| Contributing Factor | Recommendations to Address Contributing Factor |
|--|---|
| Lack knowledge of warning signs or need to seek care | Improve counseling and increase use of patient education materials on warning signs and when to seek care, such as the AWHONN <i>Save Your Life</i> discharge instructions |
| Non-adherence to medical regimens or advice | Standardize patient education to ensure providers communicate consistent messages; Implement techniques that ensure patient understanding, such as patient “teaching back” to the provider; Make education materials available in clinic and online; Strengthen/expand access to patient navigators, case managers, and peer support; Ensure access/use of interpreter services when needed; Increase home health or social work follow-up services |
| Missed/delayed diagnosis | Repeat blood pressure measurement in a timely manner (and perhaps manually) when initial blood pressure result is unexpected; Offer/expand non-OB provider education on cardiac conditions in pregnant and postpartum women; Increase the thorough evaluation of patients with pain and shortness of breath |
| Inappropriate/delayed treatment | Establish policies and protocols that support only performing cesarean deliveries when medically indicated; Implement a maternal early warning system |
| Lack of continuity of care | Improve care transition protocols and communication between OB providers and primary care providers and specialty care providers |

| Contributing Factor | Recommendations to Address Contributing Factor |
|---|---|
| Inadequate receipt of care | Develop/expand implementation of policies that ensure women deliver at/are transported to a hospital with a level of maternal care that matches her health risk; Enlist state perinatal quality collaboratives to identify quality improvement procedures and periodic drills/simulation training for birth facilities, including OB emergencies; Design/expand implementation of education initiatives |
| Case coordination/management | Extend/expand Medicaid eligibility for pregnant women to include 1 year of postpartum care; Create a quality improvement entity to manage outpatient care gaps and implement and monitor care coordination improvements; Develop/implement a postpartum care bundle that integrates services for high risk women; Develop and implement protocols and policies that improve hospital documentation of abnormal test results, follow-up care plans, and condition management plans; Develop a universal electronic health record system that allows sharing medical records within and between hospitals |
| Guiding policies, procedures, or standards not in place | Develop and implement protocols and policies that increase timely referrals and consultation; Increase (and monitor for) consistency of protocols and policies within healthcare systems |



Thank you!



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izaharatos@cdc.gov

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.

