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INTRODUCTION

Maternal mortality review committees have a sober and noble charge: determine preventability of individual maternal deaths and recommend specific and feasible actions to prevent future deaths. Committees such as your own have successfully fulfilled this role and promise.¹ By establishing and consistently following comprehensive and sound formal processes, you can maximize your committee’s effectiveness and impact.

This guide is intended to share best practices that will help maternal mortality review committees (MMRCs) establish processes for case review. The guide is structured in the general order of steps a committee might take in conducting an actual review committee meeting. Your committee may choose to do things differently depending on your resources, committee makeup, and scope. Consider this document a tool to help you establish a strong foundation for committee facilitation from which to develop and build upon your own skills and experience.

MATERNAL MORTALITY REVIEW COMMITTEE FACILITATION

1. Review the Authority and Protections Under Which Your Committee Operates
   - Are there specific legislative statutes that address the maternal mortality review process? If so, are there any directives provided for data collection, committee review, and public reporting?
   - If there is broader legislation under which the MMRC operates, take steps to assure the entire process has adequate protections² to foster full abstraction, review, and reporting.
   - All members of the MMRC should be aware of existing protections and authority.
   - Case discussion by the MMRC must adhere to principles of confidentiality³, anonymity, and objectivity.

2. Review the Purpose, Mission, Vision, and Goals Established by Your Committee

When disseminating case information and at the start of each committee meeting, review the purpose, mission, vision, and goals established by your committee.

¹ For examples of committee successes, see appendix F: Maternal Mortality Review Success Stories
² Adequate protections include authority to access data sources, protection of collected data, and immunity for committee members from subpoena.
³ A note on confidentiality: there will be cases reviewed in your committee with which a committee member may be personally familiar. Your committee should develop a policy on how to handle such cases. You may consider having those familiar with the case share their information on the case with the abstractor before the meeting. That committee member may then recuse him/herself from discussion during the meeting.
It is also helpful to define terms:

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

The cases should be reviewed through the lens of established and prescribed authority and in conjunction with committee member input.

- The cases should be reviewed through the lens of established and prescribed authority and in conjunction with committee member input.
- Prioritize cases to be abstracted and reviewed based upon your purpose, mission, vision, and goals.\(^4\)
- Periodically review your committee’s priorities to make sure they are still relevant and applicable.
- Committees should be comprised of individuals representing organizations that can help move recommendations to action.\(^5\)

### 3. Review your Case Identification Process\(^6\)

Many committee members find it beneficial to hear a brief overview of the process for identifying and selecting cases for abstraction and review. Such an overview fosters engagement of committee members in the entire maternal mortality review process and offer a system of checks and balances to the case identification and selection process. Items to consider for this discussion may include a summary of:

- Cases identified and the process used for identification
- Causes of death (COD) listed on death certificate
- Timing of death in relationship to pregnancy: death during pregnancy or number of days between birth and mother’s death
- Basic demographics of cases identified: mother’s age, race, ethnicity, marital status, place of birth, education, occupation, entry into prenatal care
- If applicable, any preliminary classification of cases (prior to abstraction),\(^7\) i.e. possibly pregnancy-related death, pregnancy associated but NOT related death, not pregnancy related or associated
- Cases referred to medical examiner and number that received autopsy
- Pregnancy outcomes, such as live birth, fetal demise, of cases reviewed and the number of surviving children

You may also consider reporting the above indicators to the committee as a comparison of cases selected and not selected for abstraction and review.

---

4. For a well-developed example of MMRC Purpose, Mission, Vision, and Goals, see Appendix A: Sample Purpose, Mission, Vision, Goals and Meeting Structure.
5. See Appendix B: Potential Maternal Mortality Review Committee Members
6. For an example case identification and data flows, see Appendix G: Sample Case Identification Process.
7. MMRC may designate a subcommittee to preliminarily classify cases to be sent for abstraction.
4. Present a Case

Cases should be presented by a designated person such as the committee coordinator or chairperson. Your committee may also choose to have the case abstractor present or ask members to volunteer to present cases that pertain to their interests or expertise. Regardless of who is presenting the case, it is beneficial to have a standard format and process for guiding committee review and discussion. Identify what information will be shared with MMRC members prior to and during the case review meeting.

- Providing case information to committee members in advance of the meeting helps ensure that any identified gaps in information are addressed prior to the meeting, and reduces time required during the meeting for members to become familiar with the cases.
- If it is not possible for case information to be presented prior to the meeting, allow members adequate time to read cases prior to beginning discussion. This avoids frustration and ensures informed decisions about the case.
- Using a standardized format for the development of case narratives promotes ease of reading and understanding (See MMRIA case narrative templates in the Abstractor Manual).
- Using the MMR Committee Decisions Form can help to efficiently and comprehensively guide committee members as they make case decisions).

Introduction of Case: Things to Share

- How the case was first identified
- Criteria used to select case for review by committee (Does the case fit into the committee scope OR is there a special interest in reviewing this case?)

Case Overview:

The designated person reads the case narrative that highlights the relevant information needed by the committee to make their decisions. (See MMRIA case narrative templates)

- Prior to meeting, decide who will lead the case discussion. Some committees ask the abstractor who worked on the case to present the case narrative, as he or she is most familiar with the case. Other committees choose to appoint a coordinator, chair, or other committee facilitator to read the case narrative. If the abstractor does not present the case, he or she should still be available at the meeting to answer questions and provide additional detail as needed.
- Ensure that someone has been assigned responsibility for:
  - Keeping the meeting within time parameters,
  - Keeping discussion on track,
  - Eliciting input from the entire committee membership, and
  - Capturing and synthesizing committee decisions.

8. Note that though the Committee Decisions Form referenced is programmed into the Maternal Mortality Review Information Application (MMRIA), the guidance here is intended for use by all committees, whether or not they use MMRIA.
9. For this form, see Appendix B: Maternal Mortality Review Committee Decisions Form
It may be useful to have the individual who is assigned to record and synthesize committee deliberations enter notes directly into a form that is projected onto a screen during the meeting. This provides visual confirmation that committee recommendations are appropriately captured.

Provide copies of the Committee Decision Form to members for each case and collect their notes to be sure that salient points are captured. This has the added benefit of allowing quieter members to have their voices heard. The person responsible for documenting committee decisions – usually a committee coordinator or an abstractor – should then review the collected forms and integrate written comments into notes captured at the meeting.

5. Facilitate the Decision-Making Process

Designate a Facilitator

Regardless of who presents cases, there should be an individual tasked with the role of Committee Facilitator to help guide the committee in its decision-making process. Facilitative leadership promotes efficiency, effectiveness, and engagement of the committee members. Facilitator responsibilities may include the following:

- Developing structured agendas for case review meetings
- Facilitating case discussions
- Ensuring minimal personal biases
- Ensuring data-driven recommendations
- Serving as committee representative at conferences and stakeholder meetings
- Engaging the participation of each group member

Designate a Facilitation Team

In addition to a strong facilitator, Maternal Mortality Review Committees need support positions as well. These positions should include a coordinator, a database manager, and one or more epidemiologists. Their responsibilities can vary between individual reviews.

For example, coordinators might take on some of the facilitation and agenda-setting responsibilities for review committee meetings. They may meet with case abstractors to prioritize cases and review the status of a case sent for abstraction. Coordinators also ensure key committee documents, such as the policies and procedures, are updated and implemented. In addition, they may be responsible for coordinating activities to implement findings from review deliberations.

Database managers can help by ensuring that the data strategy of the MMRC adheres to the jurisdiction’s data management policies. Epidemiologists may provide data analysis support for developing products from the reviews, such as fact sheets and reports. In most cases, these individuals are not exclusively dedicated to the review, but assist the review among their other job duties.

10. For more tips on facilitating a committee, see Appendix E: Notes on Facilitative Group Leadership.
Other considerations that facilitate sustainable committees include:

- **Committee member compensation/incentives:** Most jurisdictions do not pay committee members to participate in the review proceedings. However, they may reimburse travel costs to attend meetings, provide meals, or apply to be an accredited continuing medical education (CME) provider so committee members can receive CME credits through their participation.

- **Budget for printing and office supplies:** Maternal mortality review committee (MMRC) meetings use a lot of paper. As such, printing and mailing costs should be included in a MMRC budget. The documents generated may include confidentiality agreements, case narratives, case review forms, and other handouts. The MMRC is also tasked with keeping key materials confidential and may invest in lockable briefcases, file cabinets, or web-based secure file storage and file transfer services that can be tracked in a virtual environment. The costs of server space, though very minimal for data storage should also be considered.

- **Disseminating findings and taking action:** Convening partners to present the findings of the MMRC accelerates their implementation. Committees often overlook the funding required to disseminate findings (e.g., travel to present committee process and findings at professional conferences in and out of state) or the programmatic funding necessary to implement a key finding from the review into population-based action.

### Use a Standard Process to Guide Decision-Making

Using a standard process has many benefits. A standard process:

- Promotes consistent and complete case review
- Provides direction and promotes efficiency of case review
- Enhances committee focus and keeps case discussions on track
- Corresponds to case abstraction tools to ensure seamless conversion from abstraction to review
- Presents a reminder of priority data elements and their application
- Records committee findings and recommended actions in a standard format
- Fosters collection of data that is consistent over time and with other reviews, supporting analysis over time and across reviews

### Formalize Committee Decisions

Before beginning, your committee will need to decide how decisions are made. For each of the decisions, will a majority vote be sufficient? Or will consensus be required? Each have their advantages and disadvantages. Consensus decision-making requires discussion and supports each member having a voice, ensuring engagement of the full committee, but it can also be inefficient use of committee time. A majority vote can be a more efficient approach to decision-making, but minority voices can be lost. Those members that feel their voice is never heard may disengage from the committee. A committee may decide that some decisions are made by consensus, while others are by majority vote.

11. The *Maternal Mortality Review Committee Decisions Form*, found in Appendix B, can serve as a guide to ensure that your standard process addresses all key points needed in a review to make a decision about maternal mortality.
Pregnancy Relatedness

Because the decision on pregnancy-relatedness is fundamental to the review and triggers a cascading pathway of decisions, this decision is one that most committees should identify as requiring consensus. Committee members determine whether the case was pregnancy-related or pregnancy-associated but NOT related. If a consensus (or majority) cannot initially be reached, it can be helpful to review the case discussion for committee members.

- Committee members should know and understand the core definitions used for determining relatedness.
- If committee is unsure, pose the following question: “If this woman had not been pregnant would she have died?”
  - Answering “yes” indicates that this is a pregnancy-associated but NOT related case.
  - Answering “no” indicates a pregnancy-related case.

Underlying Cause of Death (COD)

The underlying cause of death is the event that initiated a chain of events that ultimately resulted in the woman’s death. Because the underlying cause is the initiating event, it is the focus for committee decision making and analysis of review committee data.

- Specify what the committee determines to be the underlying cause of death.
  - MMRIA has a text field to capture the descriptive causes of death determined by the committee.
  - The descriptive underlying cause of death can be documented for both pregnancy-related deaths and deaths determined to be pregnancy associated but NOT related.
- Document whether the committee agrees with the cause of death listed on death certificate.

PMSS-MM Underlying Cause of Death Code

These codes are derived from the CDC/ACOG Pregnancy Mortality Surveillance System (PMSS) coding used to determine the national pregnancy-related mortality ratio. If the death was deemed pregnancy-related, assign the corresponding PMSS-MM underlying cause of death code.

- Assign the most detailed PMSS-MM code possible; for example, if you determine the cause of death is hypertrophic cardiomyopathy, select 80.2 Hypertrophic Cardiomyopathy, rather than 80 Cardiomyopathy.
  - These codes are intended for coding pregnancy-related deaths only. If the death was deemed pregnancy-associated BUT NOT pregnancy-related, the PMSS-MM codes are not applicable, and you can skip this decision.
  - Up to two PMSS-MM codes may be selected for a case within MMRIA. Remember, you are determining the underlying cause of death.
Other Contributors to the Death

The following questions document other significant contributors and characteristics of the death that may not be an underlying cause. These six questions should be answered regardless of whether the death was deemed pregnancy-related or pregnancy-associated but NOT related.

<table>
<thead>
<tr>
<th>DID OBESITY CONTRIBUTE TO THE DEATH?</th>
<th>YES</th>
<th>PROBABLY</th>
<th>NO</th>
<th>UNKNOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>DID MENTAL HEALTH CONDITIONS CONTRIBUTE TO THE DEATH?</td>
<td>YES</td>
<td>PROBABLY</td>
<td>NO</td>
<td>UNKNOWN</td>
</tr>
<tr>
<td>DID SUBSTANCE USE DISORDER CONTRIBUTE TO THE DEATH?</td>
<td>YES</td>
<td>PROBABLY</td>
<td>NO</td>
<td>UNKNOWN</td>
</tr>
<tr>
<td>WAS THIS DEATH A SUICIDE?</td>
<td>YES</td>
<td>NO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WAS THIS DEATH A HOMICIDE?</td>
<td>YES</td>
<td>NO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IF HOMICIDE, SUICIDE, OR ACCIDENTAL DEATH, LIST THE MEANS OF FATAL INJURY</td>
<td>FIREARM</td>
<td>SHARP INSTRUMENT</td>
<td>BLUNT INSTRUMENT</td>
<td>POISONING/OVERDOSE</td>
</tr>
<tr>
<td>IF HOMICIDE, WHAT WAS THE RELATIONSHIP OF THE PERPETRATOR TO THE DECEDED?</td>
<td>NO RELATIONSHIP</td>
<td>PARTNER</td>
<td>EX-PARTNER</td>
<td>OTHER RELATIVE</td>
</tr>
</tbody>
</table>

Preventability and Chances to Alter Outcome 12

These two questions help drive the development of actionable recommendations, and to support prioritization among recommended actions:

<table>
<thead>
<tr>
<th>WAS THIS DEATH PREVENTABLE?</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHANCE TO ALTER OUTCOME?</td>
<td>GOOD CHANCE</td>
<td>SOME CHANCE</td>
</tr>
</tbody>
</table>

Some committees choose to only answer one question or the other. Each has their value. The first decision says nothing about the degree of preventability, and a “Yes” simply indicates there was at least some chance. The second decision speaks to the specific degree to which the death was potentially preventable. Either decision is useful alone; but when used together can better support prioritizing areas for the committee to recommend action. The most frequent underlying causes of death may not be the most preventable, and within those that are the

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12. The committee may not be ready to label a case pregnancy-related or preventable when they reach these components on the Committee Decision Worksheet. It is not uncommon for committee members to want to jump ahead or request to go back into the case to gain clarity on certain data points, review the flow of events, or further explore details. To ensure that all points are captured, a facilitator should repeat back each decision that was made to ensure all thoughts have been captured before moving on to the next case.
most preventable, there is a range of opportunity for prevention. Used together, these decisions help committees to identify the best opportunities for recommended action.

**Critical Factors**

Completion of this section should be guided by the mission and scope of the review committee.

- Your committee should decide whether to complete this section only for pregnancy-related deaths or for all pregnancy-associated deaths. This should be consistent with your committee’s mission and scope.
- Using the Critical Factors list on the Committee Decisions Worksheet, identify all factors that the committee determines contributed to the death.
- Align each Critical Factor with a corresponding Class Category. You may provide a description explaining the critical factor and class category to document more specifically the critical factor, and how it reflects the specific recommendations when you develop a report and translate your findings to action.

**Committee Recommendations**

This question can help review committees move to case-specific recommendations:

- If there was at least some chance that the death could have been averted, were there specific and feasible actions which, if implemented or altered, might have changed the course of events?

An attempt should be made by the committee to develop a recommendation for each critical factor identified. Recommendations are most effective when they are specific and feasible. Recommendations should address: who is responsible to act, and when. The phrasing of recommendations should be in actionable terms.

**FOR EXAMPLE:**

- If the underlying cause of death was determined to be related to a mental health condition; substance use disorder contributed to this death, and an identified contributing factor was lack of provider assessment—specifically not screening for substance use disorder during prenatal care, then:
- An ineffective recommendation would be: Better substance use disorder screening.
- An actionable recommendation would be: Prenatal care providers should screen all patients for substance use disorder at their first prenatal visit.

**Level of Prevention**

For each recommendation that your committee makes, determine the level of prevention that is achieved if implemented. Like preventability decisions, this decision helps support prioritization of recommendations by the committee to then translate into action:

- **Primary:** Prevents the contributing factor before it ever occurs.
**Secondary**: Reduces the impact of the contributing factor once it has occurred (i.e., treatment).

**Tertiary**: Reduces the impact or progression of an ongoing contributing factor once it has occurred (i.e., management). Recommendations that support primary prevention may be prioritized over those that support secondary or tertiary prevention. It should not be the goal of the committee, however, to always or only think of primary or secondary prevention opportunities, which are not common (especially primary prevention).

### Level of Impact

For each recommendation your committee makes, determine what the expected impact level would be if the recommendation were implemented. Use the following as a guide, which was adapted from CDC Director Tom Frieden’s Health Impact Pyramid:

1. **Small**: Education, Counseling
2. **Medium**: Clinical intervention, Coordination of Care
3. **Large**: Long-lasting protective intervention
4. **Extra Large**: Change in context
5. **Giant**: Address Social Determinants of Health

This determination helps committees to prioritize their recommendations to help determine which should be translated to action. The base of the pyramid addresses social determinants of health. Actions aimed toward the base of the pyramid have greater impact population-wide and require less individual effort. However, they require a large and sustained amount of political will and are thus often difficult to enact. Actions aimed toward the top of the pyramid help individuals instead of entire populations and depend on person-by-person individual behavioral change; yet, they require less political commitment and are often less difficult to enact. A comprehensive strategy

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13. This determination may be made by the full committee or, for the sake of time, by a smaller group (i.e. committee leadership or a subcommittee responsible for moving recommendations to action).
to reduce maternal mortality would include interventions at multiple levels of the pyramid. Some examples of recommended interventions at each level:

- **Small: Education/Counseling:**
  - Community/Provider-based health promotion and education activities

- **Medium: Clinical intervention and coordination of care, across continuum of well-woman visits through obstetrics, observed in:**
  - Protocols
  - Prescriptions

- **Large: Long-Lasting Protective Intervention:**
  - Improve readiness, recognition, and response to obstetric emergencies
  - Increase access to Long-acting reversible contraceptives (LARC)

- **Extra Large: Change in Context:**
  - Improve public transportation
  - Reduce vehicle carbon emissions
  - Promote environments that support healthy living
  - Ensure available and accessible services

- **Giant: Address Social Determinants of Health:**
  - Poverty
  - Inequality

6. Conclude by Providing a Recap of Cases Reviewed

After you have finished reviewing cases and before you adjourn your meeting, consider recapping the accomplishments of the meeting with your committee members. You may utilize MMRIA to project some basic summary reports or to simply make a summary statement, such as the following:

Today we reviewed ____ (NUMBER) cases. We determined ____ (NUMBER) were pregnancy-related, ____ (NUMBER) were pregnancy-associated but not related, ____ (NUMBER) were (OTHER). We determined ____ (NUMBER) to be preventable and we made the following recommendations: ______________.
CONCLUSION

Skillful facilitation of committee case review is an essential component of a maternal mortality review committee’s success. Using this guide with consideration to your committee’s scope, composition, and jurisdiction context, provides a strong foundation for your committee. Moving forward, your committee can consistently conduct effective reviews by establishing and following reliable structures and processes. Your careful work, through your recommendations, has the potential to impact everything from the care a woman receives from her providers to the environmental determinants of health of her community. Though this is challenging work, it is critical work. Your committee has the potential to save many mothers’ lives and in so doing, help keep families together, help communities to raise healthier children, and improve health and well-being across the US.
APPENDIX A:
SAMPLE MATERNAL MORTALITY REVIEW COMMITTEE
PURPOSE, MISSION, GOALS, AND VISION

Purpose:
The purpose of the review is to determine the factors contributing to maternal mortality in <state> and identify public health and clinical interventions to improve systems of care. Maternal mortality includes deaths occurring during pregnancy and up to one year after pregnancy.

Mission:
The mission is to increase awareness of the issues surrounding pregnancy-related death and to promote change among individuals, communities, and healthcare systems in order to reduce the number of deaths.

The mission of the <state> Maternal Mortality Review Committee is to identify pregnancy-associated deaths, review those caused by pregnancy complications and other associated causes, and identify problems contributing to these deaths and recommend interventions that may reduce these deaths.

Goals:
The goals of the Maternal Mortality Review Committee 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 deaths in <state>.
- 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 the 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.

Vision:
The MMRC’s vision is to eliminate preventable maternal deaths in <state>.
Membership:
The <state> Maternal Mortality Review Committee is a multidisciplinary committee whose geographically diverse members represent various specialties, facilities, and systems that interact with and impact maternal health. At any one time, the committee consists of approximately ___ members who commit to serve a renewable ___ year term.

Meeting Structure:
Maternal Mortality Review Committees review and make decisions about each case based on the case narrative and abstracted data. The committee examines the cause of death and contributing factors, and determines:

- Was the death pregnancy-related?
- If pregnancy-related, what was the underlying cause of death? (PMSS-MM)
- Was the death preventable?
- If there were chances to alter the outcome, what were they?
- What were the contributing factors to the death?
- What specific and feasible recommendations for actions should be taken to prevent future deaths?

Process:
Information is gathered from death certificates, birth certificates, medical records, autopsy reports, and other pertinent resources. Records are abstracted by a trained nurse abstractor, who prepares de-identified case narratives for review by a committee of experts from diverse disciplines.
APPENDIX B: POTENTIAL MATERNAL MORTALITY REVIEW COMMITTEE MEMBERS

Organizations
- Academic Institutions
- Behavioral Health Agencies
- Blood Banks
- Consumer Advocacy
- Federally Qualified Health Centers
- Fetal and Infant Mortality Review (FIMR) Programs
- Healthy Start Agencies
- Homeless Services
- Hospitals/Hospital Associations
- Private and Public Insurers
- Professional Assoc. State Chapters
- Rural Health Associations
- State Medical Society
- State Medicaid Agency
- State Title V Program
- Tribal Organizations
- Violence Prevention Agencies
- State Title X Program

Core Disciplines
- Anesthesiology
- Family Medicine
- Forensic Pathology
- Maternal Fetal Medicine Perinatology
- Nurse Midwifery
- Obstetrics and Gynecology
- Patient Safety
- Perinatal Nursing
- Psychiatry
- Public Health
- Social Work

Specialty Disciplines
- Clergy
- Community Leadership
- Critical Care Medicine
- Nutrition
- Emergency Response
- Epidemiology
- Genetics
- Home Nursing
- Law Enforcement
- Mental Health Provider
- Pharmacy
- Public Health Nursing
- Quality/Risk Management
- Substance Abuse Counseling
APPENDIX C:
CONSIDERATIONS FOR HIRING ABSTRACTORS

Special consideration should be placed on the selection of the medical record abstractors for a Maternal Mortality Review Committee (MMRC). The expertise and skill of the individual abstractor is closely tied to the quality of information that is presented to the review committee and ultimately to the accuracy of identified issues and recommendations for improvement.

The abstractor represents the MMRC while out in the field and holds a great deal of responsibility to ensure the protection and confidentiality of the information gathered. Therefore, it is of utmost importance for all medical record abstractors to demonstrate professionalism and have a full understanding of the authority and/or legislative parameters under which they operate. Abstractors should receive initial and ongoing training with regards to appropriate practice.

The abstractor typically reviews and abstracts information from death certificates, birth certificates, fetal death certificates, medical and hospitalization records, autopsies and social service records. Contacting hospitals and arranging access to medical records for assigned cases may be the responsibility of the abstractor alone, or may be divided between an abstractor and a program coordinator. The abstractor typically receives assigned cases from a program coordinator and then abstracts them within a specified time period. The abstractor is responsible for reviewing records at each hospital, filling out appropriate abstraction forms, writing a case narrative, and providing additional information on each case based on clinical documentation in the records. While most records are found at area hospitals, the abstractor may be required to gather information from other types of facilities. The abstractor will typically attend review committee meetings and report to a program coordinator.

Ideal abstractor qualifications include:

- Nursing experience in obstetrics, antenatal, and postpartum care - minimum of five years
- Demonstrated understanding of normal/abnormal processes of pregnancy, delivery, and postpartum and the wide spectrum of factors that can influence maternal outcomes
- Demonstrated strong professional communication skills (phone, email, fax, verbal)
- Computer skills, including data entry experience and ability to navigate a variety of electronic medical record systems
- Experience in medical record review (peer review, FIMR, etc.)
- Flexibility and ability to accomplish tasks in short time frames.
- Demonstrated appreciation of the community
- Knowledge of HIPAA and confidentiality laws
- Ability to serve as an objective, unbiased storyteller; not looking to assign blame
- Demonstrated understanding of social determinants contributing to maternal mortality
- Possessor of own automobile with valid insurance (if on-site abstraction is required).
States have differing needs for abstractor personnel and hours. Refer to Review to Action website for assistance in calculating the number of hours of abstraction required for your committee each year and the associated costs.

Abstracting is a taxing job and abstractors need support from the committee and from other staff. Before hiring an abstractor, decide who your abstractor will report to and who they can go to for questions, concerns, and emotional support.
APPENDIX D:
MMR COMMITTEE DECISIONS FORM
<table>
<thead>
<tr>
<th>REVIEW DATE</th>
<th>RECORD ID #</th>
</tr>
</thead>
</table>

**COMMITTEE DETERMINATION OF CAUSE(S) OF DEATH**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>CAUSE (DESCRIPTIVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMMEDIATE</td>
<td></td>
</tr>
<tr>
<td>CONTRIBUTING</td>
<td></td>
</tr>
<tr>
<td>UNDERLYING</td>
<td></td>
</tr>
<tr>
<td>OTHER SIGNIFICANT</td>
<td></td>
</tr>
</tbody>
</table>

**PREGNANCY-RELATEDNESS: SELECT ONE**

- [ ] PREGNANCY-RELATED
  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
  The death of a woman during pregnancy or within one year of the end of pregnancy from a cause that is not related to pregnancy.

- [ ] NOT PREGNANCY-RELATED OR -ASSOCIATED
  (i.e. woman was not pregnant within one year of her death)

- [ ] UNABLE TO DETERMINE IF PREGNANCY-RELATED OR -ASSOCIATED

**ESTIMATE THE DEGREE OF RELEVANT INFORMATION (RECORDS) AVAILABLE FOR THIS CASE:**

- [ ] COMPLETE
  All records necessary for adequate review of the case were available

- [ ] MOSTLY COMPLETE
  Minor gaps (i.e. information that would have been beneficial but was not essential to the review of the case)

- [ ] SOMEWHAT COMPLETE
  Major gaps (i.e. information that would have been crucial to the review of the case)

- [ ] NOT COMPLETE
  Minimal records available for review (i.e. death certificate and no additional records)

- [ ] N/A

**DID OBESITY CONTRIBUTE TO THE DEATH?**

- [ ] YES
- [ ] PROBABLY
- [ ] NO
- [ ] UNKNOWN

**DID MENTAL HEALTH CONDITIONS CONTRIBUTE TO THE DEATH?**

- [ ] YES
- [ ] PROBABLY
- [ ] NO
- [ ] UNKNOWN

**DID SUBSTANCE USE DISORDER CONTRIBUTE TO THE DEATH?**

- [ ] YES
- [ ] PROBABLY
- [ ] NO
- [ ] UNKNOWN

**WAS THIS DEATH A SUICIDE?**

- [ ] YES
- [ ] NO

**WAS THIS DEATH A HOMICIDE?**

- [ ] YES
- [ ] NO

**IF HOMICIDE, SUICIDE, OR ACCIDENTAL DEATH, LIST THE MEANS OF FATAL INJURY**

- FIREARM
- SHARP INSTRUMENT
- BLUNT INSTRUMENT
- POISONING/OVERDOSE
- HANGING/STRANGULATION/SUFFOCATION
- FALL
- PUNCHING/KICKING/BEATING
- EXPLOSIVE
- DROWNING
- FIRE OR BURNS
- MOTOR VEHICLE
- INTENTIONAL NEGLECT
- OTHER, SPECIFY:

- [ ] UNKNOWN

**IF HOMICIDE, WHAT WAS THE RELATIONSHIP OF THE PERPETRATOR TO THE DECEDENT?**

- NO RELATIONSHIP
- PARTNER
- EX-PARTNER
- OTHER RELATIVE
- OTHER ACQUAINTANCE
- OTHER, SPECIFY:

- [ ] N/A
- [ ] UNKNOWN
COMMITTEE DETERMINATION OF PREVENTABILITY

A death is considered preventable if the committee determines that there was at least some chance of the death being averted by one or more reasonable changes to patient, family, community, provider, facility, and/or systems factors.

<table>
<thead>
<tr>
<th>WAS THIS DEATH PREVENTABLE?</th>
<th>□ YES □ NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHANCE TO ALTER OUTCOME?</td>
<td>□ GOOD CHANCE □ SOME CHANCE □ NO CHANCE □ UNABLE TO DETERMINE</td>
</tr>
</tbody>
</table>

CRITICAL FACTORS WORKSHEET

What were the critical factors that contributed to this death? Multiple class categories may be assigned to each critical factor.

<table>
<thead>
<tr>
<th>CRITICAL FACTOR</th>
<th>CLASS CATEGORY AND DESCRIPTION OF ISSUE</th>
<th>RECOMMENDATIONS OF THE COMMITTEE</th>
<th>LEVEL OF PREVENTION (SELECT FROM MENU BELOW)</th>
<th>LEVEL OF IMPACT (SELECT FROM MENU BELOW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATIENT/FAMILY</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>COMMUNITY</td>
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<tr>
<td>PROVIDER</td>
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<tr>
<td>FACILITY</td>
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</tr>
<tr>
<td>SYSTEM</td>
<td></td>
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</tr>
</tbody>
</table>

CLASS CATEGORY KEY (DEFINITIONS ON PAGE 4)

- Delay
- Adherence
- Knowledge
- Cultural / religious
- Environmental
- Violence
- Mental Health
- Substance Abuse
- Chronic Disease
- Childhood abuse / trauma
- Access / financial
- Unstable housing
- Social Support / isolation
- Equipment / technology
- Policies / procedures
- Communication
- Continuity of care / care coordination
- Clinical skill / quality of care
- Outreach
- Enforcement
- Referral
- Assessment
- Legal
- Other

PREVENTION

- PRIMARY
  Prevents the contributing factor before it ever occurs
- SECONDARY
  Reduces the impact of the contributing factor once it has occurred (i.e., treatment)
- TERTIARY
  Reduces the impact or progression of an ongoing contributing factor once it has occurred (i.e., management of complications)

EXPECTED IMPACT LEVEL

- SMALL
  Education/Counselling (Community- and/or provider-based health promotion and education activities)
- MEDIUM
  Clinical intervention and Coordination of Care across continuum of well-woman visits through obstetrics (protocols, prescriptions)
- LARGE
  Long-lasting protective intervention (Improve Readiness, Recognition and Response to Obstetric Emergencies / LARC)
- EXTRA LARGE
  Change in context (Promote environments that support healthy living / Ensure available and accessible services)
- GIANT
  Address Social Determinants of Health (poverty, inequality, etc.)
IF PREGNANCY-RELATED, COMMITTEE DETERMINATION OF UNDERLYING CAUSE OF DEATH* PMSS-MM

If more than one is selected, please list them in order of importance beginning with the most compelling (1-2; no more than 2 may be selected in the system).

*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.

☐ 10 Hemorrhage (excludes aneurysma or CVA)
☐ 10.1 Hemorrhage – rupture/laceration/intra-abdominal bleeding
☐ 10.2 Placental abruption
☐ 10.3 Placenta previa
☐ 10.4 Ruptured ectopic pregnancy
☐ 10.5 Hemorrhage – uterine atony/post-partum hemorrhage
☐ 10.6 Placenta accreta/increta/percreta
☐ 10.7 Hemorrhage due to retained placenta
☐ 10.8 Hemorrhage due to primary DIC
☐ 10.9 Other hemorrhage/NOS
☐ 20 Infection
☐ 20.1 Post-partum genital tract (e.g. of the uterus/pelvis/perineum/necrotizing fasciitis)
☐ 20.2 Septic/septic shock
☐ 20.4 Chorioamnionitis/antepartum infection
☐ 20.5 Non-pelvic infections (e.g. pneumonia, TB, meningitis, HIV)
☐ 20.6 Urinary tract infection
☐ 20.9 Other infections/NOS
☐ 30 Embolism – thrombotic (non-cerebral)
☐ 30.9 Other embolism/NOS
☐ 31 Embolism – amniotic fluid
☐ 40 Pre-eclampsia
☐ 50 Eclampsia
☐ 60 Chronic hypertension with superimposed preeclampsia
☐ 70 Anesthesia complications
☐ 80 Cardiomyopathy
☐ 80.1 Post-partum/peripartum cardiomyopathy
☐ 80.2 Hypertrophic cardiomyopathy
☐ 80.9 Other cardiomyopathy/NOS
☐ 82 Hematologic
☐ 82.1 Sickle cell anemia
☐ 82.9 Other hematologic conditions including thrombophilias/TTP/HUS/NOS
☐ 83 Collagen vascular/autoimmune diseases
☐ 83.1 Systemic lupus erythematosus (SLE)
☐ 83.9 Other collagen vascular diseases/NOS
☐ 85 Conditions unique to pregnancy (e.g. gestational diabetes, hyperemesis, liver disease of pregnancy)
☐ 88 Injury
☐ 88.1 Intentional (homicide)
☐ 88.2 Unintentional
☐ 88.9 Unknown/NOS
☐ 89 Cancer
☐ 89.1 Gestational trophoblastic disease (GTD)
☐ 89.3 Malignant melanoma
☐ 89.9 Other malignancies/NOS
☐ 90 Cardiovascular conditions
☐ 90.1 Coronary artery disease/myocardial infarction (MI)/atherosclerotic cardiovascular disease
☐ 90.2 Pulmonary hypertension
☐ 90.3 Valvular heart disease
☐ 90.4 Vascular aneurysm/dissection
☐ 90.5 Hypertensive cardiovascular disease
☐ 90.6 Marfan’s syndrome
☐ 90.7 Conduction defects/arrhythmias
☐ 90.8 Vascular malformations outside head and coronary arteries
☐ 90.9 Other cardiovascular disease, including CHF, cardiomegaly, cardiac hypertrophy, cardiac fibrosis, nonacute myocarditis/NOS
☐ 91 Pulmonary conditions (excludes ARDS-Adult respiratory distress syndrome)
☐ 91.1 Chronic lung disease
☐ 91.2 Cystic fibrosis
☐ 91.3 Asthma
☐ 91.9 Other pulmonary disease/NOS
☐ 92 Neurologic/neurovascular conditions (excluding CVAs)
☐ 92.1 Epilepsy/seizure disorder
☐ 92.9 Other neurologic diseases/NOS
☐ 93 Renal disease
☐ 93.1 Chronic renal failure/End-stage renal disease (ESRD)
☐ 93.9 Other renal disease/NOS
☐ 95 Cerebrovascular accident (hemorrhage/thrombosis/aneurysm/malformation) not secondary to hypertensive disease
☐ 96 Metabolic/endocrine
☐ 96.1 Obesity
☐ 96.2 Diabetes mellitus
☐ 96.9 Other metabolic/endocrine disorders
☐ 97 Gastrointestinal disorders
☐ 97.1 Crohn’s disease/ulcerative colitis
☐ 97.2 Liver disease/failure/transplant
☐ 97.9 Other gastrointestinal diseases/NOS
☐ 100 Mental health conditions
☐ 100.1 Depression
☐ 100.9 Other psychiatric conditions/NOS
☐ 999 Unknown COD
CLASS DESCRIPTIONS

DELAY OR FAILURE TO SEEK CARE
The woman was delayed in seeking or did not access care, treatment or follow-up care/actions (e.g. missed appointment and did not reschedule).

ADHERENCE WITH MEDICAL RECOMMENDATIONS
The woman did not accept medical advice (e.g. refused treatment for religious or other reasons or left the hospital against medical advice).

KNOWLEDGE - LACK OF KNOWLEDGE REGARDING IMPORTANCE OF EVENT OR OF TREATMENT OR FOLLOW-UP
The woman did not receive adequate education, or lacked knowledge or understanding regarding the significance of a health event (e.g. shortness of breath as a trigger to seek immediate care) or understanding about the need for treatment/follow-up after evaluation for a health event (e.g. needed to keep appointment for psychiatric referral after an ED visit for exacerbation of depression).

CULTURAL, RELIGIOUS, OR LANGUAGE FACTORS
Demonstration that any of these factors was either a barrier to care due to lack of understanding or led to refusal of therapy due to beliefs (or belief systems)

ENVIRONMENTAL FACTORS
Factors related to weather or terrain (e.g. the advent of a sudden storm leads to a motor vehicle accident)

VIOLENCE AND INTIMATE PARTNER VIOLENCE (IPV)
Physical or emotional abuse other than that perpetrated by intimate partner (e.g. family member or stranger) IPV: Physical or emotional abuse perpetrated by the woman’s current or former intimate partner

MENTAL HEALTH
The woman carried a diagnosis of a psychiatric disorder. This includes postpartum depression

SUBSTANCE USE - ALCOHOL, ILLICIT DRUGS, PRESCRIPTION ABUSE
Woman’s substance abuse directly compromised woman’s health status (e.g. acute methamphetamine intoxication exacerbated pregnancy-induced hypertension or woman was more vulnerable to infections or medical conditions)

LACK OF STANDARDIZED POLICIES/PROCEDURES
The facility lacked basic policies or infrastructure germane to the woman’s needs, (e.g. response to high blood pressure or a lack of or outdated policy or protocol).

POOR COMMUNICATION / LACK OF CASE COORDINATION OR MANAGEMENT/ LACK OF CONTINUITY OF CARE (SYSTEM PERSPECTIVE)
Care was fragmented (i.e. uncoordinated or not comprehensive) among or between health care facilities or units, (e.g. records not available between inpatient to outpatient or among units within the hospital, such as Emergency Department and Labor and Delivery)

LACK OF CONTINUITY OF CARE
Care providers did not have access to woman’s complete records or did not communicate woman’s status sufficiently.

LACK OF ACCESS OR FINANCIAL RESOURCES
Lack of or loss of health care insurance or other financial duress that impacted woman’s ability to care for herself (e.g. did not seek services because unable to miss work or afford postpartum visits after insurance expired) Barriers to accessing care: Insurance, provider shortage, transportation; System issues as opposed to woman’s noncompliance led to lack of care. Examples include lack of insurance, non-eligibility, a provider shortage in woman’s geographical area, or lack of public transportation

UNSTABLE HOUSING
Woman lived “on the street” or in a homeless shelter OR lived in transitional or temporary circumstances with family or friends.

SOCIAL SUPPORT/ISOLATION - LACK OF FAMILY/FRIEND SUPPORT SYSTEM
Social support from family, partner, or friends was lacking, inadequate and/or dysfunctional (e.g. domestic violence, no one to rely on to ensure appointments were kept).

INADEQUATE OR UNAVAILABLE EQUIPMENT/ TECHNOLOGY
Equipment was missing, unavailable or not functional, (e.g. absence of blood tubing connector).

LEGAL
Legal considerations that impacted outcome
APPENDIX E:
NOTES ON FACILITATIVE GROUP LEADERSHIP

Facilitative Group Leadership recognizes the value of bringing together individual strengths. This approach promotes ease of process and enables work to be done by:

- **Focusing on making individual connections.** All human beings have an intrinsic need to be understood and to have a sense of value and worth; facilitators focus on enabling and empowering people to fulfill their potential.
- **Enabling a productive group process in which members work together as a cohesive unit.**

Facilitative Leadership Roles:

- **Leader/Manager:** Clarifies issues, stimulates discussion, manages committee process, focuses and summarizes discussion, intervenes as needed.
- **Referee:** Encourages differing opinions, mediates conflicts, corrects erroneous information, and relieves tension.
- **Facilitator:** Encourages listening to ALL viewpoints, involves and protects ALL participants, accepts silences without criticism.

Facilitative Leadership Skills:

An effective manager of committee dynamics:

- Maintains awareness of committee dynamics
- Communicates effectively
- Actively listens (paraphrases, summarizes, reflects)
- Questions and seeks clarification in a non-critical manner
- Encourages authenticity and maintains trust in the group

Managing Group Dynamics:

The ability of committee members to interact and relate with each other is a key factor in determining how successful they will be in accomplishing their goals and reaching their vision. Therefore, the leadership of a committee must be familiar with the various aspects of group dynamics and continually nurture and foster a unified and cohesive working environment. A cohesive environment should not prevent diversity of thought or opinion, but rather help the committee avoid losing sight of its purpose, mission, scope, and vision.

**Group Roles:** Benne & Sheats (1948) identified various roles that members of a group may fulfill. The roles either add value or reduce value.
There are three distinct categories of roles to be aware of:

1. **Group Task Roles**
2. **Personal/Social-Maintenance Roles**
3. **Dysfunctional/Individualistic Roles**

Some of the more common roles are listed below. The roles in green are value-adding roles and those in red are value-reducing roles. ii, iii

1. **Group Task Roles: Work Roles** (Necessary to accomplish the task at hand)
   - Initiator/Contributor: Generates new thought and ideas
   - Information Seeker: Asks for clarification of ideas
   - Information Giver: Provides information to clarify and help analyze
   - Opinion Seeker: Asks for clarification of the values related to a suggested group action
   - Opinion Giver: Shares his or her beliefs, attitudes, or concerns
   - Integrator: Pulls group suggestions together in relational manner
   - Orienter: Helps to keep the group focused
   - Procedural Technician: Assists with meeting logistics
   - Recorder: Responsible for capturing ideas

2. **Personal/Social Roles: Maintenance Roles** (Contribute to the positive relations and functioning of the group)
   - Encourager: Offers praise and empowers individuals to contribute
   - Harmonizer: Attempts to resolve conflict
   - Compromiser: One of the parties in a conflict who actively works to resolve the conflict
   - Gatekeeper/Expediter: Helps to keep the communication channels open
   - Observer/Commentator: Accepts what others say and do (solely a listener but not an active contributor). Only seen as value-added if he or she helps to act on group decisions.

3. **Dysfunctional/Individualistic Roles**: Special care should be taken with members who take on these roles as they have great potential to interfere with positive group relations and impede progress.
   - Aggressor: Tries to gain status by consistently making condescending and/or hostile comments
   - Blocker: Consistently and negatively rejects others’ ideas; unreasonable, stubborn, goes off on tangents, yet provides nothing constructive on his or her own
   - Recognition Seeker/Special Interest: Attempts to draw attention to self through boasting and self-promotion; uses the group setting as a personal sounding board
   - Disrupter: Continually changes topics, brings up old settled business
   - Dominator: Tries to take over authority and make decisions for the group
   - Help Seeker: Disparages him- or herself to gain sympathy/empathy for personal challengesxv
Additional Resources

- **How to be a Great Facilitator:** [http://www.youtube.com/watch?v=qgbc-uCSRaw](http://www.youtube.com/watch?v=qgbc-uCSRaw)
- **University of Florida IFAS Extension.** Resources on Group Facilitation and Teamwork: [http://edis.ifas.ufl.edu/results.html?q=Working+in+Groups&x=11&y=11#gsc.tab=0&gsc.q=Working%20in%20Groups&gsc.page=1](http://edis.ifas.ufl.edu/results.html?q=Working+in+Groups&x=11&y=11#gsc.tab=0&gsc.q=Working%20in%20Groups&gsc.page=1)
APPENDIX F: MATERNAL MORTALITY REVIEW SUCCESS STORIES

Maternal Mortality Review - Success Stories from Five States:
5 types of success, ranging from data improvement and clinical intervention to public health promotion

Florida: Getting Urgent Maternal Mortality Messages to Providers

In a timely response to communicate about placental disorders, the Florida Pregnancy Associated Mortality Review (PAMR) committee issued an Urgent Maternal Mortality Message in December 2015. The one-page electronic message summarized clinical guidelines and PAMR recommendations to improve clinical recognition and management, as well as community awareness, of placenta accreta and subsequent risk of hemorrhage. The team decided to focus on hemorrhage as related to placenta accreta as Florida’s PAMR data shows hemorrhage as both the most preventable and the leading cause of pregnancy-related death in Florida. At the same time, the Florida Perinatal Quality Collaborative (FPQC) was implementing a quality improvement project in 34 Florida birthing hospitals on reduction of obstetric hemorrhage. The Urgent Maternal Mortality Message was distributed to Florida District XII ACOG membership, placed on the FPQC website for download and distributed at the FPQC annual conference in April 2016.

To promote a sustained focus on moving recommendations to action, the Florida PAMR team formed the PAMR Action Subcommittee in September 2015. The purpose of the subcommittee is to develop succinct, clear messages to promote and improve maternal outcomes. The goal is to utilize professional and community partnerships to distribute the messages.

Georgia: Case Identification, Data Quality and the Pregnancy Checkbox

The Georgia Maternal Mortality Review Committee (GA MMRC) is working closely with the Georgia Department of Public Health (GDPH) to improve the reporting and quality of data found in the pregnancy checkbox on the death certificate. This collaboration arose out of a discovery by GA MMRC that a mistake was made in approximately 1 in 4 cases where the pregnancy checkbox was marked. In these cases, the marks incorrectly indicated that a woman had been pregnant at the time of her death—or pregnant within a year of the time of her death—when that was not the case. This resulted in wasted resources by the GA MMRC.

The GA MMRC brought the issue forward and is now working closely with the Georgia Department of Public Health (GDPH) to improve reporting and the quality of data found in the pregnancy checkbox on the death certificate. The quality assurance pilot project includes performing a linkage of death certificates with birth certificates to confirm the pregnancy status of the deceased. For the cases that do not link, GDPH staff works with GA MMRC members to contact the individual who signed the death certificate to
confirm the status of the checkbox; in cases where the checkbox is found to be in error, a timely correction is made that ensures valid data and efficient use of committee resources.

**Michigan: Increasing Access to Substance Use Disorder Treatment for Pregnant Women**

The Michigan Maternal Mortality Surveillance (MMMS) Injury Committee identified that Substance Use Disorders (SUD) not only existed as a contributing factor during pregnancy—or within the one year following a pregnancy—but accounted for the direct cause of death in more than one-third of the injury-related maternal deaths that occurred from 2010-2014. As a result, the MMMS Injury Committee has successfully undertaken several cross-collaborative action steps to increase knowledge of maternal mortality due to SUDs and to begin addressing gaps in services in women’s health programs, state policies, and systems of care. In 2013, medical provider education was presented to the Michigan Section of ACOG regarding coordination of care with mental health outpatient services and enrollment of pregnant women in the Maternal Infant Health Program (MIHP), which is the largest statewide home visiting program for Medicaid beneficiaries. MIHP also has evidence-based screening tools and risk identification for substance use disorders involving both alcohol as well as other prescription and illegal substances. Finally, the MMMS Injury Committee plans to work with the Michigan Prescription Drug and Opioid Abuse Task Force to address the growing prescription drug and opioid problem in Michigan and to develop strategies for the prevention and treatment of opioid abuse in pregnant women.

**New Jersey: Public Health Promotion and Pedestrian Safety**

The New Jersey Maternal Mortality Review Team received at least two cases where young women died in motor vehicle accidents while crossing a busy county road. Pertinent documents described a common location of death and that the women lived in a low-income dwelling, had young families, and that a store across the street was the closest place to buy food. The Department of Health contacted the Department of Highway and Traffic Safety who responded by placing a traffic light and crosswalk at this point in the road. Without the New Jersey maternal mortality review, many more may have been seriously injured or killed.

**Ohio: Obstetric Emergency Simulation Trainings**

The Ohio Pregnancy Associated Mortality Review (PAMR) surveyed maternity units across the state to uncover training needs and preferences. Based on the results, the Ohio Department of Health contracted with Ohio State University to provide simulation training for obstetric providers in three rural Ohio communities. Three clinical simulations—postpartum hemorrhage, cardiomyopathy, and preeclampsia—were developed based on PAMR cases and designed to engage staff within labor and delivery and postpartum units.

The second phase of this work provided “Train the Trainer” courses for obstetric clinical nurse educators from Level I and II birthing centers including didactics and skills-building sessions. Future plans involve a targeted training effort directed toward the small, rural hospitals in the Appalachian counties of southeast Ohio.
APPENDIX G: SAMPLE CASE IDENTIFICATION AND DATA FLOWS

Vital Statistics Conducts Routine Review of Death Certificates: Deaths to Women of Reproductive Age

Linkage of Records

- Death Certificates
- Fetal Death Certificates
- Birth Certificates

Relink in Case of Delayed Registrations

Pregnancy Checkbox Confirmed?

- YES
- NO

Death Within a Year of Pregnancy End?

- NO
- YES

Vital Records Sends to Agency with Data Responsibility

Pregnancy Checkbox Confirmed?

- YES
- NO

Vital Records and Pregnancy Relatedness Information Abstracted into MMRIA

Data Input into Case Identification Spreadsheet (XLS)
CASE IDENTIFICATION AND DATA FLOWS:

Alternative Reporting

- Media Report of Death/Word of Mouth with indication of a Relationship to Pregnancy Within Scope of Committee
- Vital Records Registration Information Sought
- Direct Hospital Report of a Death Within Reporting Requirements for Maternal Deaths
- Data Input into Case Identification Spreadsheet (XLS)
CASE IDENTIFICATION
AND DATA FLOWS:
Path to Action

Abstractors Enter
Case Information and
Develop Case Narrative
in MMRIA

Abstractor, Coordinator
and Chair Review
Case Information and
Narrative for
Completeness

MMRC Members
Receive Cases

Committee Meets to
Discuss Cases and Make
Decisions

Abstrator/Coordinator
Compiles/Synthesizes
Committee Discussion/Decision
Notes

Action on
Recommendations Related
to Priorities

Data Driven Priorities
Identified

Analysis and Reporting

Decisions Recorded
in MMRIA

Case Identification
Spreadsheet (XLS)

Subcommittee
Reviews Cases to
Determine Whether
They Fit Within
Scope

Document Pregnancy
Relatedness in MMRIA

Confirm
Pregnancy

NO

YES

Within Scope: For Abstraction

Outside Scope: Not for Abstraction
REFERENCES


