



Indiana Maternal Mortality Review Committee (MMRC) | 2019

Overview of Indiana MMR program

In 2017, ISDH established a comprehensive investigation of maternal deaths through the creation of a Maternal Mortality Review program. ISDH collaborated with the Indiana Section of American College of Obstetricians and Gynecologists to build organizational capacity to reduce maternal mortality and morbidity. This collaboration was instrumental in the passage of Senate Enrolled Act 142 (now IC 16-50) in July 2018, leading to the formation of the Indiana MMRC.

Pregnancy-associated: The death of a woman while pregnant or within one year of the end of pregnancy, due to any cause.

Pregnancy-related: The death of a woman while pregnant or within one year of the end of pregnancy due to a cause directly related, aggravated by or made worse by the pregnancy or its management.

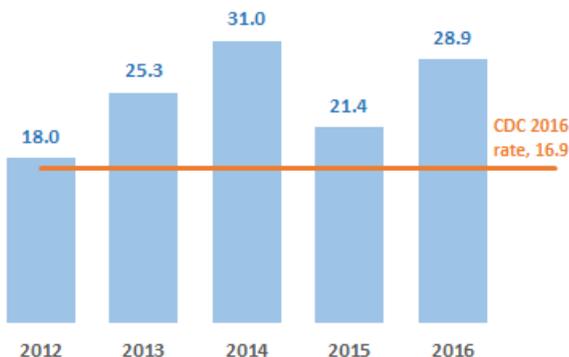
The goal of the Indiana MMRC is to review all **pregnancy-associated** deaths and provide recommendations that may eliminate preventable maternal deaths, reduce maternal morbidity and improve the population health for women of reproductive age in Indiana.

The Indiana MMRC identifies maternal deaths from death certificates using the pregnancy status check-box, ICD-10 obstetric cause of death codes, and linkage to live birth or fetal death certificates. Death certificate data alone do not provide detailed information on causes of maternal death, yet prior to 2018, the only source of maternal mortality was death certificates.

Additional records (medical records, autopsy reports, Emergency Medical Service, etc.) are now requested for each maternal death. Indiana MMR registered nurses abstract these records for additional information and create a de-identified case summary for each death. These case summaries are presented to the Indiana MMRC for review to determine the underlying and contributory factors at the individual, clinical, and systems levels surrounding the death as well as recommendations.

Indiana Pregnancy-Related Mortality Ratios 2012 - 2016

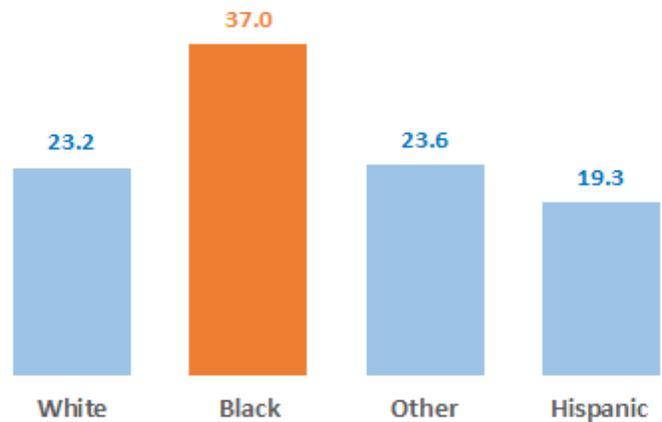
Indiana pregnancy-related maternal mortality rate has consistently been higher than the CDC published national rate per 100,000 live births



Source: CDC's Indiana Pregnancy Mortality Surveillance System Data
Note: The chart above represents Indiana's pregnancy-related mortality rate and how Indiana compares to the CDC's national rate

Pregnancy-Related Mortality Ratios by Race/Ethnicity 2012 - 2016

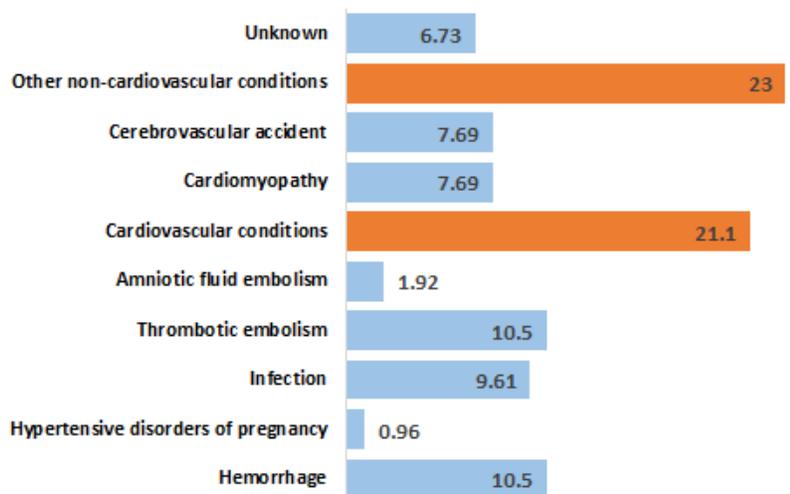
Black mothers had the highest rate of pregnancy-related mortality at 37.0 deaths per 100,000 live births for 2012-2016



Source: CDC's Indiana Pregnancy Mortality Surveillance System
Data Notes: The chart above represents Indiana maternal race as recorded on death certificate.

Causes of Pregnancy-Related Deaths 2012-2016

21% of pregnancy-related deaths in Indiana for 2012 - 2016 resulted from Cardiovascular conditions, and 23% from unclassified non-cardiovascular conditions



Source: CDC's Indiana Pregnancy Mortality Surveillance System Data
Notes:

- Using the CDC causes of death from the Pregnancy Mortality Surveillance System data, the frequency of the top identified causes of pregnancy-related deaths in Indiana are shown above.
- Unknown* represents cases where the cause of death could not be determined or the information is not reported on the death certificate.
- Cause of death classified as non-cardiovascular conditions include: homicide, suicide, motor vehicle accidents, drug overdose, others, and not an injury.

See reverse side for additional data notes.

IN MMRC Recommendations to Address Indiana Maternal Mortality

- **Build a culture of continuous quality improvement**
 - Leverage quality initiatives: Address provider and facility factors through quality improvement initiatives co-designed with patient advisors, with a focus on leading causes of maternal death in Indiana- cardiovascular and coronary conditions, mental health conditions, and chronic illnesses.
 - Implement evidence-based policies and protocols: Develop clear facility-level policies and protocols across care settings to prevent or manage maternal illness, improve timely recognition of early warning signs and maternal change in clinical status, ensure appropriate escalation of care, and provide effective discharge counseling and follow-up.
- **Reduce missed opportunities for prevention in the emergency room**
 - Ensure timely transport to and from remote areas and for individuals with accessibility restrictions.
 - Increase coordination and communication between emergency and obstetric providers.
 - Support health information exchanges to coordinate and improve obstetric, inpatient, outpatient, and emergency care.
- **Ensure access to comprehensive reproductive health and contraceptive services**
 - Expand healthcare coverage and coordination between primary, specialty, reproductive health and prenatal care, and integrate with supportive services.
- **Create perinatal care to support fully integrated management of mental health and substance use disorders among women of reproductive age**
 - Screen for mental health issues and substance use disorders.
 - Ensure access to medication-assisted treatment for opioid use disorder during pregnancy.
- **Address inequities in social determinants of health to improve women's preconception health**
 - Distribute report findings to stakeholders who are able to influence the social determinants of health.
 - Provide a data-driven community response to challenges in maternal health.

Indiana MMR Stakeholders

The Indiana MMRC is a diverse, multi-disciplinary team of more than 70 professionals from all levels of clinical and social service from across Indiana. To further ensure the committee is reflective of our Hoosier community, and to reduce implicit bias and promote equity and inclusivity, the MMRC will partner with the ISDH Office of Minority Health and the Indiana Minority Health Coalition to identify practices and training opportunities aimed at improving the health equity for Indiana moms and babies. Exposing MMRC members to educational sessions on racial disparities and the impact of bias on healthcare will be ongoing. Additionally, redacting demographic information (age, race, education level, insurance provider, etc.) for the review process will mitigate the effects of implicit bias during the review. Data analysis will also be purposefully structured to triate social, environmental and healthcare-related factors to better identify and address other disparities.

The Indiana MMRC includes partners such as, but not limited to:

- March of Dimes
- Indiana Family and Social Services Administration
- Indiana Hospital Association
- American College of Obstetricians and Gynecologists
- Indiana Department of Child Services
- ISDH Office of Minority Health
- Indiana Minority Health Coalition
- Indianapolis Healthy Start
- ISDH Office of Women's Health
- Local Health Departments
- Women's Health Community Health Network
- Nurse-Family Partnership



Data Notes: Figures on reverse do not reflect all pregnancy-associated deaths. To provide the most recent Indiana, population-level information regarding overall pregnancy-related mortality ratio, causes of death, ISDH examined CDC's aggregated Pregnancy Mortality Surveillance System (PMSS) data for Indiana between 2012 and 2016.

Due to errors in reported pregnancy status on the death certificates and Vital Records data, thereby leading to overestimation or underestimation of the number of pregnancy-related deaths, CDC recommends the use of pregnancy-related deaths captured in the CDC aggregated PMSS data for Indiana maternal mortality surveillance, identification and classification. PMSS data have limitations. Because pregnancy-related deaths are relatively rare events, their identification may still be incomplete due to the marking of the pregnancy check-box among women older than 45 years, even in the absence of documentation of pregnancy status on death certificates. Classification based on pregnancy check-box and ICD-10 codes alone, without full record review, are more likely to result in misclassification.

With Indiana now having a functional maternal MMRC, starting with 2018 data, maternal mortality data and reports derived from IN MMRC on Indiana maternal mortality will include additional information gained and evaluated through the MMRC that can be used to provide specifics on Indiana maternal mortality and MMRC data-driven recommendations to prevent future maternal deaths.