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Arkansas Maternal Mortality Review Committee Members

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<tr>
<th>Name</th>
<th>Title/Position</th>
</tr>
</thead>
<tbody>
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This report is produced in remembrance of all the women who have lost their lives during and after pregnancy and childbirth from any cause.

It is with deepest sympathy and respect that we dedicate this report to the memory of all Arkansas women who died while pregnant or within one year of pregnancy, and to their loved ones.

We hope collaborative efforts to further understand the causes and contributing factors of maternal mortality will help to create new pathways to prevention, health, and equity for Arkansas women.
This report was made possible through detailed reviews of maternal death cases by the volunteer Arkansas Maternal Mortality Review Committee (hereafter referred to as AMMRC or the Committee).

We are deeply grateful to the members of the Committee for their insight, dedication, and generosity. We would like to acknowledge the Arkansas Department of Health – Health Statistics Branch for their collaboration in providing the data used to identify cases of maternal deaths and the Epidemiology Branch for data analysis and technical review.

We thank the health systems, health care providers, and coroners who provide the records that allow meaningful review to occur. We appreciate the lead sponsors and co-sponsors of the bill who recognized the need to preserve the lives of Arkansas mothers.

We also thank our national partners at the Centers for Disease Control and Prevention’s Division of Reproductive Health and the Building U.S. Capacity to Review and Prevent Maternal Deaths project for providing technical assistance and support during the development of the AMMRC, and for their continued support through guidance, data management, and resources.
The Arkansas Maternal Mortality Review Committee reviews maternal deaths that occur during pregnancy or within one year of the end of pregnancy. Through a process of ongoing surveillance, data collection, and comprehensive multidisciplinary review, the information gathered is used to develop evidence-based recommendations that seek to prevent future maternal deaths. This report details the Committee’s review and recommendations of maternal deaths of Arkansas residents for the year 2019. The data is a combination of 2018 and 2019.

The total number of live births in Arkansas in 2018 and 2019 combined was 73,307, with the data linkage process identifying 71 potential pregnancy-associated deaths. Application of exclusion criteria determined by the Committee resulted in the removal of 17 cases, with 54 pregnancy-associated deaths undergoing full case abstraction and review and 23 cases determined to be pregnancy related.

The pregnancy-related mortality ratio for 2018-2019 is 31 per 100,000 live births.

Key Findings

- Between 2018 and 2019, Arkansas had 54 pregnancy-associated deaths. This represents a pregnancy-associated mortality ratio of 73.7 deaths per 100,000 births.
- The top underlying causes of pregnancy-related deaths were cardiovascular conditions, hemorrhage, and cardiomyopathy.
- For all pregnancy-associated deaths, Black non-Hispanic mothers were twice as likely to die (2.1 times) compared to White non-Hispanic mothers in Arkansas.
- Women ages 35 and older have the highest mortality ratio, which was more than six times the mortality ratio of women younger than 25 years old.
- More than 9 in 10 (91%) pregnancy-related deaths were considered potentially preventable.

Key Recommendations

- Standard postpartum care should be provided to birthing parents through one year postpartum to monitor their health and mental health status, provide support during this transition period, and ensure access to treatment for any concerns that arise. This includes extending insurance coverage to ensure access to care and changing the standard postpartum care protocols to include additional postpartum visits at regular intervals beyond the current single visit at six weeks postpartum.
- Facilities should implement evidence-based patient safety bundles available through the Alliance for Innovation on Maternal Health (AIM). AIM is a data-driven maternal
safety and quality improvement initiative based on consensus-based practices to improve maternal outcomes.

- Facilities should work to eliminate discrimination based on race, cognitive status, disability status, immigration status, gender identity, sexual orientation, and other factors. Facilities should use maternal safety bundles related to discrimination.

- Policymakers should increase funding to expand the number of inpatient and outpatient facilities for treatment of substance use disorder and mental health disorders prior, during, and after pregnancy.

- Patients should seek or establish prenatal care early in pregnancy, actively engage in ongoing medical care, and adhere to a prescribed regimen.

This is the second comprehensive review of maternal deaths of Arkansas residents; consequently, the numbers are small. Caution should be applied when interpreting and comparing data with other jurisdictions, as different exclusion and inclusion criteria may have been applied.
In 2019, Arkansas introduced legislation to establish a maternal mortality review committee. Arkansas House Bill 1440 was introduced and passed during the 92nd General Assembly, Regular Session, 2019. Arkansas House Bill 1440 became Act 829 of 2019 (Appendix B) and established the AMMRC which requires the formal review of maternal deaths in Arkansas and secures protection for the confidentiality of the process. The AMMRC was assembled within the ADH Family Health Branch, Women’s Health Section. The AMMRC was developed with guidance from the Centers for Disease Control and Prevention (CDC) Building US Capacity to Review and Prevent Maternal Deaths and is modeled after well-established review committees in the United States.

Within the population of women of reproductive age, maternal mortality is an indicator that is monitored by ADH pursuant to Ark. Code Ann. § 20-15-2301. Maternal mortality is considered a sentinel event that warrants close scrutiny. Maternal mortality review provides insight into the medical and social factors leading to these events and to prevent future occurrences of maternal mortality.

**Scope**

The scope of cases for Arkansas review is all pregnancy-associated deaths or any deaths of women during pregnancy or up to 365 days after pregnancy ends. At the July 2020 AMMRC meeting, members set forth exclusion criteria for abstraction (i.e., motor vehicle accidents and out-of-state residents).

**Purpose**

The purpose of the AMMRC is to identify and characterize maternal deaths with the goal of identifying prevention opportunities.

**Vision**

To protect and improve the health and well-being of all Arkansans by eliminating preventable maternal deaths in Arkansas.

**Mission**

Optimize health for all Arkansans to achieve maximum personal, economic, and social impact.

**Goals**

The goals of the AMMRC are to:

- Perform thorough record abstraction in order to obtain details of events and issues leading up to a mother’s death.
- Perform a multidisciplinary review of cases to gain a holistic understanding of the issues.
- Determine the annual number of maternal deaths related to pregnancy (pregnancy-related mortality).
- Identify trends and risk factors among pregnancy-related death in Arkansas.
- Recommend improvements to care at the individual, provider, and system levels with the potential for reducing or preventing future events.
- Prioritize findings and recommendations to guide development of effective preventive measures.
- Recommend actionable strategies for prevention and intervention.
• Disseminate the findings and recommendations to a broad array of individuals and organizations.
• Promote the translation of findings and recommendations into quality improvement actions at all levels.

Statutory Authority and Protections

§ 20-15-2301 provides authority for the AMMRC to review pregnancy-associated deaths or deaths of women with indication of pregnancy up to three hundred sixty-five (365) days after the end of pregnancy.

§ 20-15-2302 provides powers and duties to the AMMRC including identifying maternal death cases, reviewing medical records, contacting family members and other affected or involved persons to collect additional relevant data. All proceedings and activities of the committee are confidential and are not subject to the Freedom of Information Act of 1967.

§ 20-15-2303 provides access to all relevant medical records associated with a case under review by the committee.

Membership
The AMMRC is a multidisciplinary committee whose members represent Arkansas Department of Health’s (ADH) five health regions and various specialties, facilities, and systems that interact with and impact maternal health.

Twenty-one inaugural members were appointed by the Arkansas Secretary of Health in late 2019. Membership consists of specialists in obstetrics and gynecology, maternal fetal medicine, anesthesiology, nursing, psychiatry, mental/behavioral health, nurse midwifery, public health, hospital association, patient advocacy, and more. Recruitment of new AMMRC members may occur annually as needed unless a specific type of expertise is required during the year for a case review (Example: domestic violence).

AMMRC members serve in a volunteer capacity and do not receive compensation for participation in the review process. AMMRC members have a term limit of up to three years for their volunteer stewardship and attend quarterly meetings.

Organizations Represented by Members
• American College of Cardiology, Arkansas Chapter
• American College of Nurse Midwives, Arkansas Affiliate
• American College of Obstetricians & Gynecologists
• Arkansas Department of Health
• University of Arkansas for Medical Sciences
• Arkansas Board of Health
• Arkansas Foundation for Medical Care
• Arkansas Hospital Association
• Arkansas Medical Society
• Arkansas Society of Anesthesiologists
• Arkansas Chapter Association of Women’s Health, Obstetric and Neonatal Nurses
• Arkansas Board of Nursing
• Arkansas Psychiatric Society
In order to address maternal mortality or deaths, it is important to first understand the terms used to describe maternal mortality.

**Maternal death:** The death of a woman while pregnant or within 42 days of the end of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. This definition is based on the death certificate information only and is used for surveillance by the CDC and other organizations.¹

The terms *pregnancy-associated death* and *pregnancy-related death* are used in maternal mortality review systems in which multidisciplinary committees perform comprehensive reviews of deaths among women during pregnancy or within a year of the end of pregnancy. Information is gathered from death certificates as well as a wide range of other sources.¹

**Pregnancy-associated death:** The death of a woman during pregnancy or within one year of the end of pregnancy, regardless of the cause.

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

**Pregnancy-associated mortality ratio:** The number of pregnancy-associated deaths per 100,000 live births.

**Pregnancy-related mortality ratio:** The number of pregnancy-related deaths per 100,000 live births.

Case Identification

Identifying maternal deaths after an occurrence is a complex process. Multiple strategies are employed to identify possible cases of maternal deaths; these strategies are performed concurrently.

The ADH Family Health Branch has established data sharing agreements with the Office of Health Information Technology (OHIT), ADH Health Statistics Branch, ADH Vital Statistics Section, and ADH Hospital Discharge Data System. In addition, an agreement has been established with CDC for data sharing and use of the Maternal Mortality Review Information Application (MMRIA).

Pregnancy-associated deaths of Arkansas female residents of reproductive age are identified through one or more of the following criteria:

- Death certificate for a woman linked with a matching live birth certificate or a fetal death certificate;
- Death certificate for a woman with a cause of death related to pregnancy, childbirth, or postpartum period; or
- Death certificate for a woman with the pregnancy checkbox indicating that the death occurred during pregnancy or within one year of pregnancy.

Abstraction

Information for abstraction is gathered from maternal/neonatal death certificates, neonatal birth certificates, medical records, and autopsy reports. Additional data sources include hospital and emergency department records, obituaries, police reports, social media, media and news reports, certifier confirmation, and more. Records are then abstracted by a trained abstractor who prepares de-identified case narratives for Committee review.

Meeting Structure

The AMMRC reviews and makes decisions about each case based on the case narrative and abstracted data. The Committee examines the cause of death and contributing factors and determines the following:

1. Was the death pregnancy related?
2. What was the underlying cause of death?
3. Was the death preventable?
4. What were the factors that contributed to the death?
5. What are the recommendations and actions that address those contributing factors?
6. What is the anticipated impact of those actions if implemented?
The Committee then formulates findings and recommendations in accordance with CDC’s MMRIA.

MMRIA is based on a three-step approach for determining the contributing factors of death. Each factor is identified according to levels of care: patient/family, provider, facility, system, and community. Each factor is then assigned a contributing factor class from a list of options. Lastly, the Committee assigns the factor a concise description.\(^1\)

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The following section presents findings from the Committee’s review of pregnancy-associated deaths and analysis of statewide trends. These findings inform the Committee’s recommendations described later in this report.

**Note:** Rates based on counts less than 20 are considered unstable and should be interpreted with caution. These numbers, percentages, ratios, and rates may change considerably from one time period to the next. Data presented in this report may not be comparable to pregnancy-associated mortality data from other jurisdictions due to differing case definitions and exclusion criteria.

### Overview of 2018-2019 Cases

Between 2018 and 2019, the total number of live births in Arkansas was 73,307. Based on 2018-2019 Arkansas death certificates, 71 potential pregnancy-associated deaths were identified. This number includes all deaths of women during pregnancy and within one year of the end of pregnancy from any cause.

Based on the exclusion criteria set forth by the AMMRC, 17 cases were excluded from the scope of review for Arkansas, and the remaining 54 cases were selected to be abstracted and reviewed. The following table shows reasons for exclusion and the Committee’s final decisions on pregnancy relatedness for the 54 cases that were reviewed.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not pregnant at time or within one year of death</td>
<td>6</td>
</tr>
<tr>
<td>Not an Arkansas resident</td>
<td>5</td>
</tr>
<tr>
<td>Motor vehicle accident**</td>
<td>4</td>
</tr>
<tr>
<td>Accident/trauma</td>
<td>2</td>
</tr>
<tr>
<td>Pregnancy-related deaths</td>
<td>23</td>
</tr>
<tr>
<td>Pregnancy-associated, but not related deaths</td>
<td>20</td>
</tr>
<tr>
<td>Pregnancy-associated, but unable to determine relatedness</td>
<td>11</td>
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</tbody>
</table>

*Birth data are provisional and subject to change.*

** The Committee reviewed two maternal deaths caused by motor vehicle accidents. These cases are included in the “Pregnancy-associated deaths reviewed by Committee” section of this table.

Between 2018 and 2019, Arkansas had 54 pregnancy-associated deaths. This represents a pregnancy-associated mortality ratio of 73.7 deaths per 100,000 births.
Pregnancy-Associated Deaths by Race/Ethnicity

Pregnancy-associated deaths can happen to women of any race. However, some groups are disproportionately affected.

19% of all births were to Black non-Hispanic women.

37% of all pregnancy-associated deaths were to Black non-Hispanic women.

For all pregnancy-associated deaths, Black mothers were twice as likely to die (2.1 times) compared to White mothers in Arkansas.

More than 2 Black women in Arkansas died ...

... for every 1 White woman

Pregnancy-Associated Mortality Ratio by Race/Ethnicity (per 100,000 births)

- Black non-Hispanic: 142.7
- White non-Hispanic: 66.8
- Asian: 4%
- Hispanic: 2%

Breakdown of Pregnancy-Associated Deaths by Race/Ethnicity
Pregnancy-Associated Deaths by Age

The risk of pregnancy-associated death increases with age. Women ages 35 and older have the highest mortality ratio, which was more than six times the mortality ratio of women younger than 25 years old.

Key Points

- Pregnancy-associated deaths occur disproportionately among Black non-Hispanic women and older women.
- Mortality is influenced by a wide range of determining factors. Some of those factors are directly related to pregnancy, such as the patient’s health status, health behaviors, and access to quality health care. Other factors include social determinants of health such as poverty, family and community support, and racial bias in policies, practices, and systems.
Breakdown of Pregnancy Association

Of the 54 deaths reviewed, the Committee determined:

- 23 deaths (43%) were determined to be pregnancy-related.
- 20 deaths (37%) were determined to be pregnancy-associated, but not related.
- 11 deaths (20%) were determined to be pregnancy-associated, but the Committee was unable to determine relatedness.

Mortality Ratios by Age

Mortality ratios below are deaths per 100,000 births. The age distribution of women who died is different for pregnancy-related deaths compared to the two other categories of pregnancy-associated deaths.

Women ages 30 years and older were at an increased risk of pregnancy-related death.
Insurance Type

Between 2018 and 2019, half of women who died from pregnancy-associated but not related deaths that occurred after delivery had Medicaid, compared to 57% of women who died from pregnancy-related deaths.

Key Points

- Pregnancy-related deaths disproportionately affect women ages 30 and older.
- Pregnancy-related deaths disproportionately affect women on Medicaid compared to pregnancy-associated but not related deaths.
Timing of Deaths

Timing of pregnancy-related deaths

- **39%** During pregnancy
- **39%** Within 42 days of pregnancy
- **22%** 43 days to 1 year after pregnancy

Timing of pregnancy-associated, but not related deaths

- **20%** During pregnancy
- **15%** Within 42 days of pregnancy
- **65%** 43 days to 1 year after pregnancy

Timing of pregnancy-associated, but unable to determine relatedness deaths

- **0%** While pregnancy
- **27%** Within 42 days of pregnancy
- **73%** 43 days to 1 year after pregnancy

Key Points

- The majority (78%) of pregnancy-related deaths occurred during or within 42 days of pregnancy.
- Two-thirds or more of pregnancy-associated, but not related deaths (65%) and pregnancy-associated, but unable to determine relatedness (73%) occurred 43 days to 1 year after pregnancy ended.
Between 2018 and 2019, Arkansas had 23 deaths that were determined to be pregnancy-related (31.4 deaths per 100,000 births).

**Pregnancy-Related Mortality by Race/Ethnicity**

Pregnancy-related deaths occur disproportionately among Black non-Hispanic women.

Breakdown of Pregnancy-Related Deaths by Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Pregnancy-Related Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Non-Hispanic</td>
<td>30.4%</td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>60.9%</td>
</tr>
<tr>
<td>Asian</td>
<td>8.7%</td>
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For pregnancy-related deaths, Asian mothers were three times as likely to die (2.9 times) as White mothers in Arkansas.
Causes of Death

As determined by the Committee, the top underlying causes of pregnancy-related deaths were cardiovascular conditions, hemorrhage, and cardiomyopathy.

* Hemorrhage excludes aneurysms or CVA

Obesity, Mental Health Conditions, and Other Factors

The Committee reviewed records and determined if obesity, mental health conditions, substance use, suicide, homicide, or discrimination contributed to each pregnancy-related death.
Preventability and Chance to Alter Outcomes

The Committee reviewed all deaths and used the MMRIA Committee Decisions Form to determine if the death could be considered preventable and if there was at least some chance of the death being averted by one or more reasonable changes to patient, family, provider, facility, system and/or community factors.

91% of pregnancy-related deaths were considered potentially preventable.

Nine out of ten pregnancy-related deaths (91.3%) were considered preventable. Among those preventable deaths, all (100%) were determined to have either a good chance or some chance to alter the outcome.
Key Points

- Preventability assessments help prioritize future areas of intervention and action.
- Determination of preventability is based on consensus achieved by the Maternal Mortality Review Committee.
- Findings suggest that deaths due to leading causes are highly preventable.

About 1 in 7 cases were missing at least some records* crucial to case review.

Reviewing and understanding death cases requires information from multiple types of records, including those from medical/health systems, law enforcement, mental or behavioral health providers and systems, and government or social service agencies. Records can be difficult to obtain for the following reasons:

- Lack of information or data sharing agreements and processes in place across and within these systems. For example, medical record sharing across health networks is often limited.
- Legal restrictions and policies that regulate what information agencies can share. For example, it is difficult to obtain records related to a death that is part of an ongoing criminal investigation.
- Reluctance to share records obtained from external agencies.
- Staff turnover, which hinders collaboration and information sharing across agencies or systems.
- Limited access to records when care is received in another state.

Completeness of Records for Review

Access to complete records is critical to determine factors that contributed to death and to determine their preventability. Thirteen out of fifty-four cases (24%) were determined by the committee to have complete records available for review.
Almost 60% of cases were considered to have all records necessary for adequate or only minor gaps or information that would have been beneficial but not essential to the review of the case.

Another 15% of cases were identified as having “somewhat complete” records, meaning that information crucial to the review of the case was not available to the Committee.

**Autopsies were performed in 54% of cases.**

**Autopsies**

- Autopsies were performed in 54% of cases.
- Autopsies consist of a thorough examination of the corpse by dissection to determine cause of death. Making autopsies mandatory would help Committees in making future recommendations.
AMMRC members carefully considered each case identified for review and applied their collective knowledge, training, and professional experience to make the following recommendations in accordance with the CDC’s MMRIA guidelines.¹

The factors contributing to maternal mortality are complex and simultaneously involve multiple facets of the women’s lives. The AMMRC encourages all stakeholders to consider how they might strengthen, advance, and improve current conditions in the areas of need identified in these recommendations.

The following recommendations are based on reviews of 2019 cases that were determined to be pregnancy related and are organized by recommended point of intervention:

- Patient/Family
- Quality Improvement (clinical)
- Systems of Care (non-clinical)
- Social Support
- Policy

Recommendation #1: Improve maternal health through education and implementation of best practices.

Patient/Family

- Patient and families should actively engage in ongoing medical care and adhere to a prescribed regimen.

Quality Improvement

- Facilities should implement evidence-based patient safety bundles available through the Alliance for Innovation on Maternal Health (AIM).² AIM is a data-driven maternal safety and quality improvement initiative based on consensus-based practices to improve maternal outcomes.

- Facilities should implement the national hypertension in pregnancy bundle. Optimal, timely, coordinated efforts to address hypertensive emergencies during pregnancy hold the promise of reducing morbidity and mortality related to obstetric emergencies.

- Facilities should promote multidisciplinary teamwork to ensure patients receive standards of perioperative care. The perioperative environment is complex and high-risk, and the provision of high-quality surgical care requires a multifaceted approach provided by multidisciplinary health care teams.³
• Health care providers and facilities should increase implementation of standardized recommendations and order sets. Examples are AIM and Perinatal Outcomes Workgroup through Education and Research (POWER).4

• Facilities should develop and implement improved procedures related to communication and coordination between providers, family, patient, and caregivers based on shared decision making. Shared decision making is key to patient-centered health care and the ability for clinicians and patients to work together to select tests, treatments, and care plans based on clinical evidence that balances risks with patient preferences and values. Coordination is especially vital considering the short duration of pregnancy and the need to get pregnant women in to see specialists in a timely manner.

• Facilities should have an automatic flag in electronic medical records that additional support is needed when a patient leaves the facility against medical advice more than once. Flags can assist in psychiatry or multidisciplinary (social work) referral.

• Hospitals should implement systems that allow certain diagnosis codes to trigger higher levels of care and a follow-up phone call within 48 hours regardless of the patient’s insurance status.

• Hospitals should do community health fairs to educate the public about the importance of prenatal care. Messaging should include that prenatal care is available even with no pay source. Telemedicine options are also available.

• Facilities should be able to call in additional help in emergent situations. Transferring patients to a larger, tertiary care facility may be an option in some cases; however, there are times when recovery or survival requires swift treatment. It would help if providers at small, rural facilities had 24/7 access to experienced, board-certified emergency physicians through a telemedicine hookup.5

• Facilities should increase care management or home visiting follow-up on high-risk patients. Health systems should integrate multidisciplinary teams (e.g., case management, social work, care coordinators, other subspecialists) in the care of pregnant women and ensure coordinated care through pregnancy and delivery.

• Facilities should conduct simulation training sessions on amniotic fluid embolism (AFE) and have an AFE checklist available in all units. AFE is a rare syndrome characterized by sudden cardiorespiratory collapse during labor or soon after delivery. Because of its rarity, many obstetrical providers have little experience managing AFE and may benefit from a cognitive aid such as a checklist. A checklist is available through the Society for Maternal-Fetal Medicine (MFM).6

• Providers should implement the national hypertension in pregnancy bundle. Hypertensive disorders of pregnancy are a leading contributor to maternal morbidity and mortality. Prompt and appropriate treatment can greatly reduce complications arising from these disorders.7
• Providers should make referral to MFM for management recommendations for morbid obesity.

• Providers of all disciplines should provide preconception counseling to patients with chronic diseases and should be knowledgeable about available resources and referrals to social support including telemedicine, and community health workers.

Social Support

• Communities and organizations should educate the public about Garrett’s Law and outcomes. Garrett’s Law expands the definition of child neglect to include the presence of illegal substances in bodily fluids, which can result in the infant being removed from the home. A repercussion of the law is women intentionally avoiding all prenatal care out of fear of being tested for drug use.8

• There should be a statewide coordinated effort for education packages around local anesthetic systemic toxicity (LAST), Maternal CPR, and AFE by using Arkansas’s Maternal and Perinatal Outcomes Quality Review Committee, AIM, UAMS’s Antenatal and Neonatal Guidelines, Education and Learning System (ANGELS), and other available sources.

Policy

• The AMMRC recommends extending Arkansas Medicaid maternal coverage from 60 days to one year postpartum. Postpartum care should be provided to mothers through one year postpartum to monitor the mother’s physical and mental health, provide support during the transition, and ensure access to treatment. This includes extending insurance coverage to ensure access to care and changing care protocols to include regular postpartum visits beyond the current single visit at six weeks postpartum.9 The U.S. Department of Health and Human Services has approved four additional states to join in offering one year of postpartum Medicaid coverage. A total of 21 states and Washington, DC have implemented expanding postpartum Medicaid to one year postpartum.10

• Policymakers should review controlled substance reporting laws in Arkansas, especially Garrett’s Law. Due to Garrett’s Law and other reporting laws, women using substances sometimes avoid treatment out of fear of being reported. Drug enforcement policies that deter women from seeking prenatal care are contrary to the welfare of the mother and fetus. Studies show that the threat of incarceration has proven to be ineffective in reducing the incidence of alcohol or drug abuse.11

• Policymakers should increase statewide access and payment for immediate postpartum long-acting reversible contraception (LARC). The American College of Obstetricians and Gynecologists (ACOG) supports immediate postpartum LARC insertion as a best practice, recognizing its role in preventing rapid repeat pregnancy and unintended pregnancy.12
Recommendation #2: Address health disparities and bias in hopes of eliminating structural and interpersonal discrimination in the delivery of services and support.

Quality Improvement

- Facilities should work to eliminate discrimination based on race, cognitive status, disability status, immigration status, gender identity, sexual orientation, and other factors. Facilities should use maternal safety bundles related to health equity. An example is the Reduction of Peripartum Disparities Bundle.¹³

- Facilities should educate on discrimination and bias related to drug use or lack of adherence. Using appropriate language to describe mental illness and addiction can help to reduce stigma and improve how people with these conditions are treated in health care settings and throughout society.¹⁴

Social Support

- Communities should provide education and training on high-risk morbidity and mortality for black women to increase awareness of disparities. Recognizing the importance of social determinants of health can help obstetricians, gynecologists, and other providers better understand patients, communicate about health-related conditions and behaviors, and improve health outcomes.¹⁵

Recommendation #3: Address mental health and substance use disorders.

Patient/Family

- Patients should seek mental health assistance and substance use treatment.

Quality Improvement

- Facilities should develop and implement improved protocols and systems of care for provider screening and management of patients with substance use disorders.

Systems of Care

- State and local government agencies should develop public messaging campaigns to educate individuals with substance use and their social networks around how to access resources.

- Systems should encourage implementation and continuation of telehealth services to decrease barriers to care access.
Policy

- Policymakers should increase funding to expand the number of inpatient and outpatient facilities for treatment of substance use disorder and mental health disorders prior to, during, and after pregnancy.

Recommendation #4: Promote tobacco cessation and education.

Patient/Family

- Patients and families should seek out and utilize tobacco cessation resources.

Quality Improvement

- Providers should advise cessation of tobacco products in any form and utilize motivational interviewing techniques. The ACOG supports this recommendation.\textsuperscript{16}

Social Support

- Communities should increase public awareness related to the impact of tobacco and vaping use and programs available to assist with tobacco cessation.

Policy

- The state should continue to increase public awareness related to the impact of tobacco and vaping and provide information about cessation programs.
- Insurance plans should provide financial support for approved medications to assist in tobacco cessation.

Recommendation #5: Increase methods to assist in better surveillance of maternal mortality cases.

Policy

- The Committee recommends an opt-out strategy for autopsies for all maternal-related deaths. Funding should be provided where it is a barrier. Creating a widely recognized, adequately funded, well publicized, easily navigated pathway for coroners, providers, prosecuting attorneys, and families to maternal autopsy services is essential.
- Every unexpected, unexplained maternal death should have an autopsy performed by the state crime lab.
The following recommendations are based on reviews of 2019 cases determined to be either pregnancy associated but not related, or pregnancy associated but unable to determine pregnancy relatedness.

**Recommendations From Reviews of Pregnancy Associated but Not Related Cases:**

**Recommendation #1: Improve maternal health through education and implementation of best practices.**

**Patient/Family**
- Patients should seek or establish prenatal care early in pregnancy.

**Quality Improvement**
- Facilities should develop a comprehensive obstetric report with narrative notes to allow all providers to understand the full clinical picture, using continuity of care in practice.

**Social Support**
- Community programs should educate patients in how to navigate the system when met with discrimination.

**Policy**
- Stakeholders should increase state funding to allow for universal home visiting for all deliveries. The Family Connects program is currently being piloted in Arkansas.

**Recommendation #2: Address mental health and substance use disorders.**

**Quality Improvement**
- Providers should use validated verbal drug screening tools. Maternal care providers should screen all maternity patients for substance use disorder once during each trimester and postpartum. A validated verbal screening tool is superior to drug testing. Routine screening for substance use disorder should be applied equally to all patients regardless of age, race, ethnicity, and socioeconomic status.

**Policy**
- State and federal agencies should increase medication-assisted treatment (MAT) providers and substance use treatment facilities for women.
Recommendation #3: Address gun safety and intimate partner violence.

Quality Improvement

- Providers should screen all women of childbearing age for the presence of guns in the home. If guns are present, educate the patient on harm reduction and safe storage.
- Providers should screen all patients for intimate partner violence (IPV) and substance abuse during each trimester and in postpartum visits. Facilities should provide educational materials, resources, and case management for IPV and substance abuse.
- Facilities should implement a standardized screening tool for IPV.

Systems of Care

- Communities should require a gun safety course by a certified instructor when buying a gun.

Recommendations from Pregnancy Associated but unable to determine relatedness cases.

Recommendation #1: Promote mental health and substance abuse awareness.

Patient/Family

- Women of childbearing age with a history of substance use disorder should be educated about access to family planning services.

Quality Improvement

- Providers should follow AGOG guidelines related to depression screening and substance use screening and referrals.\(^\text{19}\)
- Providers should be knowledgeable about available resources and referral processes for substance abuse including telemedicine options and should educate patients on reasonable expectations with treatment.
- Providers should educate patients’ families about postpartum depression and warning signs.

Systems of Care
• Counties should apply for funding for family treatment drug courts. Family treatment courts use a multidisciplinary, collaborative approach to serve families with substance use disorders (SUDs) that are involved with the child welfare system. The Family Treatment Court Best Practices Standards published by the Center for Children and Family Futures and the National Association of Drug Court Professionals provide local jurisdictions, states, tribes, and funders with clear practice guidance to improve outcomes for children, parents, and families affected by substance use and co-occurring disorders.20

• Communities should promote the National Suicide Prevention Lifeline 988 and support expanding the capacity of the program in Arkansas.21
References


One common contributing factor to maternal deaths identified through review was the lack of knowledge among patients about postpartum warning signs. This lack of awareness resulted in failures and delays in seeking needed care. A key recommendation from the Committee’s review of 2018 deaths was to promote health and healthy behaviors while addressing socioeconomic and healthcare disparities. The AMMRC also recommended that all patient education be presented in plain language to better ensure clear communication to all patients and families regardless of health literacy level.

In 2022, ADH supported the implementation of this recommendation through the selection and dissemination of existing resources to educate pregnant and postpartum women about postpartum warning signs. The goal was to collaborate with clinical and community partners to help mothers recognize signs of potentially life-threatening complications.

After identifying a broad variety of available educational resources, ADH’s MMRC internal workgroup, along with the Women’s Health Medical Director, identified the nationally recognized Hear Her Campaign as the best fit for resources for the state. The Hear Her Campaign supports CDC’s efforts to prevent pregnancy-related deaths by sharing potentially life-saving messages about urgent warning signs. CDC’s Hear Her Campaign seeks to raise awareness of warning signs during and after pregnancy and to improve communication between patients and providers. The campaign offers free downloadable, sharable resources for patients and providers in multiple languages.

The ADH Women’s Health Section engaged with Arkansas’s Women, Infants, and Children (WIC) program to educate staff about urgent warning signs that can occur in pregnancy and postpartum. Subsequently, the Women’s Health Section partnered with the ADH Center for Local Public Health, Nurse-Family Partnership (NFP) home visiting, Arkansas’s Maternal and Perinatal Outcomes Quality Review Committee (MPOQRC), AHD Hometown Health Improvement (HHI), and UAMS POWER to educate staff regarding the importance of this information and to disseminate resources to educate the public. The ADH Women’s Health Section collaborated with the ADH social media coordinator and released Her Hear Campaign messages on ADH Facebook and Instagram pages. The Women’s Health Section continues to explore ways to maintain the partnerships created through this project and to seek additional opportunities to share warning signs information to clinical care providers, hospitals, and professionals in other settings that serve pregnant and postpartum women.

Another recommendation from the AMMRC was to promote a culture of consistent excellence in maternal health care through education and implementation of AIM best practices and patient safety bundles. AIM works through state teams and health systems to align national, state, and hospital engagement efforts to improve maternal health outcomes. Arkansas was officially recognized as an AIM state in 2022. The AMMRC feeds data and recommendations to the MPOQRC for implementation. The MPOQRC will work to ensure all birthing hospitals are using AIM bundles.
The AMMRC asks its members to take committee recommendations back to their affiliated groups to disseminate to their colleagues. Dr. Shona Ray-Griffith, one of the Committee’s inaugural members, co-authored a correspondence article published in the September 2022 edition of *The Lancet* that includes a “call to action to increase awareness of MMRCs and to encourage participation in your local review committees, as full psychiatric involvement is essential to ensuring these preventable causes of maternal death are appropriately classified, evaluated, and addressed on a global level”.¹

While there was no specific committee recommendation regarding seatbelt safety, the Committee noted that in motor vehicle accident deaths in 2018 and 2019, 100% of women were not wearing seatbelts. As a result of this finding, AMMRC’s internal work group partnered with the maternity program at ADH. The ADH maternity nurse program coordinator worked with the Arkansas Department of Transportation (DOT) and ADH Health Promotion to disseminate a DOT flyer on how to wear seatbelts while pregnant and to add the ADH logo. This information has been added to the AMMRC website and the ADH Maternity Program website. The flyer will be distributed at the community level.

In September 2022, the CDC released data from MMRCs in 36 states including Arkansas via a data brief titled “Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017-2019.” The data showed that more than 80% of pregnancy-related deaths were preventable. Among pregnancy-related deaths with information on timing, 22% of deaths occurred during pregnancy, 25% occurred at delivery or within seven days of delivery, and 53% occurred between seven days to one year after pregnancy. This report was the first to be released that featured Arkansas data from the AMMRC.²

Community outreach by the AMMRC in 2022 included presentations to ADH Grand Rounds, UAMS Department of OB/GYN faculty and residents, UAMS Department of Pathology, ADH MCH Specialists, Distinguished Panel Discussion on Black Maternal Mortality, UAMS POWER, ADH WIC, Every Woman Counts, HHI, NFP, Juneteenth Celebration, Tri-Regional Maternal Health Conference, ADH Injury Prevention, Northwest Arkansas Licensed Lay Midwives, ACOG Division VII, the Arkansas State Coroners Association, Arkansas Minority Health Commission, ADH Educational Symposium from County Health Officers, and the Arkansas Rural Health Commission. The AMMRC internal workgroup will continue to reach out to community groups to educate about maternal mortality and the Committee’s findings.

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ARKANSAS 2018-2019
MATERNAL MORTALITY

The Arkansas Maternal Mortality Review Committee (AMMRC) reviews maternal deaths that occur during pregnancy or within one year of the end of a pregnancy to determine causes of death, contributing factors, and to recommend interventions for preventing maternal deaths in Arkansas.

SUMMARY
(Years 2018 - 2019)

74
PREGNANCY-ASSOCIATED
DEATHS
PER 100,000 LIVE BIRTHS

31
PREGNANCY-RELATED
DEATHS
PER 100,000 LIVE BIRTHS

91%
OF PREGNANCY-RELATED DEATHS
WERE PREVENTABLE

BLACK/AFRICAN AMERICAN WOMEN WERE

1.7x
AS LIKELY TO DIE FROM PREGNANCY-RELATED CAUSES AS WHITE NON-HISPANIC WOMEN

PREGNANCY-ASSOCIATED:
The death of a woman while pregnant or within one year of the end of pregnancy, regardless of the cause.

PREGNANCY-RELATED:
The death of a woman while pregnant or within one year of the end of pregnancy from any cause related to or aggravated by pregnancy or its management.

LEADING CAUSES OF PREGNANCY-RELATED DEATHS IN 2018-2019
- Cardiomyopathy
- Cardiovascular conditions
- Hemorrhage (excludes aneurysms or cerebrovascular accidents)
- Hypertensive disorders of pregnancy
- Infection

PREGNANCY-ASSOCIATED DEATHS BY RELATEDNESS AND TIMING OF DEATH IN RELATION TO PREGNANCY

PAYMENT SOURCE FOR DEATHS OCCURRING AFTER DELIVERY

For more information: https://www.healthy.arkansas.gov/programs-services/topics/arkansas-maternal-mortality-review-committee
Stricken language would be deleted from and underlined language would be added to present law.

Act 829 of the Regular Session

State of Arkansas            As Engrossed:  H2/18/19  H2/20/19
92nd General Assembly
Regular Session, 2019

A Bill

HOUSE BILL 1440

By: Representatives D. Ferguson, Bentley, Barker, Brown, Burch, Capp, Cavenaugh, Clowney, Crawford, Dalby, C. Fite, V. Flowers, D. Garner, Godfrey, M. Gray, Lundstrum, McCullough, Petty, Rushing, Scott, Speaks, Vaught, Della Rosa, Eaves
By: Senators Irvin, Bledsoe, J. English, Elliott, L. Chesterfield

For An Act To Be Entitled
AN ACT TO ESTABLISH THE MATERNAL MORTALITY REVIEW COMMITTEE; AND FOR OTHER PURPOSES.

Subtitle
TO ESTABLISH THE MATERNAL MORTALITY REVIEW COMMITTEE.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. DO NOT CODIFY. Legislative findings and intent.
(a) The General Assembly finds that:
(1) Arkansas ranks forty-fourth in maternal mortality compared
with other states according to the 2018 United Health Foundation report on
the Health of Women and Children;
(2) Arkansas currently has thirty-five (35) maternal deaths per
one hundred thousand (100,000) live births, compared with the national
average of twenty (20) deaths per one hundred thousand (100,000) live births,
according to the Centers for Disease Control and Prevention;
(3) Thirty-five (35) states in the nation either conduct or are
preparing to conduct organized maternal mortality reviews that help prevent
maternal death through data collection, data analysis, and implementation of
recommendations; and
(4) With roughly half of pregnancy-related deaths being
preventable, state maternal mortality review committees are vital to
understanding why women are dying during pregnancy, childbirth, and the year
postpartum, and to achieving goals of improving maternal health and
preventing future deaths.

(b) It is the intent of the General Assembly to establish a maternal
mortality review committee in the State of Arkansas and to decrease the
amount of maternal deaths in the state.

SECTION 2. Arkansas Code Title 20, Chapter 15, is amended to add an
additional subchapter to read as follows:

Subchapter 23 – Maternal Mortality Review Committee

(a)(1) The Department of Health shall establish the Maternal Mortality
Review Committee to review maternal deaths and to develop strategies for the
prevention of maternal deaths.

(2) The committee shall be multidisciplinary and composed of
members as deemed appropriate by the department.

(b) The department may contract with an external organization to
assist in collecting, analyzing, and disseminating maternal mortality
information, organizing and convening meetings of the committee, and other
tasks as may be incident to these activities, including providing the
necessary data, information, and resources to ensure successful completion of
the ongoing review required by this section.

The Maternal Mortality Review Committee shall:

(1) Review pregnancy-associated deaths or deaths of women with
indication of pregnancy up to three hundred sixty-five (365) days after the
end of pregnancy, regardless of cause, to identify the factors contributing
to these deaths;

(2) Identify maternal death cases;

(3) Review medical records and other relevant data;

(4) Contact family members and other affected or involved
persons to collect additional relevant data;

(5) Consult with relevant experts to evaluate the records and
data:
(6) Make determinations regarding the preventability of maternal deaths;

(7) Develop recommendations for the prevention of maternal deaths, including public health and clinical interventions that may reduce these deaths and improve systems of care; and

(8) Disseminate findings and recommendations to policy makers, healthcare providers, healthcare facilities, and the general public.

(a) Healthcare providers, healthcare facilities, and pharmacies shall provide reasonable access to the Maternal Mortality Review Committee to all relevant medical records associated with a case under review by the committee.
(b) A healthcare provider, healthcare facility, or pharmacy providing access to medical records as described by subdivision (a) of this section is not liable for civil damages or subject to any criminal or disciplinary action for good faith efforts in providing such records.

(a)(1) Information, records, reports, statements, notes, memoranda, or other data collected under this subchapter are not admissible as evidence in any action of any kind in any court or before any other tribunal, board, agency, or person.
(2) Information, records, reports, statements, notes, memoranda, or other data collected under this subchapter shall not be exhibited or disclosed in any way, in whole or in part, by any officer or representative of the Department of Health or any other person, except as necessary for the purpose of furthering the review of the Maternal Mortality Review Committee of the case to which they relate.
(3) A person participating in a review shall not disclose, in any manner, the information so obtained except in strict conformity with such review project.
(b) All information, records of interviews, written reports, statements, notes, memoranda, or other data obtained by the department, the committee, and other persons, agencies, or organizations so authorized by the department under this subchapter are confidential.
(c)(1) All proceedings and activities of the committee under this subchapter, opinions of members of the committee formed as a result of such proceedings and activities, and records obtained, created, or maintained pursuant to this subchapter, including records of interviews, written reports, and statements procured by the department or any other person, agency, or organization acting jointly or under contract with the department in connection with the requirements of this subchapter, are confidential and are not subject to the Freedom of Information Act of 1967, §§ 25-19-101 et seq., relating to open meetings, subject to subpoena, discovery, or introduction into evidence in any civil or criminal proceeding.

(2) However, this subchapter does not limit or restrict the right to discover or use in any civil or criminal proceeding anything that is available from another source and entirely independent of the committee's proceedings.

(d)(1) Members of the committee shall not be questioned in any civil or criminal proceeding regarding the information presented in or opinions formed as a result of a meeting or communication of the committee.

(2) This subchapter does not prevent a member of the committee from testifying to information obtained independently of the committee or which is public information.

Disclosure of protected health information is allowed for public health, safety, and law enforcement purposes, and providing case information on maternal deaths for review by the Maternal Mortality Review Committee is not a violation of the Health Insurance Portability and Accountability Act of 1996.

State, local, or regional committee members are immune from civil and criminal liability in connection with their good-faith participation in the maternal death review and all activities related to a review with the Maternal Mortality Review Committee.

(a) Beginning in 2020, the Maternal Mortality Review Committee shall
file a written report on the number and causes of maternal deaths and its
recommendations on or before December 31 of each year to:

    (1) The Senate Committee on Public Health, Welfare, and Labor;
(2) The House Committee on Public Health, Welfare, and Labor;
and

    (3) The Legislative Council.

(b) The report shall include:

    (1) The findings and recommendations of the committee; and
(2) An analysis of factual information obtained from the review
of the maternal death investigation reports and any local or regional review
panels that do not violate the confidentiality provisions under this
subchapter.

(c) The report shall include only aggregate data and shall not
identify a particular facility or provider.

/s/D. Ferguson

APPROVED: 4/9/19