Advisory Committee Meeting

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Bureau of Women's and Children's Health

Agenda Items

I. Call to order
II. Welcome and Introductions
III. Summary of current events
IV. Data collection on maternal fatalities
V. Data collection on maternal morbidities
VI. Select a method to produce recommendations
VII. Development of a report timeline
VIII. Future meeting dates and items for future agenda
IX. Call to the public
X. Meeting adjourned

Welcome and Introductions

Summary of Current Events

SB1040: Advisory Committee

- Signed by Governor Doug Ducey on April 29, 2019
- Establishes an Advisory Committee on Maternal Fatalities and Morbidity

Objective

The committee is established to recommend improvements to information collection concerning the incidence and causes of maternal fatalities and severe maternal morbidity.

Legislative Specifications

- DHS in conjunction with the advisory committee shall hold a public hearing to receive public input regarded the recommended improvements to information collection.
- On or before 12/31/19 the advisory committee shall submit to the chairpersons of the HHS committees a report with recommendations concerning improving information collection
- On or before 12/31/20 DHS shall submit a report to the governor and others on the incidence and causes of maternal fatalities and morbidities that includes all readily available data through the end of 2019.

SB1040: Membership

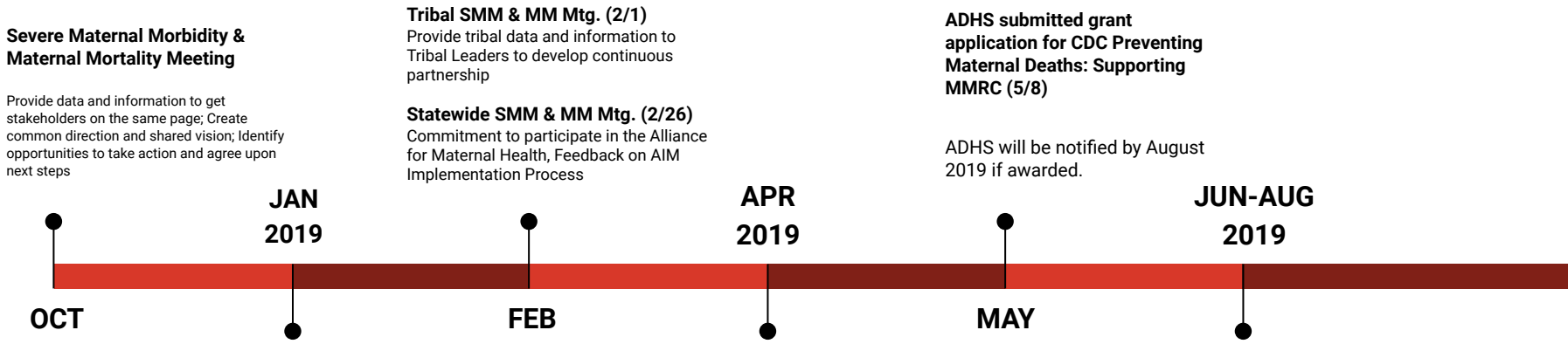
DHS Director or designee shall serve as the chairperson of the committee.

One of the members of the advisory committee shall come from a county with a population of less than 500,000.

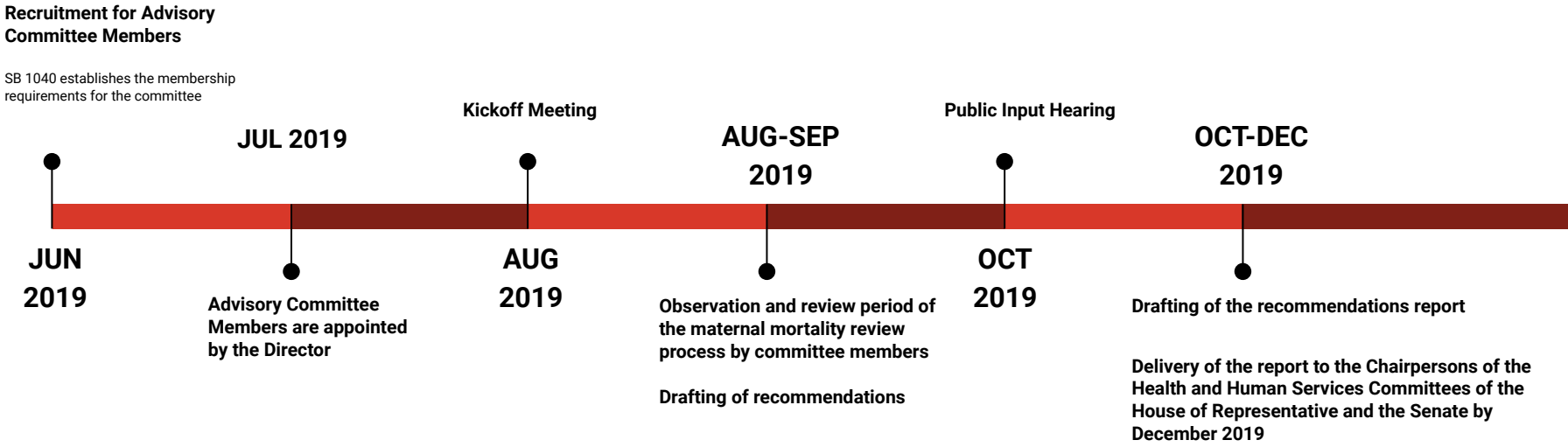
The advisory committee consists of the following members:

- A Health Plan representative from each geographic service area (3) designated by the Arizona Health Care Containment System
- Arizona Health Care Containment System (1)
- Indian Health Services (1)
- Obstetrician (1) licensed pursuant to title 32, chapter 13 or 17, Arizona Revised Statutes
- Maternal Fetal Medicine Specialists (2)licensed pursuant to title 32, chapter 13 or 17, Arizona Revised Statutes
- Certified Nurse Midwife (1), licensed pursuant to title 32, chapter 15, Arizona Revised Statutes
- Nonprofit organizations (2) that provide education, services or research related to maternal fatalities and morbidity
- State Health Information Organization (1)
- Public Health Organization (1)
- Hospital Organizations (2)
- An Advisory Committee Member from a county with a population less than five hundred thousand (1)

Severe Maternal Morbidity (SMM) & Maternal Mortality (MM) Initiative Timeline



SB1040: Advisory Committee Timeline



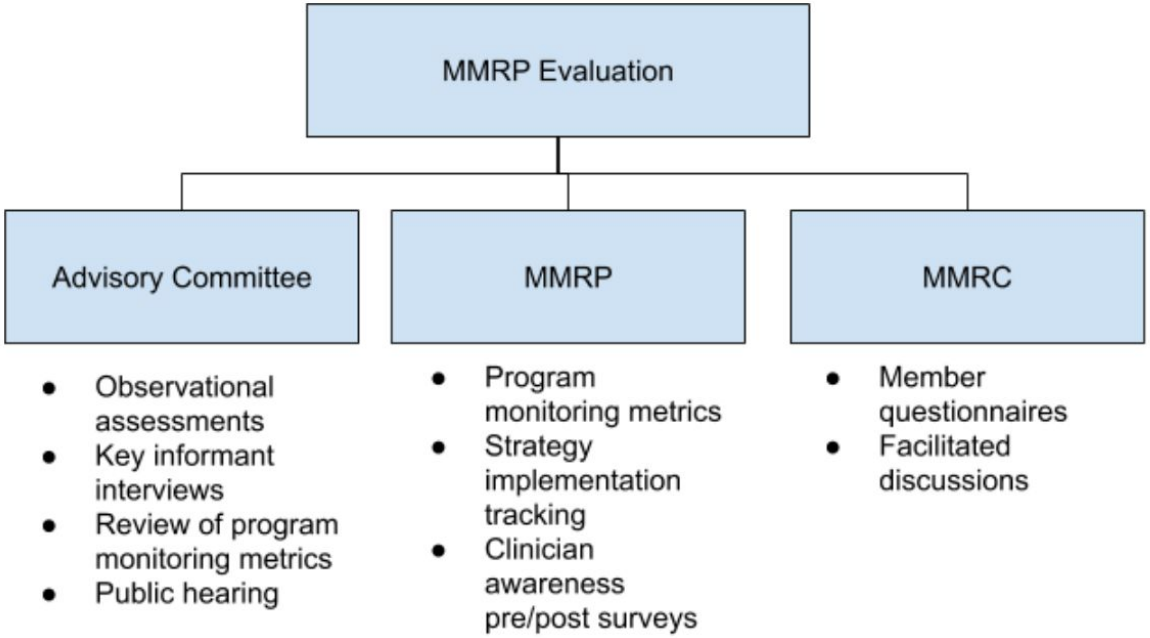
Preventing Maternal Deaths CDC Funding Opportunity

- ADHS awarded via a cooperative agreement $450,000 each year for 5 years
- Project period starts on October 1, 2019 and ends on September 30, 2024
- The grant will also support the Arizona Maternal Mortality Review Committee in getting the most detailed, complete data on causes and circumstances surrounding maternal deaths to develop recommendations for prevention.

Specific project aims:

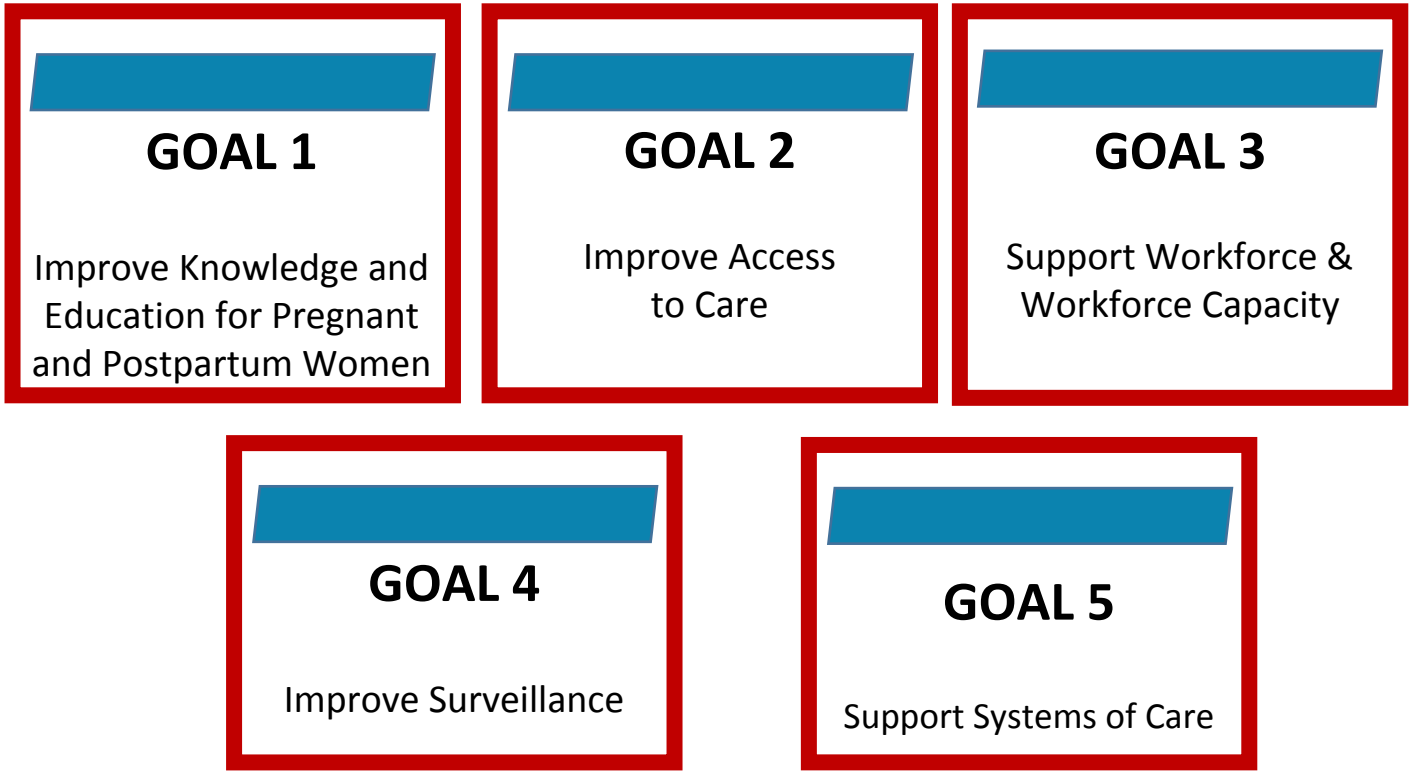
1. Standardize the current maternal mortality review process
2. Support the MMRC in developing actionable recommendations
3. Disseminate the findings of the MMRC to different audiences
4. Lead and support the adoption of maternity safety bundles at birthing facilities

Preventing Maternal Deaths CDC Funding Opportunity



Governor's Goal Council

SMM & MM Recommendation Brief Goals



Goal 4: Improving Surveillance

Recommendation:

- Improve surveillance of maternal mortalities and morbidities

Identified Gaps:

- The Maternal Mortality Review Program (MMRP) has limited financial resources and is not adequately staffed.
- Information received for maternal death reviews is limited or incomplete especially for indigenous women.
- Non-medical records (crime, child safety, as such) are not received and inhibit the review process' ability for actionable recommendations for prevention.
- Implementation of gold-standard practices to maternal death reviews has been delayed and inconsistent in the past.

Data Collection on Maternal Fatalities

Jessica Perfette, MPH - Maternal Mortality Review Program Manager
Kyle Gardner, MSPH - Injury Epidemiologist

Arizona Maternal Mortality Review Program (MMR)

Established by the Arizona Senate Bill 1121 on April 2011. Review of cases began July 2011.

Authorized the Child Fatality Review Program to create a subcommittee to review all identified pregnancy associated deaths.

Multidisciplinary team reviews cases to identify preventative factors and produce recommendations for systems level changes.

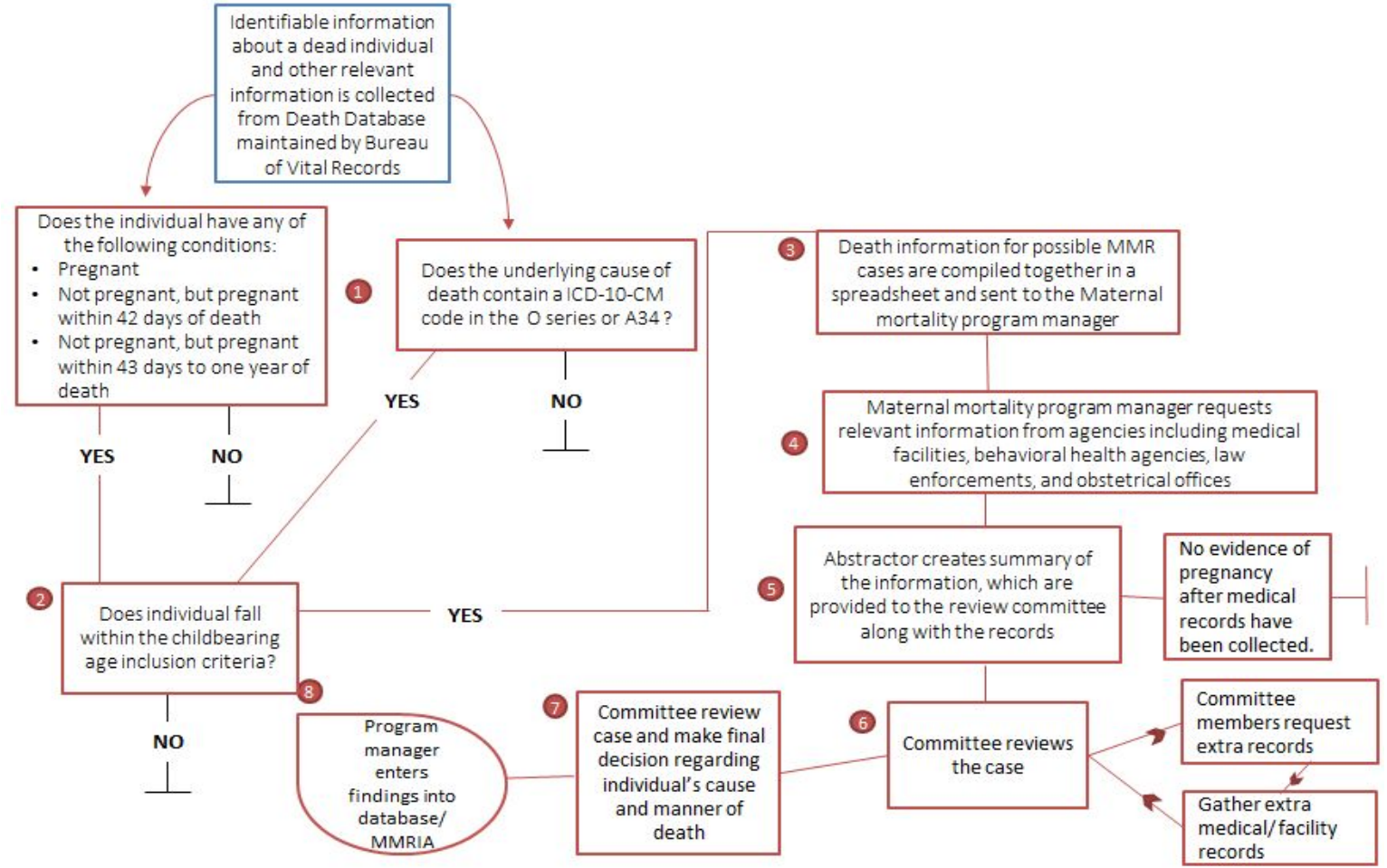
The first inaugural report was published in February 2013 which encompassed data for part of calendar year 2011 and all of 2012

Report released on June 1, 2017

*"12. Evaluate the incidence and causes of **maternal fatalities** associated with pregnancy in this state. For the purposes of this paragraph, "maternal fatalities associated with pregnancy" means the death of a woman while she is pregnant or within one year after the end of her pregnancy."*

ARS 36-3501

Maternal Mortality Review
Case Identification and Data Flow



Case Identification Process

- MMR cases are identified from the Bureau of Vital Record's death database system (D.A.V.E).
- The Epidemiologist flags female records where the pregnancy checkbox is marked on their death certificate, indicating the female was **pregnant at time of death or within 1 year of death regardless of pregnancy duration (pregnancy conditions)**. Records where the cause of death contains a ICD-10-CM code in the O series or A34 are also flagged.
- MMR Cases are then screened to ensure they fall within the childbearing age inclusion criteria.
- MMR cases meeting the above qualifications are complied in a spreadsheet and sent to the Maternal Mortality Program Manager for further review.

Death Reporting System

Brief description of the reporting system.
D.A.V.E stands for Database Application for Vital Events. DAVE is a secure web-based Electronic Vital Record System used to manage Vital Records such as the death certificates.

When is data usually available?
Data from the previous year is cleaned, finalized, and made available at the beginning of June.

Who has access to this system?
Bureau of Public Health and Bureau of Vital Records have direct access to data.
Maternal Mortality Epidemiologist
Other agency epidemiologists

Case Identification Process

What are the ICD-10-CM Codes 0 series or A34?

ICD-10-CM (International Classification-Tenth Revision- Clinical Modification)

O series and A34 codes are codes that relate to pregnancy, childbirth, or postpartum complications

Any female record with these codes are flagged as possible MMR cases

Examples of O series and A34 ICD-10-CM Codes:

O00-O08	Pregnancy with abortive outcome
O09-O09	Supervision of high risk pregnancy
O10-O16	Edema, proteinuria and hypertensive disorders in pregnancy, childbirth, and the puerperium
O30-O48	Maternal care related to the fetus and amniotic cavity and possible delivery problems
O60-O77	Complications of labor and delivery
O80-O82	Encounter for delivery
A34	Obstetrical Tetanus

How often are records pulled?

Records for possible MMR cases are pulled once annually in July after the death data from previous year is made available. Steps 1-3 are completed and made available to program manager in 1 day.

Case Identification Process

Who is responsible for this?
Epidemiologist screens possible MMR cases for age inclusion criteria

What is the age inclusion criteria?
The age inclusion criteria for the Maternal Mortality Program in Arizona is for the childbearing ages of 15-49 Yrs

What's the percentage of cases that do not meet this criteria?
Less than 1% of cases did not meet this criteria

Out of those cases that do not meet the age inclusion criteria what is the median age or range of ages?
Median Age was 51, range 51-53 Yrs

MMRC Review Process

The maternal mortality review process is an ongoing quality improvement cycle that includes the steps depicted in the image below:

Adapted from Berg, C.J. (2012). From identification and review to action—maternal mortality review in the United States. Seminars in Perinatology, 36(1), 7-13.

Goals of the MMRC

The goals of the Maternal Mortality Review Committee are to:

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

Building U.S. Capacity to Review and Prevent Maternal Deaths. (2017). Maternal Mortality Review Committee Facilitation Guide, https://reviewtoaction.org/content/model-purpose-mission-goals-vision-and-scope-mmrcs

MMRC Membership

March of Dimes, Arizona Chapter

Indian Health Services
United States Public Health Service Corp
Phoenix Indian Medical Center

University of Arizona, College of Medicine Phoenix, Dept of Medical Toxicology, BUMCP

Maricopa Integrated Health System / District Medical Group, University of Arizona College of Medicine-Phoenix

South Phoenix Healthy Start

Matrescence, 4th Trimester Planning and Support

Genesis Maternal Fetal Medicine

American College of Obstetrics and Gynecology, Chair Arizona Chapter

University of Arizona/Banner University Medical Center -Phoenix, Maternal Fetal Medicine

University of Arizona/Banner University Medical Center

PHI AirMedical

Arizona Department of Health Services

Arizona Chapter of the American Academy of Pediatrics

Arizona Perinatal Trust, Inc

Mountain Park Health Center, Inc., Federally Qualified Health Center

Glendale Police Department

Pima County Health Department

Arizona Perinatal Care Centers

Gila River Healthcare

Arizona Health Care Cost Containment System (AZ Medicaid)

Arizona Coalition to End Sexual and Domestic Violence

MMRC Review Process

Case Identification

- Responsible Party: MMR Epidemiologist
- Pregnancy-related/associated deaths are identified by the Office of Vital Records.
- Vital records (birth and death certificates) are the primary sources for identifying pregnancy-related/associated deaths.
- ADHS collaborates with vital records, because death statistics serve as the beginning point of case identification.

Case Selection

- Responsible Party: MMR Program Manager and Administrative Secretary
- To adhere to best practices in maternal mortality surveillance, the program considers all pregnancy-related/associated deaths when selecting which cases to review.
- The scope of cases for committee review is all pregnancy-related/associated deaths or any deaths of women with indication of pregnancy up to 365 days, regardless of the cause of death.

Record Request Process

Requests Made:

- Request include (but not limited to) medical facilities, law enforcement, EMS and other transport companies, fire department, vital records, obstetrical offices, behavioral health agencies and the medical examiner's office.

Timeliness:

- Pursuant to A.R.S. §36 3503, all records are to be provided within 5 days from receipt of the request.
- Record requests are sent weekly in order prepare for monthly MMRC meetings.
- Follow up on request is as needed.

Tracking:

- A tracking log was created by the MMR program manager. This excel document includes demographic, vital record information and notes section to include record request dates, updates and locations.

Confirmation of Pregnancy:

- Matching the vital record birth/fetal information, verifying prenatal records and/or labor and delivery records.

Records Request: Challenges

- Estimate the Degree of Relevant Information (Records) Available for the Case: Complete, Mostly Complete, Somewhat Complete, Not Complete.

- Types of missing records:
  - Tribal, FBI, pending investigation, prenatal

- Strategies to overcome challenges:
  - Tribal/State collaboration
  - In house record abstraction, clinical determination of records needed
  - Pre-review of narratives

- Number of false positives (Screened out): 13 in 2017; 4 died out of state, 9 confirmed no evidence of pregnancy from medical records.

- Missing records:
  - Missing records create a delay in the review that may negatively impact the outcome. Incomplete case information negatively impacts the committee decision and ability to develop action driven recommendations.

MMRC Review Process

Case Abstraction

- MMRIA: Maternal Mortality Review Information Application
- Arizona began entering data into MMRIA in April 2018. Data has not been exported to produce reports yet.
- The nurse abstractor is responsible for abstracting each case into MMRIA with information pulled from the physical records (death certificates, birth certificates, obstetric records, medical and hospitalization records, autopsies and social service records.).
- Records are abstracted monthly.
- The nurse abstractos follows a template to abstract records, and uses the MMRIA abstractor guide.
- Abstracts are not reviewed prior to the MMRC meetings.
- After abstraction is complete, narratives are created by the program manager to present at the MMRC meeting. Information for the narrative is pulled from MMRIA which is inputted by the nurse abstractor.
- The narrative captures all relevant medical information and presents the events leading to the woman's death in chronological order.
- The case narrative supplements, but does not replace, the full set of data abstracted by the case abstractor.
- Quality assurance checks are not in place with MMR
- The committee does not have access to MMRIA, but it is available to set this up in a de-identified format.

MMRC Process of a Review

Case Review

- The MMRIA committee decision form is used to promote consistent case reviews
- The Program Manager and MMRC chair are tasked with keeping the discussion on track.
- The Program Manager tracks committee decisions.
- Final decisions are made by the MMRC using the MMRIA committee decision form.
- The committee does not have to agree with the official cause and manner of death, but do a majority of the time.
- The committee develops recommendations for all preventable deaths, tracked on the MMRIA committee decision form.

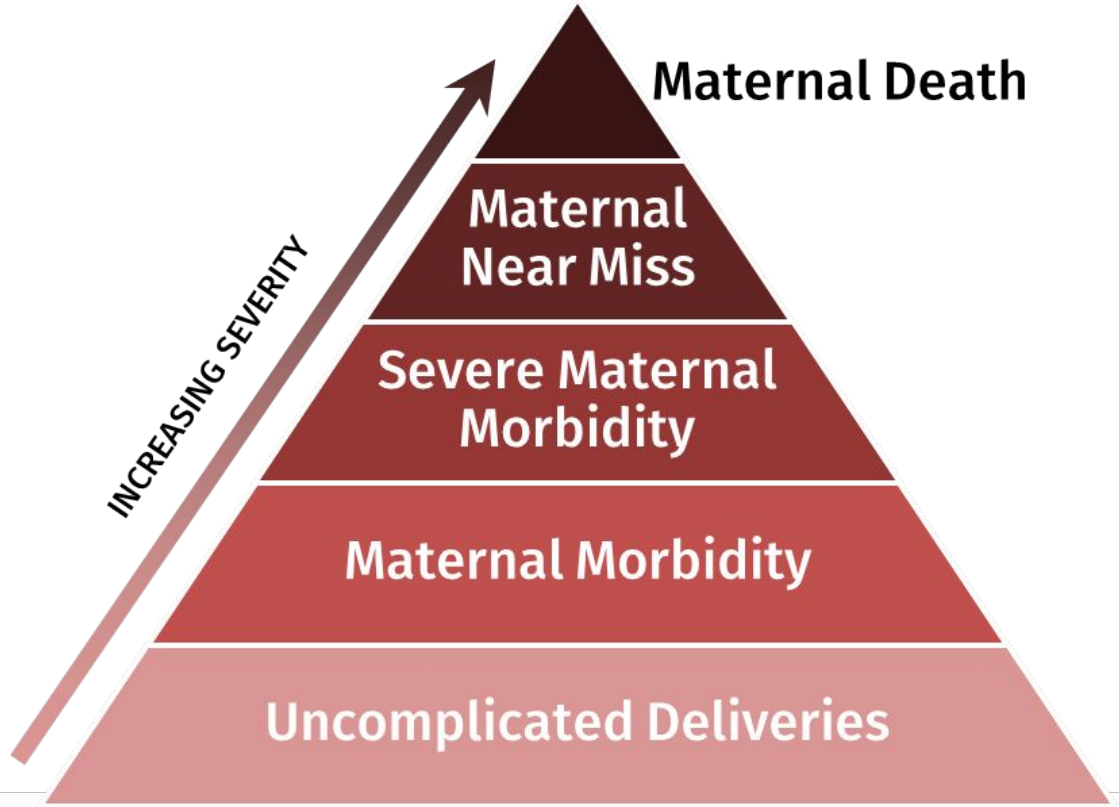
Review to Action

- Both quantitative and qualitative data are used in reports and other publications created by the MMRC program to share findings with external stakeholders.
- The most recent program report is based on case reviews from January 2012 through December 2015.

MMRC

- Committee members are selected after interest is expressed to the program manager. The PM and MMRC chair review the request to determine membership.
- MMRC meetings are conducted monthly, on the first Monday of the month from 8am-10am at ADHS.
- 6-8 cases are reviewed on average per meeting
- MMRC attendance is on average 25 people.
- Remote audio/visual conferencing is available for those unable to attend in person.
- If the MMRC determines a case has incomplete records, the case is tabled until further records are obtained. This occurs on average one case per meeting.
- There is no formal training for new MMRC members.
- Each member is provided the MMRC Facilitation Guide and a copy of the MMRIA committee decision form.
- During the review, committee decisions are made to determine preventability, relatedness, prevention recommendations, and contributing factors.

Data Collection on Maternal Morbidities



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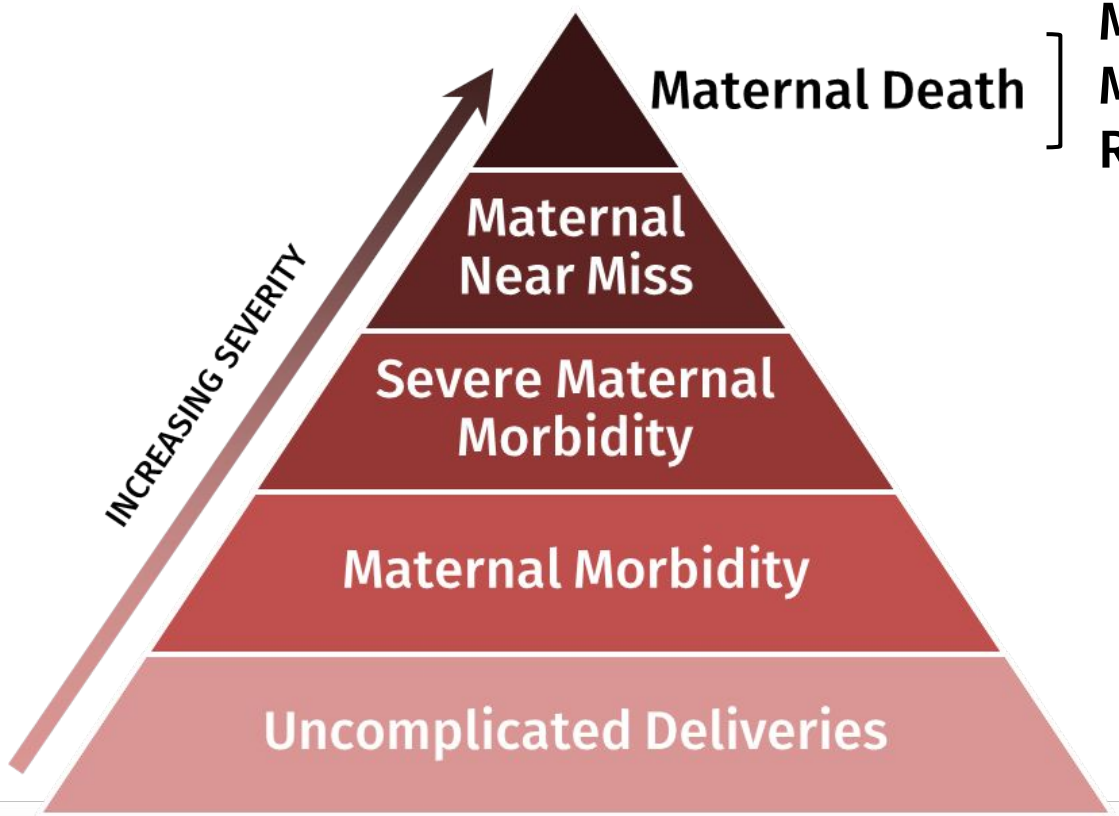

Maternal Mortality Review

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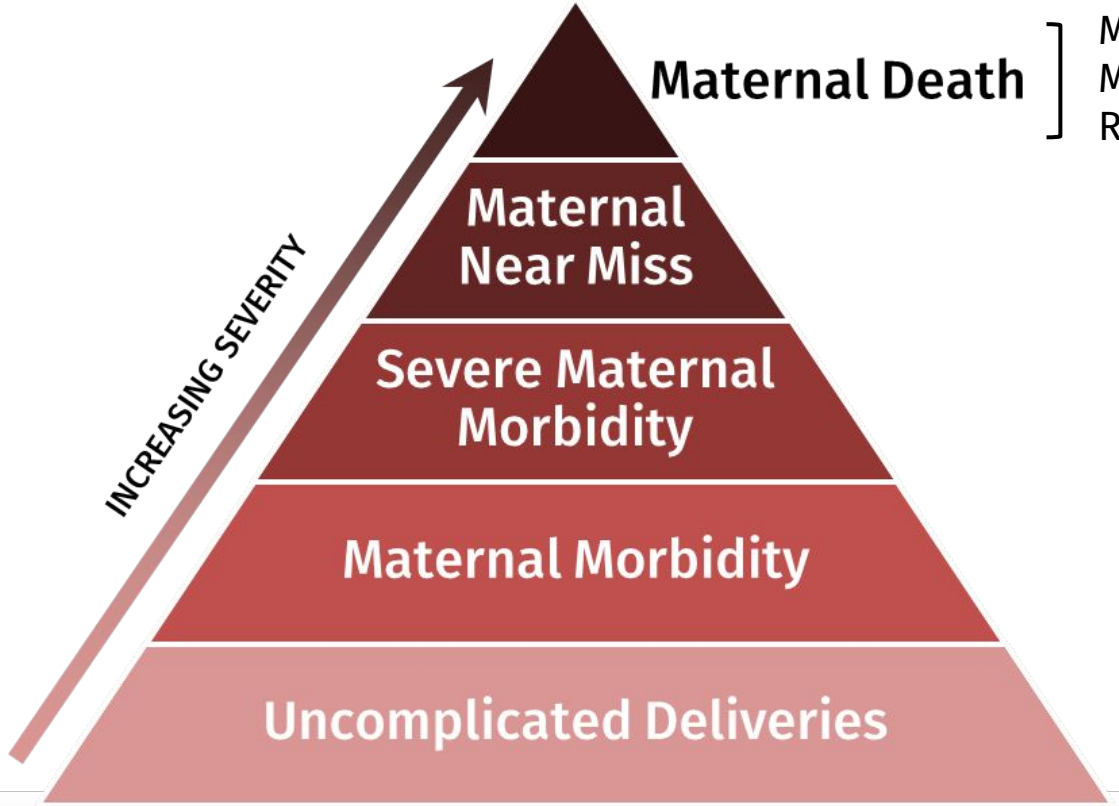


Maternal Mortality Review

Severe Maternal Morbidity Analysis

Estimated 50-100 women experience SMM for every maternal death

New York City Department of Health and Mental Hygiene (2016). Severe Maternal Morbidity in New York City, 2008–2012. New York, NY.

Methods

Arizona Hospital Discharge Database:

ADHS collects hospital discharge records for inpatient and emergency department visits from all Arizona licensed hospitals

This collection is required by Arizona Revised Statute (A.R.S.) § 36-125-05 and Arizona Administrative Code Title 9, Chapter 11, Articles 4 and 5

Excludes facilities run by the Indian Health Service, and non-hospital facilities (such as birth centers)

Available every 6 months

Methods

Algorithm published by the Alliance for Innovation on Maternal Health (AIM) and the CDC, who also provide technical assistance

> AIM is a collaboration between the American College of Obstetricians and Gynecologists (ACOG) and the Maternal Child Health Bureau in the Health Resources and Services Administration (MCHB – HRSA)

Identifies women with a delivery hospitalization and one of 21 indicators:

- organ-failure (acute renal failure, cardiac arrest, shock, etc.)
- clinical signs and symptoms (eclampsia, sepsis, pulmonary embolism, etc.)
- management of conditions (blood transfusion, hysterectomy, ventilation, etc.)

In use nationally and in other states, including New York, Utah, and Texas

Timeline

Fall 2018:
First analysis with 2016, 2017, and first 2 quarters of 2018

Feb 2019:
Preliminary report drafted in February 2019

June 2019:
Re-run with finalized HDD data for 2016-2018

July 2019:
Re-run with updated delivery identification codes (from CDC)

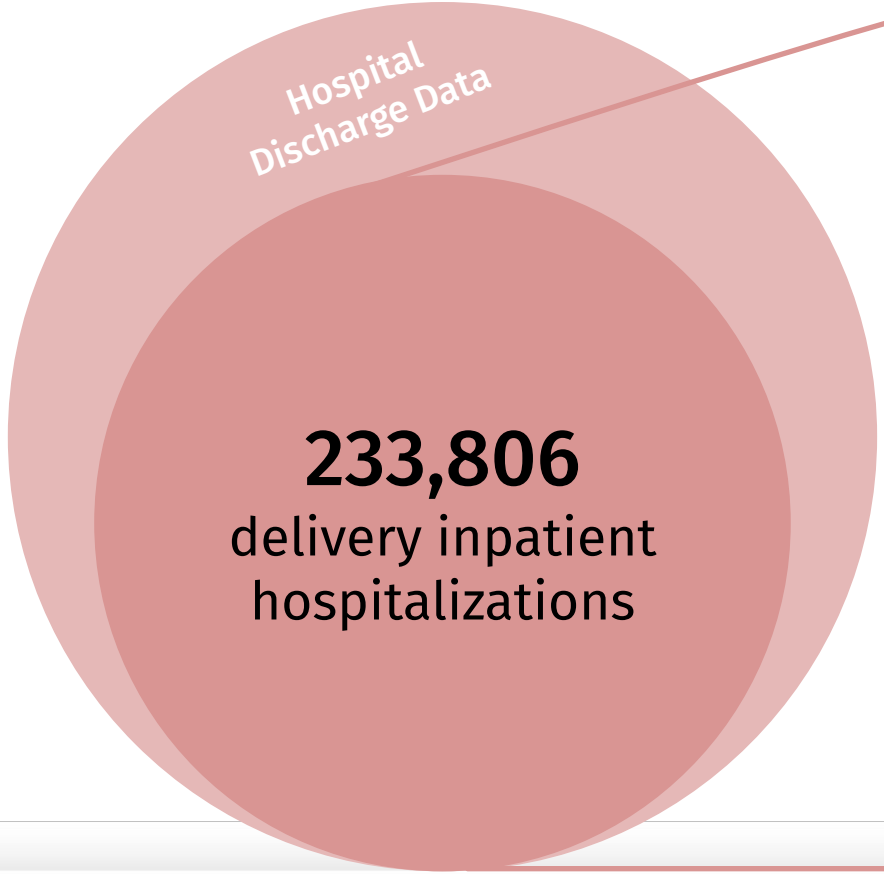
Aug 2019:
Report draft in progress for final 2016-2018 data

Moving forward will update every 6 months when new HDD data is available

More than **8 million** hospitalizations were analyzed for 2016-2018

Hospital Discharge Data

All hospital discharge entries from HDD participating hospitals

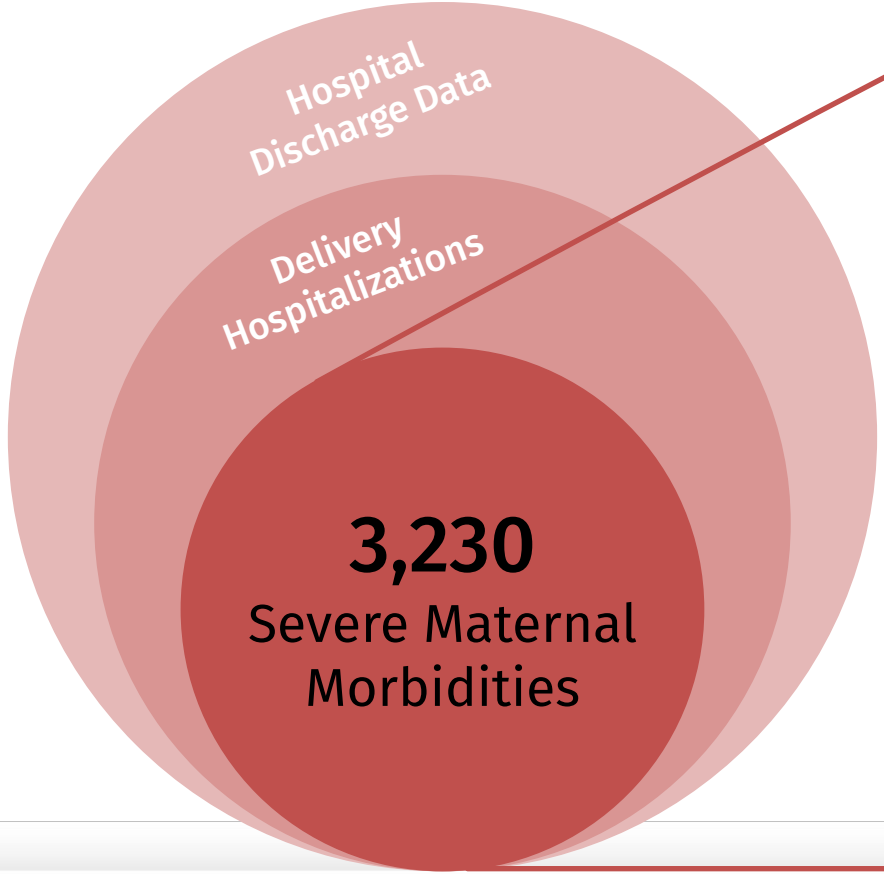


Delivery Hospitalizations

Excludes:

Ectopic or molar pregnancy and pregnancy with abortive outcome

Abortion procedures



Severe Maternal Morbidities

Diagnosis-based indicators (16):

- Acute myocardial infarction
- Acute Renal Failure diagnosis
- Adult Respiratory Distress Syndrome diagnosis
- Amniotic fluid embolism
- Aneurysm
- Cardiac arrest/ventricular fibrillation
- Disseminated Intravascular Coagulation
- Eclampsia
- Heart failure/arrest during procedure or surgery
- Puerperal Cerebrovascular Disorder
- Acute Heart Failure / Pulmonary edema
- Severe anesthesia complications
- Sepsis
- Shock
- Sickle Cell Disease with Crisis
- Air and thrombotic embolism

Procedure-based indicators (5):

- Blood transfusion
- Conversion of cardiac rhythm
- Hysterectomy
- Temporary tracheostomy
- Ventilation

Limitations

Cumbersome transition from ICD 9 to ICD 10 (3rd Quarter 2015)

For example, ICD codes for blood transfusions went from a few to more than 140

Changing definitions of SMM in the field of maternal and child health

Current CDC/AIM definition and algorithm does not allow for assessment morbidity clinical significant due to individual factors

(stroke as severe as blood transfusion)

Incorporating blood transfusions may be skewing SMM rates:

- 2018 SMM rate with blood transfusions: 128.5 per 10,000 delivery hospitalizations
- 2018 SMM rate without blood transfusions: 60.0 per 10,000 delivery hospitalizations

Enhanced Definition of SMM

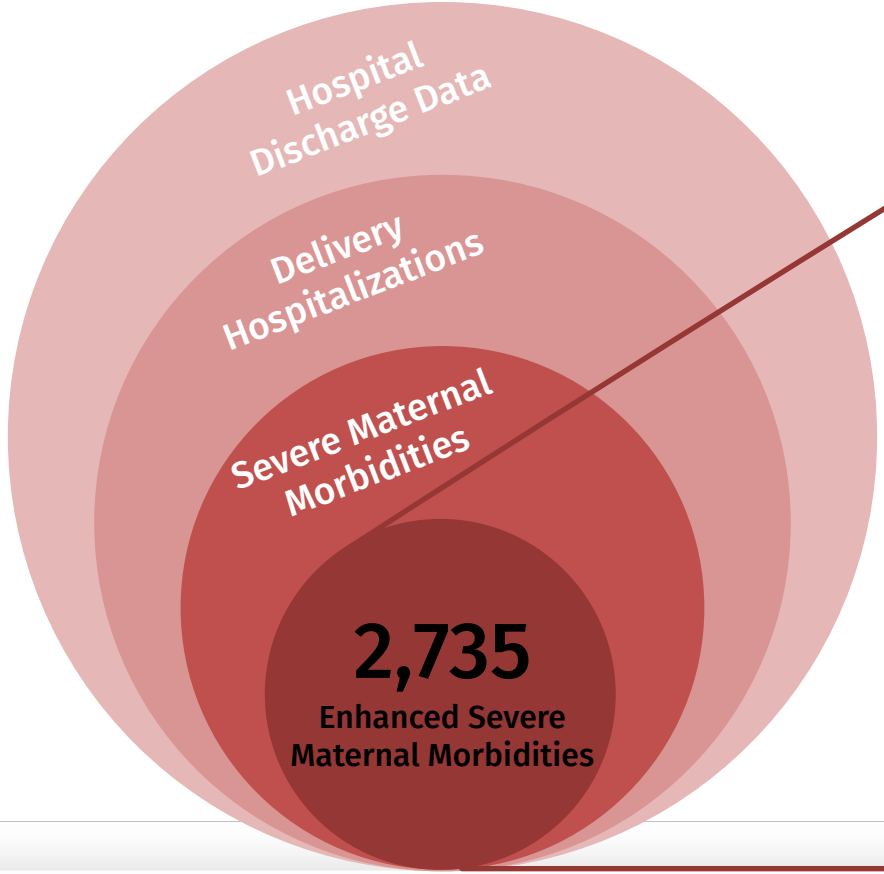
Developed by the New York City Department of Health and Mental Hygiene
- Published Report 2016 of 2008-2012 data

Builds on the existing AIM/CDC algorithm

Incorporates birth certificate data for additional maternal characteristics

Allows for better sensitivity in identifying severe morbidities by including additional qualifying factors (idea is to capture true SMM cases)

We began to modifying the method for use in Arizona in May/June 2019



Severe Maternal Morbidities

Enhanced Definition

Link hospital discharge data to birth certificate data (**222,236** linked deliveries, **94.5%** match rate)

Run previous algorithm to identify SMM cases

Must also meet at least <u>one</u> qualifying condition:

1. The length of stay at least:
   - 4 days for vaginal delivery or primary cesarean section
   - 5 days for repeat cesarean section
2. The mother was transferred before or after delivery to a different facility
3. The mother died during delivery hospitalization
4. At least one of the 5 procedure indicators was present

Limitations

Issues with linking HDD and birth certificate data

HDD data can exclude facilities for specific years due to data quality issues

- Ex: No data for 2017 in Flagstaff Medical Center, Western Arizona Regional Medical Center, and Verde Valley Medical Center
- The Bureau of Public Health Statistics (data owners) work to resolve these issues and publish the missing data when available

HDD data is only available every 6 months

Limitations

Limited to delivery hospitalizations only

- No hospitalizations during pregnancy
- No hospitalizations prior to or after transfer to/from birth facility
- No hospitalizations from readmissions or the postpartum period
- No emergency department visits

Blood transfusions continue to pose a challenge

- A woman with a blood transfusion code only (no other indicators) can meet qualification criteria because blood transfusion is one of the 5 procedure codes (does not need additional qualifications or procedures)
- No specificity in ICD codes about the number of blood units given
- Need to assess the extent this may be contributing to SMM rate

Methodology and Timeline

Sampled Methodologies

Key Informant Interviews

Members interview individual key members of the MMRC and program staff on the MMR process, challenges, and areas for improvement.

Observational Assessments

Members attend an upcoming MMRC meeting as observers and notate information on the performance of the MMR process. They are not active participants of the review process.

Panel Discussion

Key program staff and MMRC members form the panel. The advisory committee members pose questions to the panel regarding the process and other relevant items.

Support for Advisory Committee Activities

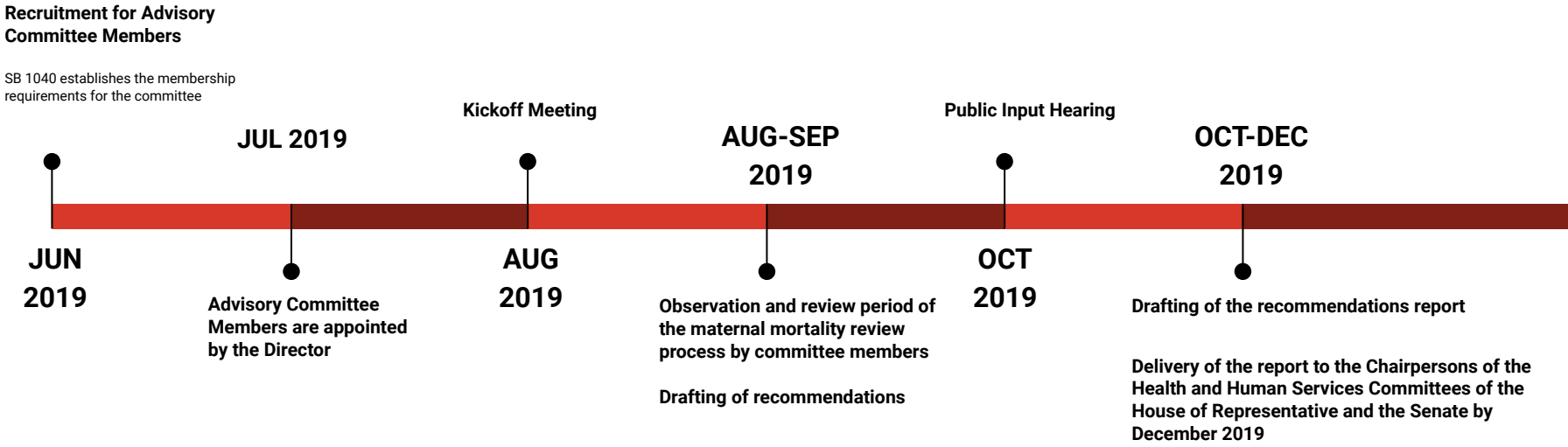
ADHS Staff

- Administrative support
- Data collection and entry assistance
- Note taking and documentation
- Logistics and scheduling
- Technical assistance on methodology implementation

Advisory Committee

- Implement chosen methodology
- Organize and facilitate public hearing
- Develop recommendations based on review findings
- Draft recommendations report
- Transmit report to chairpersons of HHS committees

SB1040: Advisory Committee Timeline



Future meeting dates and agenda items

Call to the public

OPEN MEETING LAW 101
Arizona's Open Meeting Law in a Nutshell

Information compiled by:
Liz Hill, Assistant Ombudsman – Public Access
Last revised August 2010

Two core concepts

"All meetings of any public body shall be public meetings and all persons so desiring shall be permitted to attend and listen to the deliberations and proceedings." A.R.S. § 38-431.01(A).

"It is the public policy of this state that meetings of public bodies be conducted openly and that notices and agendas be provided for such meetings which contain such information as is reasonable necessary to inform the public of the matters to be discussed or decided." A.R.S. § 38-431.09.

Why do we have an Open Meeting Law?

1. To protect the public.
   a. To avoid decision-making in secret.
   b. To promote accountability by encouraging public officials to act responsively and responsibly.
2. To protect public officials.
   a. To avoid being excluded (notice).
   b. To prepare and avoid being blind sided (agenda).
   c. To accurately memorialize what happened (minutes).
3. Maintain Integrity of government.
4. Better informed citizenry.
5. Build trust between government and citizenry.

What constitutes a meeting?

A meeting is a gathering, in person or through technological devices of a quorum of a public body at which they discuss, propose or take legal action, including deliberations. A.R.S. § 38-431(4). This includes telephone and e-mail communications.

Who must comply with Open Meeting Law?

Public bodies. "Public body" means the legislature, all boards and commissions of this state or political subdivisions, all multimember governing bodies of departments, agencies, institutions and instrumentalities of the state or political subdivisions, including without limitation all corporations and other instrumentalities whose boards of directors are appointed or elected by the state or political subdivision. Public body includes all quasi-judicial bodies and all standing, special or advisory committees or subcommittees of, or appointed by, the public body. A.R.S. § 38-431(6).

"Advisory committee" or "subcommittee" means any entity, however designated, that is officially established, on motion and order of a public body or by the presiding officer of the public body, and whose members have been appointed for the specific purpose of making a recommendation concerning a decision to be made or considered or a course of conduct to be taken or considered by the public body. A.R.S. § 38-431(1).

The Secretary of State, Clerk of the County Board of Supervisors, and City and Town Clerks must conspicuously post open meeting law materials prepared and approved by the Arizona Attorney General's Office on their website. A person elected or appointed to a public body shall review the open meeting law materials at least one day before the day that person takes office. A.R.S. § 38-431.01(G)

What is Required under the Open Meeting Law?

1. Notice

Public bodies must post a disclosure statement on their website or file a disclosure statement as provided for by statute. The disclosure statement states where the public body will post individual meeting notices. A.R.S. § 38-431.02(A)(1) through (4).

The open meeting law requires at least 24 hours notice of meetings to the members of the public body and the general public. A.R.S. § 38-431.02(C).

Notice must be posted on the public body's website, unless otherwise permitted by statute. Notice must also be posted at any other electronic or physical locations identified in the disclosure statement and by giving additional notice as is reasonable and practicable. A.R.S. § 38-431.02(A)(1) through (4).

2. Agenda

Agendas must contain information reasonably necessary to inform the public of the matters to be discussed or decided. A.R.S. § 38-431.09.

Agendas must be available at least 24 hours before the meeting. A.R.S. § 38- 431.02(G).

3. Public's Rights

The public has a right to:

- Attend
- Listen
- Tape record
- Videotape

Public has no right to:

Speak
Disrupt

4. Calls to the Public

An open call to the public is an agenda item that allows the public to address the public body on topics of concern within the public body's jurisdiction, even though the topic is not specifically included on the agenda. Ariz. Att'y Gen. Op. I99-006.

Although the Open Meeting Law permits the public to attend public meetings, it does not require public participation in the public body's discussions and deliberations and does not require a public body to include an open call to the public on the agenda. *See* Ariz. Att'y Gen. Op. No. I78-001.

An individual public officer may respond to criticism, ask staff to review an item or ask that an item be placed on a future agenda, but he or she may *not* dialogue with the presenter or collectively discuss, consider, or decide an item that is not listed on the agenda. A.R.S. § 38-431.01(H); Ariz. Att'y Gen. Op. I99-006. Note that individual members of the public body may respond to criticism by individuals who addressed the public body during the call to the public, but the public body may not collectively discuss or take action on the complaint unless the matter is specifically listed on the agenda. A.R.S. § 38-431.01(H).

Public bodies may impose reasonable time, place, and manner restrictions on speakers. Restrictions must be narrowly tailored to affect a compelling state interest and may not be content based. Ariz. Att'y Gen. Op. I99-006.

A member of the public body may not knowingly direct a staff member to communicate in violation of the Open Meeting Law. A.R.S. 38-431.01(I).

In sum:

- *Calls to the public are permitted, but not required.*
- *Should be added as an agenda item.*
- *Public body may limit speaker's time.*
- *Public body may require speakers on the same side with no new comments to select spokesperson*
- *Public body may set ground rules:*
    - *civility*
    - *language*
    - *treat everyone the same*

5. Executive Sessions

Public bodies may hold private executive sessions under a few limited circumstances. In executive sessions, the public is not allowed to attend or listen to the discussions, and the public body is not permitted to take final action. A.R.S. § 38-431.03(D).

Members of the public body may not vote or take a poll in executive sessions. A.R.S. § 38-431.03(D).

There are seven authorized topics for executive sessions:

1. Personnel (must provide 24 hours written notice to employee).
2. Discussion or consideration of records exempt by law from public inspection.
3. Legal advice – with public body's own lawyer(s).
4. Discussion or consultation with public body's lawyer(s) to consider pending or contemplated litigation, settlement discussions, negotiated contracts.
5. Discuss and instruct its representative regarding labor negotiations.
6. Discuss international, interstate, and tribal negotiations.
7. Discuss the purchase, sale, or lease of real property.

Notice and Agenda: Agendas for executive sessions may describe the matters to be discussed more generally than agendas for public meetings in order to preserve confidentiality or to prevent compromising the attorney-client privilege. A.R.S. § 38-431.02(I). Nonetheless, the agenda must provide more than a recital of the statute that authorizes the executive session.

6. Minutes (A.R.S. §§ 38-431.01(B), (C), (D) and -431.03(B))

Public bodies must take meeting minutes of all meetings, including executive sessions.

May be recorded or written, keeping in mind that permanent records must be on paper.

Public session meeting minutes must include:

- Date, time and place of meeting;
- Names of members of the public body present or absent;
- A general description of matters considered; and
- An accurate description of all legal actions proposed, discussed or taken, and the names of members who propose each motion. The minutes shall also include the names of the persons, as given, making statements or presenting material to the public body and a reference to the legal action about which they made statements or presented material.

Executive session minutes must include:

- Date, time and place of meeting;
- Names of members of the public body present or absent;
- A general description of matters considered;
- An accurate description of all instructions given; and
- Such other matters as may be deemed appropriate by the public body.

The minutes or a recording of the public session must be open for public inspection no later than three working days after the meeting, except as otherwise provided in the statute. A.R.S. § 38-431.01(D).

Cities and towns with a population of more than 2,500 persons must post approved city and town council minutes on its website within two working days following approval. A.R.S. § 38-431.01(E)(2).

Minutes of executive sessions must be kept confidential except from certain individuals. A.R.S. § 38-431.03(B).

How long meeting minutes are maintained is determined by the public body's record retention and destruction schedule authorized by Arizona State Library and Archives.

Persons in attendance may record any portion of a public meeting, as long as the recording does not actively interfere with the meeting. Acceptable recording equipment includes tape recorders, cameras, or other means of reproduction. A.R.S. § 38-431.01(F).

7. Where to turn for help

Self-help resources available:
The Arizona Ombudsman – Citizens' Aide handbook – The Arizona Open Meeting Law (available on line at www.azoca.gov under open meetings/publication)
The Arizona Ombudsman's website, www.azoca.gov
Arizona Agency Handbook, Chapter 7, www.azag.gov – Quick Links
Attorney General Opinions – www.azag.gov – Quick Links

Questions/File a complaint:
Arizona Ombudsman-Citizen's Aide (602) 277-7292

File a complaint/Enforcement authority
Attorney General's Open Meeting Law Enforcement Team (602) 542-5025
County Attorney's Office

36-3501. Child fatality review team; membership; duties

A. The child fatality review team is established in the department of health services. The team is composed of the head of the following entities or that person's designee:

1. Attorney general.

2. Office of women's and children's health in the department of health services.

3. Office of planning and health status monitoring in the department of health services.

4. Arizona health care cost containment system.

5. Division of developmental disabilities in the department of economic security.

6. Department of child safety.

7. Governor's office for children.

8. Administrative office of the courts.

9. Parent assistance office of the supreme court.

10. Department of juvenile corrections.

11. Arizona chapter of a national pediatric society.

B. The director of the department of health services shall appoint the following members to serve staggered three-year terms:

1. A medical examiner who is a forensic pathologist.

2. A maternal and child health specialist involved with the treatment of native Americans.

3. A representative of a private nonprofit organization of tribal governments in this state.

4. A representative of the Navajo tribe.

5. A representative of the United States military family advocacy program.

6. A representative of a statewide prosecuting attorneys advisory council.

7. A representative of a statewide law enforcement officers advisory council who is experienced in child homicide investigations.

8. A representative of an association of county health officers.

9. A child advocate who is not employed by or an officer of this state or a political subdivision of this state.

10. A public member. If local teams are formed pursuant to this article, the director of the department of health services shall select this member from one of those local teams.

C. The team shall:

1. Develop a child fatalities data collection system.

2. Provide training to cooperating agencies, individuals and local child fatality review teams on the use of the child fatalities data system.

3. Conduct an annual statistical report on the incidence and causes of child fatalities in this state during the past fiscal year and submit a copy of this report, including its recommendations for action, to the governor, the president of the senate and the speaker of the house of representatives on or before November 15 of each year.

4. Encourage and assist in the development of local child fatality review teams.

5. Develop standards and protocols for local child fatality review teams and provide training and technical assistance to these teams.

6. Develop protocols for child fatality investigations, including protocols for law enforcement agencies, prosecutors, medical examiners, health care facilities and social service agencies.

7. Study the adequacy of statutes, ordinances, rules, training and services to determine what changes are needed to decrease the incidence of preventable child fatalities and, as appropriate, take steps to implement these changes.

8. Provide case consultation on individual cases to local teams if requested.

9. Educate the public regarding the incidence and causes of child fatalities as well as the public's role in preventing these deaths.

10. Designate a team chairperson.

11. Develop and distribute an informational brochure that describes the purpose, function and authority of a team. The brochure shall be available at the offices of the department of health services.

12. Evaluate the incidence and causes of maternal fatalities associated with pregnancy in this state. For the purposes of this paragraph, "maternal fatalities associated with pregnancy" means the death of a woman while she is pregnant or within one year after the end of her pregnancy.

13. Inform the governor and the legislature of the need for specific recommendations regarding unexplained infant death.

14. Periodically review the infant death investigation checklist developed by the department of health services pursuant to section 36-3506. In reviewing the checklist, the review team shall consider guidelines endorsed by national infant death organizations.

D. Team members are not eligible to receive compensation, but members appointed pursuant to subsection B are eligible for reimbursement of expenses pursuant to title 38, chapter 4, article 2.

E. The department of health services shall provide professional and administrative support to the team.

F. Notwithstanding subsections C and D of this section, this section does not require expenditures above the revenue available from the child fatality review fund.

36-3503. Access to information; confidentiality; violation; classification

A. On request of the chairperson of a state or local team and as necessary to carry out the team's duties, the chairperson shall be provided within five days excluding weekends and holidays with access to information and records regarding a child whose death is being reviewed by the team, or information and records regarding the child's family and records of a maternal fatality associated with pregnancy pursuant to section 36-3501, subsection C:

1. From a provider of medical, dental or mental health care.

2. From this state or a political subdivision of this state that might assist a team to review a child fatality.

B. A law enforcement agency with the approval of the prosecuting attorney may withhold investigative records that might interfere with a pending criminal investigation or prosecution.

C. The director of the department of health services or the director's designee may apply to the superior court for a subpoena as necessary to compel the production of books, records, documents and other evidence related to a child fatality or a maternal fatality associated with pregnancy investigation. Subpoenas issued shall be served and, on application to the court by the director or the director's designee, enforced in the manner provided by law for the service and enforcement of subpoenas. A law enforcement agency is not required to produce the information requested under the subpoena if the subpoenaed evidence relates to a pending criminal investigation or prosecution. All records shall be returned to the agency or organization on completion of the review. Written reports or records containing identifying information shall not be kept by the team.

D. All information and records acquired by the state team or any local team are confidential and are not subject to subpoena, discovery or introduction into evidence in any civil or criminal proceedings, except that information, documents and records otherwise available from other sources are not immune from subpoena, discovery or introduction into evidence through those sources solely because they were presented to or reviewed by a team.

E. Members of a team, persons attending a team meeting and persons who present information to a team may not be questioned in any civil or criminal proceedings regarding information presented in or opinions formed as a result of a meeting. This subsection does not prevent a person from testifying to information that is obtained independently of the team or that is public information.

F. A member of the state or a local child fatality review team shall not contact, interview or obtain information by request or subpoena from a member of a deceased child's family, except that a member of the state or a local child fatality review team who is otherwise a public officer or employee may contact, interview or obtain information from a family member, if necessary, as part of the public officer's or employee's other official duties.

G. State and local team meetings are closed to the public and are not subject to title 38, chapter 3, article 3.1 if the team is reviewing individual child fatality cases or cases of maternal fatalities associated with pregnancy. All other team meetings are open to the public.

H. A person who violates the confidentiality requirements of this section is guilty of a class 2 misdemeanor.

STATE OF ARIZONA
OFFICE OF THE GOVERNOR

DOUGLAS A. DUCEY
GOVERNOR

EXECUTIVE OFFICE

April 29, 2019

The Honorable Katie Hobbs
Secretary of State
1700 W. Washington, 7th Floor
Phoenix, AZ 85007

Dear Secretary Hobbs:

I am transmitting to you the following bills from the Fifty-fourth Legislature, 1st Regular Session, which I signed on April 29th, 2019:

H.B. 2063 vehicle insurance cards; assigned numbers (Biasiucci)
H.B. 2181 licensing; exemption; registrar of contractors (Grantham)
H.B. 2452 vehicle emissions program; remote inspections (Griffin)
S.B. 1024 medical marijuana; sales data; enforcement (Borrelli)
S.B. 1040 maternal morbidity; mortality; report (Brophy-McGee)
S.B. 1311 material witnesses; contempt; detention; bond (E. Farsworth)
S.B. 1397 registrar of contractors omnibus (Mesnard)
S.B. 1443 bullhead city; state land transfer (Borrelli)
S.B. 1498 egg promotion program (Kerr)

Sincerely,

Douglas A. Ducey
Governor
State of Arizona

cc: Senate Secretary
Chief Clerk of the House of Representatives
Arizona News Service

House Engrossed Senate Bill

FILED
KATIE HOBBS
SECRETARY OF STATE

State of Arizona
Senate
Fifty-fourth Legislature
First Regular Session
2019

CHAPTER 143
SENATE BILL 1040

AN ACT

ESTABLISHING THE ADVISORY COMMITTEE ON MATERNAL FATALITIES AND MORBIDITY.

(TEXT OF BILL BEGINS ON NEXT PAGE)

Be it enacted by the Legislature of the State of Arizona:

Section 1. Advisory committee on maternal fatalities and morbidity; membership; report; delayed repeal

A. The advisory committee on maternal fatalities and morbidity is established to recommend improvements to information collection concerning the incidence and causes of maternal fatalities and severe maternal morbidity. The director of the department of health services shall appoint the members of the advisory committee. One of the members of the advisory committee shall be from a county with a population of less than five hundred thousand. The director or the director's designee shall serve as chairperson of the committee. The chairperson may not be affiliated with an organization that is otherwise represented on the committee.

B. The advisory committee consists of the following members:

1. A representative of a contractor from each geographic service area designated by the Arizona health care cost containment system.

2. A representative of the Arizona health care cost containment system.

3. A representative of Indian health services.

4. Three obstetricians, of which at least two are maternal fetal medicine specialists, who are licensed pursuant to title 32, chapter 13 or 17, Arizona Revised Statutes.

5. A certified nurse midwife who is certified pursuant to title 32, chapter 15, Arizona Revised Statutes.

6. Two representatives of nonprofit organizations that provide education, services or research related to maternal fatalities and morbidity.

7. A representative of this state's health information organization.

8. A representative of a public health organization.

9. Two representatives of organizations that represent hospitals in this state.

C. The department of health services, in conjunction with the advisory committee, shall hold a public hearing to receive public input regarding the recommended improvements to information collection concerning the incidence and causes of maternal fatalities and severe maternal morbidity.

D. On or before December 31, 2019, the advisory committee shall submit to the chairpersons of the health and human services committees of the house of representatives and the senate, or their successor committees, a report with recommendations concerning improving information collection on the incidence and causes of maternal fatalities and severe maternal morbidity.

E. This section is repealed on July 1, 2020.

Sec. 2. Department of health services; report; delayed repeal

A. On or before December 31, 2020, the department of health services shall submit a report to the governor, the speaker of the house of representatives and the president of the senate, and shall provide a copy to the secretary of state, on the incidence and causes of maternal fatalities and morbidity that includes all readily available data through the end of 2019.

B. This section is repealed on July 1, 2021.

Sec. 3. Emergency

This act is an emergency measure that is necessary to preserve the public peace, health or safety and is operative immediately as provided by law.

APPROVED BY THE GOVERNOR APRIL 29, 2019.

FILED IN THE OFFICE OF THE SECRETARY OF STATE APRIL 29, 2019.

Passed the House April 17, 2019,

by the following vote: 60 Ayes,

0 Nays, 0 Not Voting with emergency

Speaker of the House

Pro Tempore

Chief Clerk of the House

Passed the Senate February 11, 2019,

by the following vote: 30 Ayes, with Emergency

0 Nays, 0 Not Voting

President of the Senate

Secretary of the Senate

EXECUTIVE DEPARTMENT OF ARIZONA
OFFICE OF GOVERNOR

This Bill was received by the Governor this

_____ day of _____, 20____,

at _____ o'clock _____ M.

Secretary to the Governor

Approved this _____ day of

_____, 20_____,

at _____ o'clock _____ M.

Governor of Arizona

EXECUTIVE DEPARTMENT OF ARIZONA
OFFICE OF SECRETARY OF STATE

This Bill was received by the Secretary of State

this _____ day of _____, 20____,

at _____ o'clock _____ M.

Secretary of State

S.B. 1040

SENATE CONCURS IN HOUSE AMENDMENTS AND FINAL PASSAGE

Passed the Senate April 23, 2019

by the following vote: 30 Ayes, With Emergency

0 Nays, 0 Not Voting

Kate Fox
President of the Senate

Susan Acens
Secretary of the Senate

EXECUTIVE DEPARTMENT OF ARIZONA
OFFICE OF GOVERNOR

This Bill received by the Governor this

23rd day of April, 2019

at 3:02 o'clock P M.

Secretary to the Governor

Approved this ~~23rd~~ 29th day of

April 2019

at 10:07 o'clock A M.

Governor of Arizona

EXECUTIVE DEPARTMENT OF ARIZONA
OFFICE OF SECRETARY OF STATE

This Bill received by the Secretary of State

this 29 day of April, 2019

S.B. 1040

at 4:46 o'clock P. M.

Secretary of State

MATERNAL MORTALITY ACTION PLAN

JUNE 2019

ARIZONA DEPARTMENT OF HEALTH SERVICES
150 N. 18TH AVENUE
PHOENIX, ARIZONA 85007

EXECUTIVE SUMMARY

Maternal mortality has dramatically increased in the United States since the 1980s by over 150%.[1] Maternal mortality refers to the death of woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.[2] The United States has one of the highest rates of maternal mortality among developed nations worldwide at a rate of 26.4 deaths per 100,000 live births.[3,4] In addition, the United States is the only country aside from the nations of Afghanistan and Sudan where maternal deaths continue to rise.[5] A majority of maternal deaths in the United States are due to pregnancy-related complications; amounting to approximately 700 a maternal deaths a year.[1] The top leading causes of pregnancy-related maternal deaths are: cardiovascular disease-related; other medical-non cardiovascular conditions; infection/sepsis; and hemorrhages.[1] About a third of maternal deaths happen during pregnancy, a third happen at delivery or in the week after and, and the remainder happen 1 week to 1 year after birth.[6] Significant racial disparities are prevalent as Black women are three to four times as likely as White women to experience maternal death in the United States.[1,7] Multiple studies have documented that maternal mortality in communities of color is not associated to socioeconomic status, educational attainment, or income level but attribute some of these disparities to lack/inconsistent access to care and limited prenatal care utilization; inconsistent use of standardized hospital protocols to address potentially fatal complications; insufficient training for providers; implicit bias present in the healthcare delivery system; among others.[7–9]

A 2017 report from the Arizona Department of Health Services' Maternal Mortality Review Program estimated Arizona's maternal mortality rate is at 25.1 deaths per 100,000 live births (2012-2015).[10] This ranks Arizona 25th in the nation.[11] Native American/Indigenous women died at four times the rate (70.8 per 100,000 live births) compared to White non-Hispanic women (17.4 per 100,000 live births) despite Native Americans representing only 6.0% of the births. The maternal mortality rate for Hispanic/Latina women was 22.4 per 100,000 live births while the maternal mortality rate for Blacks, Asian, and Pacific Islander women combined was 44.0 per 100,000 live births. The leading causes of pregnancy-related deaths were cardiac and hypertension disorders (27%); hemorrhages (24%); and suicide, homicide or accidents (16%). Around 33% of pregnancy-related death causes could not be classified into the aforementioned groups. Approximately 89% of all maternal deaths in Arizona were categorized as preventable.[10]

Goals to Address Maternal Mortality:

The goals identified to address Maternal Mortality in Arizona are:

- Goal 1: Increase Pregnant and Postpartum Women's Awareness of Postpartum Warning Signs
- Goal 2: Improve Access to Care
- Goal 3: Support Workforce & Workforce Capacity
- Goal 4: Improve Surveillance
- Goal 5: Support Systems of Care

Recommendations:
Recommendations where created after multiple meetings with partners including state agencies, a thorough review of state and national data, literature and best practices. The recommendations were used to develop a 5-year work plan to address maternal mortality in Arizona. The following is a list of proposed actions included in year 1 (July 2019-June 2020) grouped by the goal statements.

EXECUTIVE SUMMARY

Goal 1: Increase Pregnant and Postpartum Women's Awareness of Postpartum Warning Signs

1. Identify and promote an educational program on postpartum warning signs and when to seek care for women and their families

Goal 2: Improve Access to Care

1. Expand ICD-10 codes eligible for Medicaid reimbursement to include Community Health Workers
2. Expand use of case management, care coordination, home visitation for pregnant and postpartum women
3. Expand Medicaid coverage/eligibility for pregnant women from 60 days up to one year postpartum.
4. Expand Home Visitation Programs (Health Start Program) to maternity care deserts
5. Increase the number of Medicaid and safety net providers that offer prenatal care services in high need primary care health professional shortage areas
6. Appropriate additional funding to the State Loan Repayment Program to provide new incentives (stipends) for primary care providers (Family Practice, OB-GYN) that offer prenatal care services in high need primary care health professional shortage area
7. Appropriate funds for the purchase and set up of telemedicine equipment for providing care to pregnant women

Goal 3: Support Workforce & Workforce Capacity

1. Identify equipment needs to address maternal emergencies in rural and remote areas
2. HRPP to facilitate discussions with the four large hospital systems; Abrazo, Banner, Dignity and Honor Health to create internal processes for triage and consultation for antepartum, intrapartum, and postpartum care.
3. Assist hospital systems in establishing internal processes for appropriately transporting of obstetrical patients to/from their associated facilities and emergency departments

Goal 4: Improve Surveillance of Maternal Deaths and Severe Maternal Morbidity

1. Develop a staffing plan and secure state and federal funds for the Maternal Mortality Review Program
2. Enhance data sharing and record completeness of maternal deaths
3. Execute SB 1040 Advisory Committee on Maternal Fatalities and Morbidities
4. Follow CDC guidelines for best practice to generate data-driven actionable recommendations for prevention on each maternal death

Goal 5: Support Systems of Care

1. Become a state that is part of the AIM initiative
2. Identify the appropriate AIM Maternity Safety Bundles
3. Establish surveillance and data sharing agreements for AIM implementation

METHODS

The Bureau of Women's and Children's Health, Arizona's Title V Maternal and Child Health Program, in partnership with the Arizona Perinatal Trust and the March of Dimes are leading Arizona's efforts to reduce maternal fatalities and morbidities through a collaborative process. A Maternal Health Taskforce was formed on October 30, 2018 and engaged over 36 stakeholders representing the state agencies, maternal health experts, healthcare systems, and organizations including the Governor's Office. The task

force identified the following priority strategies required to coordinate an effective approach to reducing severe maternal morbidity (SMM) and maternal mortality (MM); sustained partnership with the Alliance for Innovation on Maternal Health (AIM); engage providers and patients; secure funding; and expand the scope of data analysis with respect to racial disparities; and continuous communication with stakeholders. In addition stakeholders requested that more tribal partners be engaged in the conversation since the data suggests that American Indian/Native American women are disproportionately afflicted in Arizona. Thus on February 1, 2018 a second stakeholder meeting was convened with the support of the ADHS' Native American Liaison to discuss Tribal SMM and MM. In addition the Bureau hosted a facilitated stakeholder meeting to seek input and prioritization of the proposed tasks addressing maternal mortality found in this plan. The recommendations were developed after thorough review of literature and existing reports from federal and non-profit organizations.

DEFINITIONS

Maternal Mortality: Number of deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within one (1) year of termination of pregnancy, irrespective of the duration and site of the pregnancy, per 100,000 births.

Severe Maternal Morbidity (SMM): Severe Maternal Morbidity is part of a continuum from mild adverse effects to life-threatening events or death. SMM includes unexpected outcomes of labor and delivery that lead to significant short- or long-term consequences to a woman's health. Some of these unexpected pregnancy, delivery and postpartum complications are hemorrhage, organ failure and stroke. Suffering from SMM may result in an extended hospital stay, major surgery, other medical interventions or death. SMM does not only affect the health of the women as their fetuses/neonates may suffer adverse outcomes like low birth weight, premature birth or even death.

Arizona Alliance for Community Health Centers (AACHC): AACHC is the Primary Care Association (pca)for the State of Arizona. All states have one designated PCA to advance the expansion of the Health Center Program and advocate for the health care interests of the medically underserved and uninsured while improving access to affordable quality healthcare.

Arizona Coalition to End Sexual and Domestic Violence in Arizona (ACESDV): ACESDV works to increase public awareness about the issues of sexual and domestic violence; enhance the safety of and services for sexual and domestic violence victims and survivors; and sexual and domestic violence in Arizona communities.

Arizona Family Health Partnership (AFHP): Arizona Family Health Partnership is a private, not-for-profit organization dedicated to making reproductive healthcare and education available and accessible to all women, men and teens in Arizona, even if they lack health insurance or money.

Arizona Public Health Association (AZPHA): AZPHA is a membership organization that works to improve the level of health and well-being for all Arizonans through advocacy, professional development and networking.

Arizona Health Care Cost Containment System (AHCCCS) Arizona Health Care Cost Containment System (written as AHCCCS and pronounced 'access') is Arizona's Medicaid program. Medicaid is a federal

healthcare program jointly funded by the federal and state governments for individuals and families who may qualify for acute or long-term services.

Arizona Hospital and Healthcare Association (AZHHA): As the champion for healthcare leadership in Arizona, AzHHA and its member hospitals and healthcare partners explore ideas and take collaborative action at the state capitol, in healthcare settings, and at home to attain the best care and health outcomes for Arizonans.

The American College of Obstetricians and Gynecologists (ACOG): ACOG is a membership organization dedicated to the advancement of women's health care and the professional and socioeconomic interests of its members through continuing medical education, practice, research, and advocacy.

Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN): AWHONN is a nonprofit organization that empowers and supports nurses caring for women, newborns, and their families through research, education, and advocacy.

The Alliance for Innovation on Maternal Health (AIM): AIM is funded through the federal Maternal and Child Health Bureau at the Human Resources and Services Administration and is a national alliance to promote consistent and safe maternity care to reduce maternal mortality and severe maternal morbidity. The purpose of the AIM program is to equip, empower and embolden every state, perinatal quality collaborative, hospital network/system, birth facility and maternity care provider in the U.S to significantly reduce severe maternal morbidity and maternal mortality through proven implementation of consistent maternity care practices that are outlined in maternal safety bundles (action systems),

Arizona Perinatal Trust (APT): APT is a 501(c) (3) nonprofit, was established in September 1980. The Trust is dedicated to improving the health of Arizona's mothers and babies, and is governed by a volunteer Board of Trustees and Board of Directors. Arizona Perinatal Trust (APT) has three main components; certification, perinatal education, and perinatal data analysis, which together form the core of their work.

Arizona Maternal Mortality Review Program (MMRP): The Arizona Maternal Mortality Review Program has supported the reviews of all maternal deaths within the State since the program's inception in 2012. The MMRP provides the administrative, epidemiological, and logistical support to the Arizona Maternal Mortality Review Committee.

Arizona Maternal Mortality Review Committee (MMRC): The Arizona Maternal Mortality Review Committee is multidisciplinary team that includes clinicians from urban and rural health centers, public health professionals and community service providers that meet monthly to review maternal deaths in order to identify preventative factors and provide actionable recommendations for level specific changes. The review committee classifies maternal deaths into one of the four following categories: pregnancy related death, pregnancy associated death, not pregnancy related or associated, and unable to determine. The committee identifies the preventability of each maternal death.

Community Health Worker (CHW): A community health worker are members of a community who are chosen by community members or organizations to provide basic health and medical care to their community capable of providing preventive, promotional and rehabilitation care to these communities.

Review to Action: Review to Action is a resource developed by the Association of Maternal and Child Health Programs (AMCHP) in partnership with the CDC Foundation and the CDC Division of Reproductive Health. Review to Action is a product of a larger initiative entitled, Building U.S. Capacity to Review and Prevent Maternal Deaths led by the CDC Foundation that also includes the Maternal Mortality Review Information Application, or MMRIA. The objectives of Review to Action include: assist states without a MMRC in gathering resources, tools, and support to build political and social will to establish a review committee; connect states with a MMRC to their peers to share forms, processes, procedures, and strategies to build capacity to conduct reviews and translate findings into action; raise awareness of the critical role maternal mortality review committees play in eliminating preventable maternal deaths and promoting the health and wellness of expecting and new mothers.

Health Current: Health Current is the health information exchange (HIE) that helps partners transform care by bringing together communities and information across Arizona.

Health System Alliance of Arizona (HSAA): HSAA is an advocacy organization that represents the interests of large, integrated health systems across Arizona.

Health Start Program (HSP): The Health Start Program utilizes community health workers to provide education, support, and advocacy services to pregnant/postpartum women and their families in targeted communities across the state.

High Risk Perinatal Program (HRPP): The High Risk Perinatal Program (HRPP) is a comprehensive, statewide system of services dedicated to reducing maternal and infant mortality (deaths) and morbidity (abnormalities that may impact a child's growth and development). The program provides a safety net for Arizona families, to ensure the most appropriate level of care surrounding birth as well as early identification and support for the child's developmental needs.

Indian Health Service (IHS): is an operating division within the U.S. Department of Health and Human Services. IHS is responsible for providing direct medical and public health services to members of federally-recognized Native American Tribes and Alaska Native people.

Tribal 638 Healthcare Facility (638s): Tribal Contract or Compact Health Centers (also called a 638 contract or compact) are operated by Tribes or Tribal organizations and Urban Indian Health Centers are outpatient health care programs and facilities that specialize in caring for American Indians and Alaska natives. They are operated under the Indian Self-Determination Act.

March of Dimes (MoD): MoD is a United States nonprofit organization that works to improve the health of mothers and babies

Maternal-Fetal Medicine Subspecialist (MFM): A maternal-fetal medicine (MFM) subspecialist is an ObGyn physician who has completed an additional two to three years of education and training. MFM subspecialists are high-risk pregnancy experts. For pregnant women with chronic health problems, MFM subspecialists work to keep the woman as healthy as possible while her body changes and her baby grow. MFM subspecialists also care for women who face unexpected problems that develop during pregnancy, such as early labor, bleeding, or high blood pressure.

Sources:

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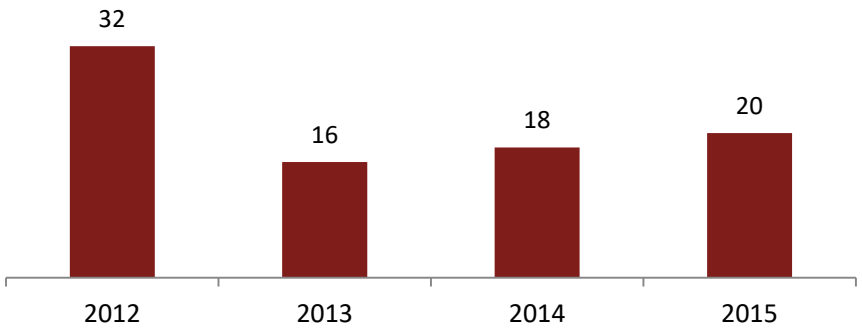
Maternal Mortality

ADHS Response

Goal	2-year	5-year
Reduce the overall maternal mortality rate (Base: 25.1 per 100,000 live births)	5% (24.9)	10% (22.6)

Maternal Mortality Rate (2012-2015):
25.1 per 100,000 live births

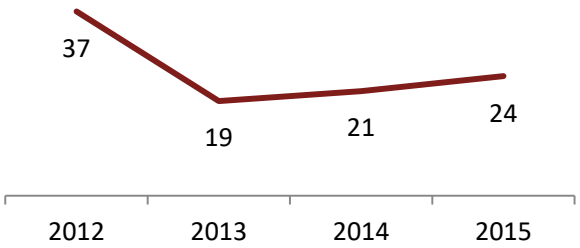
Maternal Deaths



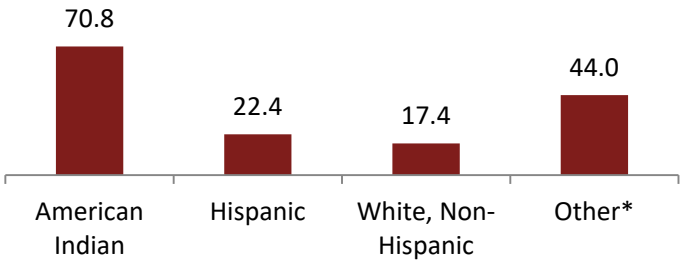
Activity Updates:

- Strengthened the Maternal Mortality Review Program
- Published a report on 2012-2015 maternal deaths
- Established a statewide Maternal Health Taskforce
- Established the advisory committee on maternal fatalities and morbidity (SB 1040)
- Applied for participation in the Alliance for Innovation on Maternal Health (AIM)
- Secured an appropriation of $1M for distribution to rural hospitals located in health professional shortage areas for the purchase of prenatal care telemedicine equipment.

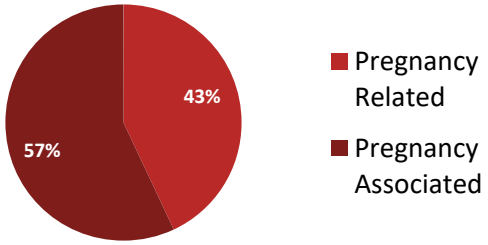
Maternal Death Rate per 100,000 Live Births



Maternal Mortality Rates per 100,000 Live Births by Race/Ethnicity (2012-2015)



Maternal Death Type (2012-2015)



Recommendations

Goals	Recommendations	Performance Measures
GOAL 1	Increase pregnant and postpartum women's awareness on postpartum warning signs 1. Identify and promote an education program on postpartum warning signs	• By June 30, 2020, complete 100% of the action items in the recommendation brief. • By June 30, 2020, assess the percentage of women that receive a postpartum checkup
GOAL 2	Improve the access to care for pregnant and postpartum women in Arizona 1. Expand use of case management, care coordination, and home visitation 2. Explore Medicaid eligibility feasibility to allow presumptive eligibility for pregnant women to increase early prenatal care access 3. Explore Medicaid eligibility feasibility for pregnant women from 60 days to 1 year postpartum 4. Expand Health Start Program/Home Visitation 5. Support high risk mothers throughout pregnancy 6. Strengthen prenatal care services in high need primary care health shortage areas 7. Increase promotion of State Loan Repayment Program 8. Enhance telemedicine systems	• By June 30, 2020, complete 100% of the action items in the Issue Action Plan • By June 30, 2020, asses prenatal care utilization, entry into prenatal care, and postpartum visit attendance.
GOAL 3	Support workforce and workforce capacity that serve pregnant and postpartum women in Arizona 1. Identify equipment needs for hospitals and freestanding centers 2. Create internal processes for triage and consultation 3. Update High Risk Perinatal Program (HRPP) Policies and Procedures	• By June 30, 2020, complete 100% of the action items in the recommendation brief.
GOAL 4	Improve surveillance of maternal mortalities and morbidities 1. Enhance funding and staffing of Maternal Mortality Review Program 2. Implement CDC Guidelines for best practice for MMRP 3. Convene Advisory Committee on Maternal Fatalities and Morbidities and submit Recommendation Report 4. Improve data sharing and record completeness	• By June 30, 2020, complete 100% of the action items in the recommendation brief. • By May 30, 2020, conduct routine surveillance on maternal mortality and severe morbidity
GOAL 5	Support the systems of care that serve pregnant and postpartum women in Arizona 1. Establish Alliance for Innovation on Maternal Health (AIM) Initiative 2. Select AIM Maternity Safety Bundles 3. Implement AIM surveillance and data sharing	• By June 30, 2020, complete 100% of the action items in the recommendation brief. • By June 30, 2020 become an established AIM state

RECOMMENDATION BRIEF: INCREASE AWARENESS

Recommendation:
Increase pregnant and postpartum women's awareness on postpartum warning signs

Background & Gap:
All women who give birth are at risk of experiencing life-threatening conditions prior, during, or after birth. Education and information on postpartum warning signs and when to seek care is limited for pregnant and postpartum women. Language barriers exist for some pregnant and postpartum women and the healthcare systems and providers that provide care to these women. In addition, there is a lack of awareness among providers, healthcare systems, patients, and the public on ways to avoid a maternal death.

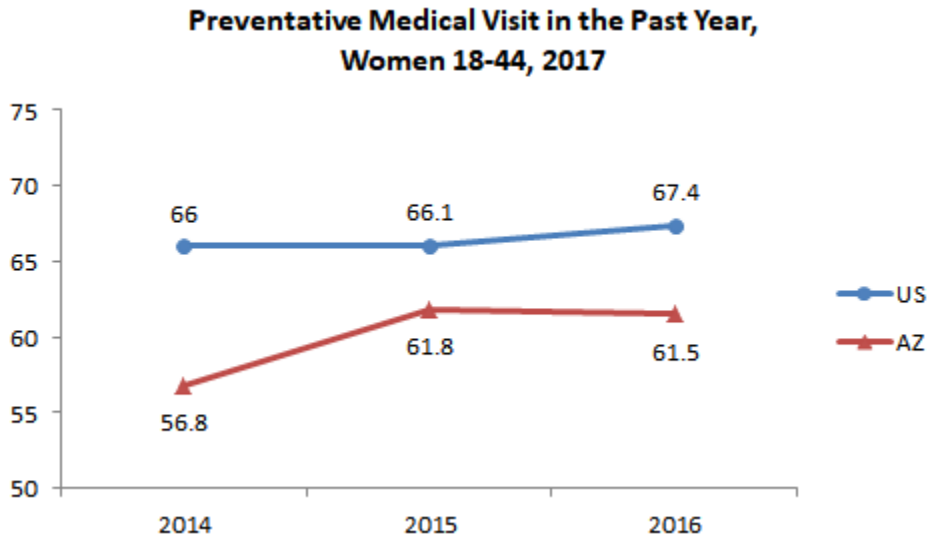
A gap in data on current provider practices, as well as availability of educational resources for prenatal and postpartum women regarding warning signs and when to seek care widens the gap. Implementation of the Pregnancy Risk Assessment Monitoring System (PRAMS) in 2017 helps to address this gap, with questions regarding prenatal and postpartum education from provider or other healthcare workers, and women's knowledge on a variety of health and safety topics. The first year's data is estimated to be available by late 2019.

Trends & Services in Arizona:
In 2017, only 1 out of 5 Arizona women of reproductive age (18-45 years) with no prior pregnancy report receiving advice from a doctor, nurse, or healthcare worker about ways to prepare for a healthy pregnancy.

In addition, only 61.5% of Arizona women of reproductive age (18-44 years) report having a preventive medical visit in the past year. This was lower than the national rate of 67.4% of women 18-44 years [graph below].

The purpose of these visits is to detect health concerns and focus on preventive care for women which may include services that improve health by preventing diseases and other health problems; screenings to check for diseases early when they may be easier to treat; and education and counseling on important health decisions including pregnancy.

RECOMMENDATION BRIEF: INCREASE AWARENESS



Action Plan/Timeline:

- **Identify and Promote an Education Program on Postpartum Warning Signs**
  - By October 31, 2019, create an inventory of educational resources that are available
  - By November 30, 2019, select an education program that can be implemented in multiple sites for piloting
  - By January 31, 2020, pilot the education program

Partner Agencies/Organizations:

- March of Dimes (MOD)
- Arizona Family Health Partnership (AFHP)
- Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN)
- Arizona Alliance for Community Health Centers (AACHC)

Funding & Source:

Metrics:

1. By June 30, 2020, complete 100% of the action items in the increasing awareness recommendation brief.
2. By June 30, 2020, assess the percentage of women that receive a postpartum checkup.

Data Source:
Behavioral Risk Factor Surveillance System (BRFSS), 2016 and 2017

RECOMMENDATION BRIEF: ACCESS TO CARE

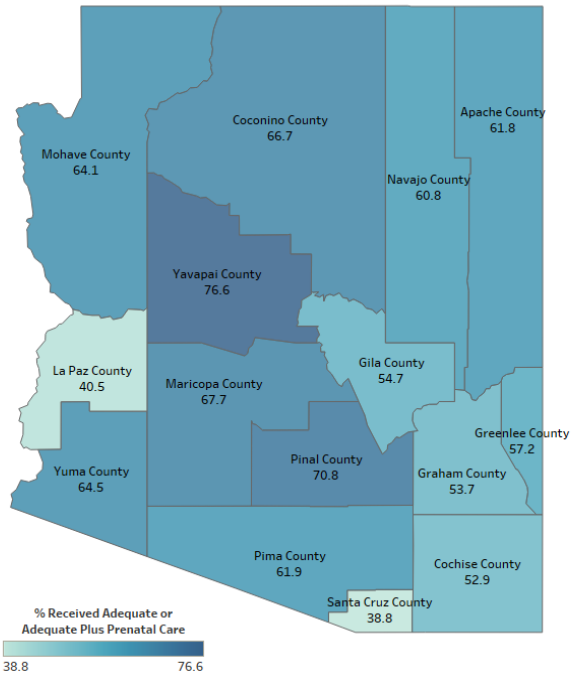
Recommendation:
Improve the access to care for pregnant and postpartum women in Arizona

Background & Gap:
Arizona has 187 primary care health professional shortage areas, with rural and remote areas of the state lacking adequate prenatal care service and staffing. There is a limited care coordination, case management, and home visiting services available for pregnant and postpartum women. Lack of health insurance coverage for postpartum women is another challenge and possible contributor to maternal mortality, specifically among Medicaid clients. Currently Arizona's Medicaid or the Children's Health Insurance Program (CHIP) coverage for pregnant women does not include presumptive eligibility to initiate prenatal care early and coverage is limited to only 60 days postpartum for those with pregnancy-related Medicaid coverage. There is also a lack of insurance reimbursement for Community Health Workers who can provide basic health information and preventive care to communities in need.

Trends & Services in Arizona:
In 2015-2018, 68.4% of Arizona resident births began prenatal care in the first trimester of pregnancy. Among American Indian women, 58.8% began prenatal care in the first trimester, followed by 62.2% of Black women, and 63.7% of Hispanic women, compared to 74.5% of White, non-Hispanic women.

Using a measure of prenatal care adequacy, which accounts for both time of entry into prenatal care and number of prenatal care visits, 66.1% of Arizona resident births had adequate prenatal care or more. Additionally, 7.6% of Arizona resident births had no prenatal care. Adequacy of prenatal care was lowest for younger women, American Indian women, Black women, Hispanic women, less educated women, and births paid by IHS, AHCCCS, or self-pay.

Adequacy of Prenatal Care by County, Arizona Residents, 2015-2018



Action Plan/Timeline:

- **Expand Use of Case Management, Care Coordination, and Home Visitation**
  - By June 30, 2020, expand the eligibility of pregnant and postpartum women to participate in existing case management, care coordination, and home visitation programs
  - By June 30, 2020, promote existing services to pregnant and postpartum women

RECOMMENDATION BRIEF: ACCESS TO CARE

- **Update Medicaid eligibility requirements to allow presumptive eligibility for pregnant women to increase early prenatal care access**
    - By April 30, 2020, conduct a needs assessment around access and utility of prenatal care.
    - By June 30, 2020, conduct a feasibility study to explore presumptive Medicaid eligibility for pregnant women.
- **Expand Medicaid coverage/eligibility for pregnant women from 60 days to 1 year postpartum.**
    - By April 30, 2020, conduct a needs assessment around access and utility of prenatal care and postpartum care.
    - By June 30, 2020, conduct a feasibility study to explore Medicaid coverage expansion from 60 days to 1 year postpartum.
- **Expand Health Start Program/Home Visitation**
    - By June 30, 2020, allocate additional funds to the Health Start program for expansion into maternity care deserts and other areas of limited access to maternal care
- **Support High Risk Mothers Throughout Pregnancy**
    - By January 30, 2020, investigate the benefits of HRPP nurses visiting high risk mothers prior to birth on recommendation of MFMs
    - By June 30, 2020, identify funds for implementation of HRPP nurses visiting high risk mothers prior to birth on recommendation of MFMs
- **Prenatal Care Services in High Need Primary Care Health Shortage Areas**
    - By June 30, 2020, work with insurance plans/payers to expand coverage to high need primary care areas, and for additional prenatal care services
    - By June 30, 2020, work with insurance plans/payers currently in the area to strengthen current plans/models for coverage of prenatal care services
- **State Loan Repayment Program**
    - By September 30, 2019, increase promotion of the state loan repayment program for prenatal care providers in rural and high need primary care health professional shortage areas
    - By May 31, 2020, identify and support initiatives that increase program funding
    - By June 30, 2020, distribute 100% of funds for state loan repayment
- **Telemedicine Systems**
    - By August 31, 2019, release a request for proposals (RFP) to identify recipients of monies for the purchase of sonogram and telemedicine equipment for providing care to pregnant women.
    - By October 31, 2019, Identify recipients for state rural telemedicine funding opportunity
    - By November 30, 2019, distribute 100% of funds to awarded recipients for purchase of telemedicine equipment

Agencies and Organizations Impacted:

- Arizona Health Care Cost Containment System (AHCCCS)
- Arizona Public Health Association (AZPHA)

- Arizona Alliance for Community Health Centers (AACHC)
- Arizona Coalition to End Sexual & Domestic Violence (ACESDV)
- American College of Obstetricians and Gynecologists (ACOG)
- Arizona Hospital and Healthcare Association (AZHHA)
- Health System Alliance of Arizona (HSAA)

Funding & Source:

Metrics:

1. By June 30, 2020, complete 100% of the action items in the access to care recommendation brief.
2. By June 30, 2020, asses prenatal care utilization, entry into prenatal care, and postpartum visit attendance.

Data Sources:
Arizona Vital Statistics, 2015-2018

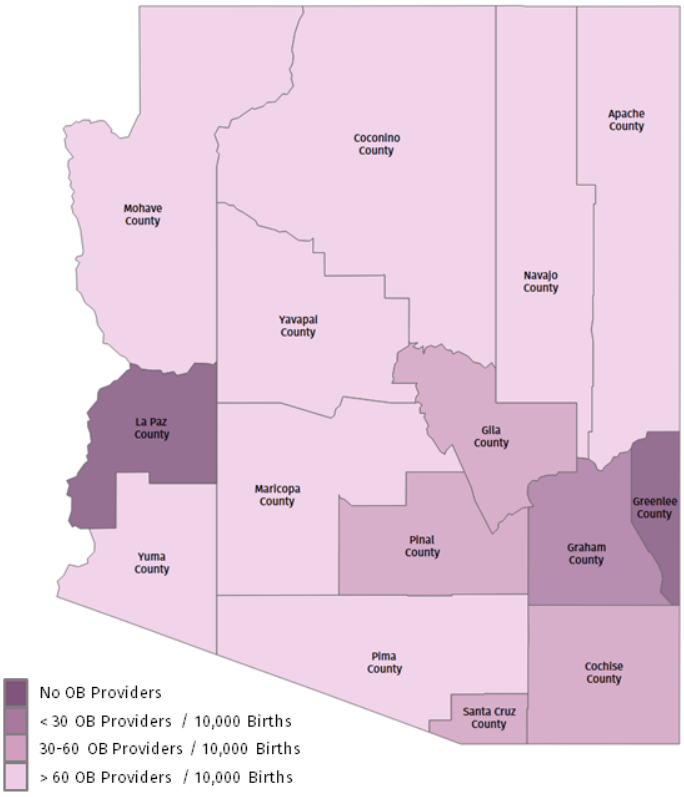
RECOMMENDATION BRIEF: SUPPORT WORKFORCE CAPACITY

Recommendation:
Support workforce capacity to better serve pregnant and postpartum women in Arizona

Background & Gap:
There is a lack of equipment and skills to use equipment. There is a need to increase the knowledge of emergency department clinicians to deal with issues of antepartum, intrapartum and postpartum women. Additionally, the current High Risk Perinatal Program (HRPP) Consultation and Transport Line does not include transfer centers, hospitals without obstetric services, and free-standing EDs.

Trends & Services in Arizona:
Availability of obstetric providers, which can include obstetrician/gynecologists (OB/GYN), certified nurse midwives (CNM), and family physicians, varies greatly across Arizona. According to an analysis conducted by the March of Dimes of 2016 birth data, nearly half (7 of 15) of Arizona's counties had less than 60 obstetric providers per 10,000 births. Additionally, both La Paz County and Greenlee County lacked any obstetric providers.[1]

Obstetric Provider Availability, 2016



Action Plan/Timeline:

- **Equipment Needs**
  - By October 30, 2019, create an inventory list of necessary equipment for hospitals, freestanding birth centers, and trauma centers

  - By November 30, 2019, distribute Necessary Equipment List to hospitals, freestanding birth centers and trauma centers to complete an inventory and needs request
  - By February 28, 2020, create a needs assessment from the compiled data
- **Create Internal Processes for Triage and Consultation**
  - By October 31, 2019, create a standardized assessment tool to be used for maternal triage in facilities without obstetric services
  - By November 30, 2019, align maternal and neonatal transport coordination with APT required risk assessment policy
  - By December 31, 2019, HRPP Consult Workgroup to create an algorithm/workflow to support all facilities that do not have obstetric services
  - By March 31, 2020, investigate the possibility to incorporate a telemedicine program into the HRPP consultation line
- **High Risk Perinatal Program (HRPP) Policy and Procedure**
  - By December 31, 2019, update policy to require hospitals and systems have algorithms/workflows for triage, consultation, and transport
  - By December 31, 2019, update policy to include obstetricians in determination of transport qualification

Partner Agencies/Organizations:

- Arizona Perinatal Trust (APT)
- Arizona Hospital and Healthcare Association (AzHHA)
- Health System Alliance of Arizona (HSAA)
- Tribal 638 facilities
- Indian Health Services (IHS)

Funding & Source:

Metrics:

1. By June 30, 2020, complete 100% of the action items in the support workforce capacity recommendation brief.

Reference:

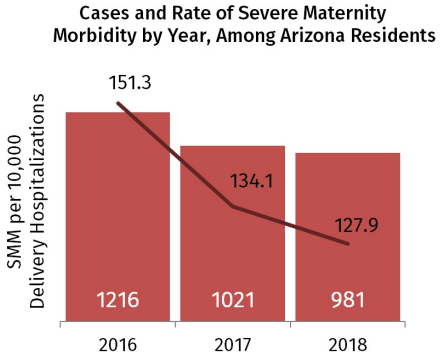
1. March of Dimes Perinatal Data Center. *Nowhere to Go: Maternity Care Deserts Across the U.S.*; 2018. https://www.marchofdimes.org/materials/Nowhere_to_Go_Final.pdf.

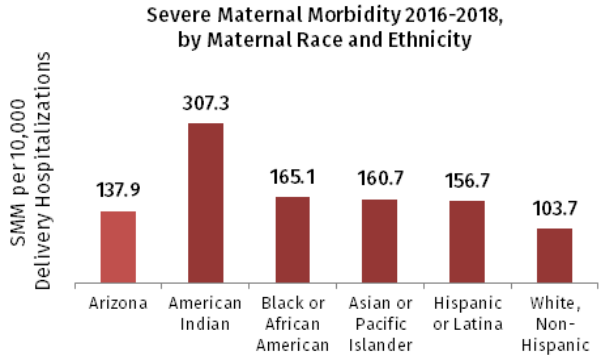
RECOMMENDATION BRIEF: IMPROVE SURVEILLANCE

Recommendation:
Improve surveillance of maternal mortalities and morbidities

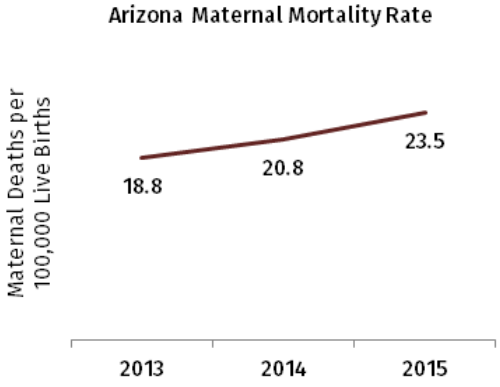
Background & Gap:
The Maternal Mortality Review Program (MMRP) has limited financial resources and is not adequately staffed. Information received for maternal death reviews is limited or incomplete especially for indigenous women. In addition non-medical records (crime, child safety, as such) are not received and inhibit the review process' ability for actionable recommendations for prevention. Lastly implementation of gold-standard practices to maternal death reviews has been delayed and inconsistent in the past.

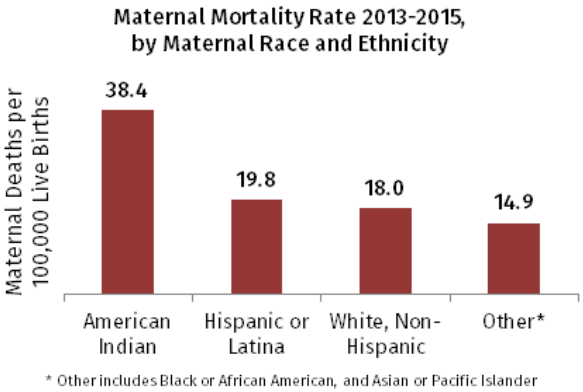
Trends & Services in Arizona:
The rate of severe maternal morbidity (SMM) among Arizona residents for 2016-2018 was 137.9 cases per 10,000 delivery hospitalizations. American Indian women experienced nearly twice as many SMM cases as any other race and ethnicity, with a SMM rate of 307.3, and all women of color had higher SMM rates than non-Hispanic White women (103.7).





In the most recent years maternal mortality information is available, the overall maternal mortality rate (MMR) in 2013-2015 was 21.0 deaths per 100,000 live births. Similar to SMM, American Indian women experienced higher proportions of maternal deaths, with a MMR of 38.4 compared to 19.8 for Hispanic or Latina and 18.0 for non-Hispanic White.





Action Plan/Timeline:

- **Funding and Staffing Plan**

  - By August 31, 2019, assess staffing needs for MMRP
  - By September 30, 2019, explore funding opportunities to fully support the MMRP
- **CDC Guidelines for Best Practice**
  - By October 31, 2019, request technical assistance from the CDC regarding best practices for maternal death reviews
  - By November 30, 2019, follow the CDC's Review to Action template to develop actionable case-specific recommendations
- **Advisory Committee on Maternal Fatalities and Morbidities (SB 1040)**
  - By July 31, 2019, appointment of Advisory Committee Members
  - By August 31, 2019, kick-off meeting Advisory Committee Members
  - By September 30, 2019, MMRC observation period begins for the Advisory Committee
  - By October 31, 2019, outline a recommendations draft
  - By November 30, 2019, present recommendations at public meeting
  - By November 30, 2019, finalize recommendations report that provides background, approach, and findings and incorporates the public's input
  - By December 31, 2019, submit Recommendations Report to the Department of Health Services; the Health and Human Services Committees of the House of Representatives and the Senate
- **Data Sharing and Record Completeness**
  - By October 31, 2019, create an internal workgroup to draft MOUs
  - By April 30,2020, execute MOUs with identified agencies to facilitate the thorough review of maternal deaths
  - By May 31, 2020, provide technical assistance on possible Maternal Death Reporting Requirement for birthing facilities via the APT
  - By May 31,2020, establish an internal protocol to enforce response time limit of records request

Partner Agencies/Organizations:

- Arizona Perinatal Trust (APT)
- Health Information Exchange (HIE)
- Arizona Health Care Cost Containment System (AHCCCS)
- Arizona Department of Economic Security (DES)
- County Medical Examiners (CME)
- Native American Tribal Governments (NATG)
- Maternal Mortality Review Committee (MMRC)

Funding & Source:

Metrics:

1. By June 30, 2020, complete 100% of the action items in the improve surveillance recommendation brief.
2. By May 30, 2020, conduct routine surveillance on maternal mortality and severe morbidity.

Data Sources:
Arizona Hospital Discharge Database, 2016-2018
Arizona Vital Records, 2012-2015
The Arizona Maternal Mortality Review Program, 2012-2015

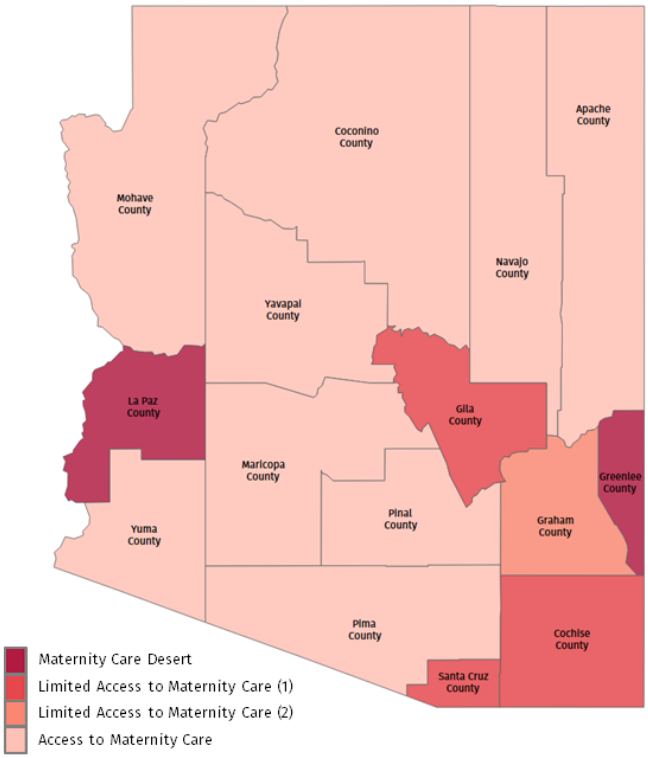
RECOMMENDATION BRIEF: SUPPORT SYSTEMS OF CARE

Recommendation:
Support the systems of care that serve pregnant and postpartum women in Arizona

Background & Gap:
Arizona is not consistently taking advantage of national technical assistance available to conduct quality improvement initiatives that improve maternity care practices. Arizona does not have a statewide maternal care collaborative focused on Continuous Quality Improvement (CQI) and continuum of care. Current Maternal Mortality Review Committee (MMRC) recommendations to prevent death have limited potential to make significant changes.

Trends & Services in Arizona:
The increasing spread of maternity care deserts is suspected to contribute to the rise of maternal mortality. A maternity care desert refers to a geographic area where there is no availability of hospitals offering obstetric care; where women have limited to no access to health insurance; and with limited to no availability of obstetric care providers.[1] Arizona has two counties that are considered maternity care deserts, La Paz and Greenlee counties while Gila, Cochise, Santa Cruz, and Graham counties are considered areas with 'limited access to maternity care'(LAMC). These LAMC areas have less than 2 hospitals with obstetric care services and less than 60 obstetric providers per 10,000 births; they are further grouped into level 1 or level 2 based on the proportion of women are uninsured: 10% or more uninsured is level 1 while less than 10% uninsured is level 2.[1]

Maternity Care Deserts and Areas of Limited Access to Maternity Care, 2016



Action Plan/Timeline:

- **Statewide Adoption of Alliance for Innovation on Maternal Health (AIM) Initiative**
  - By July 31, 2019, complete and submit application for Arizona to participate in ACOG Alliance for Innovation in Maternal Health (AIM) Initiative
  - By December 31, 2019, establish an AIM Coordinating Body
- **AIM Maternity Safety Bundles**
  - By December 31,2019, learn about the AIM-supported Patient Safety Bundles and Tools that address Arizona's needs
  - By December 31, 2019, review the latest data on maternal mortality and severe maternal morbidity in Arizona
  - By February 28, 2020, select the AIM bundles to be implemented
- **AIM Surveillance and Data Sharing**
  - By February 28, 2020, create benchmarks for health care progress through AIM Data Center
  - By May 31, 2020, establish a real-time data (AIM dashboard) tracking system

Partner Agencies/Organizations:

- Alliance for Innovation on Maternal Health (AIM)
- American College of Obstetricians and Gynecologists (ACOG)
- Arizona Perinatal Trust (APT)
- March of Dimes (MoD)
- Arizona Hospital and Healthcare Association (AHHA)
- Health System Alliance of Arizona (HSAA)
- Tribal 638 Healthcare Facilities

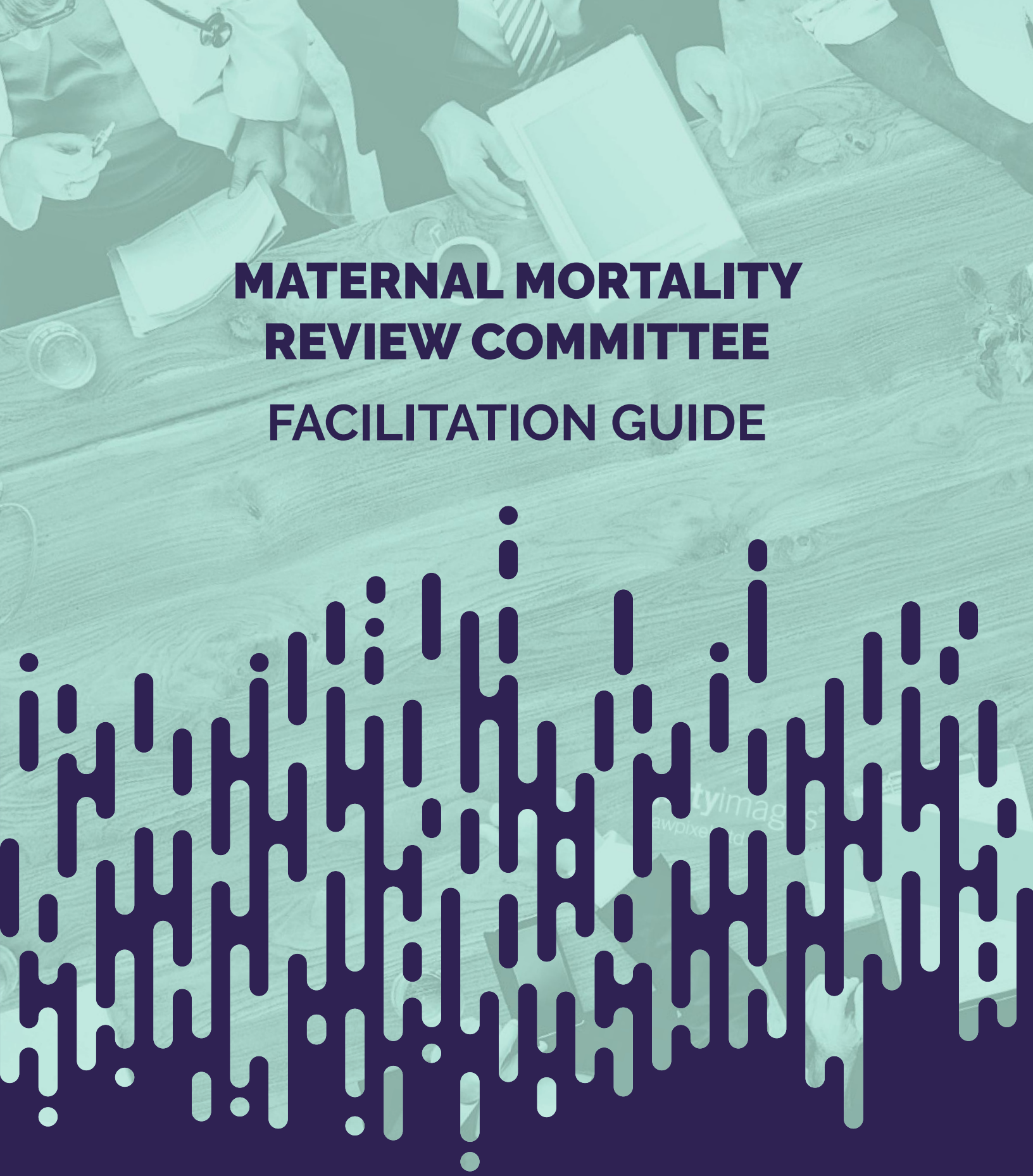
Funding & Source:

Metrics:

1. By June 30, 2020, complete 100% of the action items in the support systems of care recommendation brief.
2. By June 30, 2020, Arizona will become an established 'AIM' state.

Source:

1. March of Dimes Perinatal Data Center. *Nowhere to Go: Maternity Care Deserts Across the U.S.*; 2018. https://www.marchofdimes.org/materials/Nowhere_to_Go_Final.pdf.



MATERNAL MORTALITY REVIEW COMMITTEE

FACILITATION GUIDE

MMRIA
MATERNAL MORTALITY REVIEW INFORMATION APP

BUILDING U.S. CAPACITY TO REVIEW AND PREVENT MATERNAL DEATHS

REVIEW to ACTION
WORKING TOGETHER TO PREVENT MATERNAL MORTALITY

CONTENTS

ACKNOWLEDGEMENTS

This project was supported by funding from Merck, through an award agreement with its Merck for Mothers program.

We would like to thank the following groups for their integral role in conducting maternal mortality review; for providing guidance and sharing success stories: the Colorado Maternal Mortality Review Committee, Delaware Maternal Mortality Review, Florida Pregnancy-Associated Mortality Review, Georgia Maternal Mortality Review Committee, Louisiana Pregnancy-Associated Mortality Review, Maryland Maternal Mortality Review Committee, Massachusetts Maternal Mortality & Morbidity Review Committee, Michigan Maternal Mortality Surveillance Committee, New Jersey Maternal Mortality Review Team, Ohio Pregnancy-Associated Mortality Review, and the Wisconsin Maternal Mortality Review Team.

We would like to acknowledge the consulting staff, and CDC staff who significantly contributed to the content:

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DIVISION OF REPRODUCTIVE HEALTH

NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION

CENTERS FOR DISEASE CONTROL AND PREVENTION

Danielle Noell, ARNP, NNP-BC, MSN

ABSTRACTOR/TRAINER

FETAL, INFANT, AND MATERNAL MORTALITY REVIEW

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DIVISION OF REPRODUCTIVE HEALTH

NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION

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CENTERS FOR DISEASE CONTROL AND PREVENTION

Banyan Communications

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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.[2]

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 protections[3] 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 confidentiality[4], anonymity, and objectivity.

1. For examples of committee successes, see Appendix I: Maternal Mortality Review Success Stories.
2. See Appendix A for a Maternal Mortality Review Committee Logic Model to guide processes and outcomes.
3. Adequate protections include authority to access data sources, protection of collected data, and immunity for committee members from subpoena. See Appendix B for an Authorities and Protections Checklist.
4. 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.

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

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

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.

- Prioritize cases to be abstracted and reviewed based upon your scope, mission, vision, and goals.[5]
- Periodically review your committee's priorities to make sure they are still relevant and applicable.

3. Review Your Membership

Committees should be comprised of individuals representing multiple disciplines and organizations that can promote understanding of both the medical and non-medical contributors to maternal deaths and help move recommendations to action.[6]

Chairs must be inclusive of all members and mindful of the multiple disciplines that can offer valuable perspective on a case. Building the trust of individual members is essential to a functional committee dynamic.[7] Adding new voices is an important growth opportunity for the committee and for the chair. As facilitator the chair must be mindful of each member's individual contribution to the whole.

Maternal Mortality Review Committees consider both medical and non-medical contributors to deaths.

5. For a well-developed example of MMRC Scope, Mission, Vision, and Goals, see Appendix C: Sample Scope, Mission, Vision, Goals and Meeting Structure.
6. See Appendix D: Potential Maternal Mortality Review Committee Members.
7. For more information refer to the Facilitating the Decision Making Process section. See also Appendix H: Notes on Facilitative Group Leadership.

4. Review Your Case Identification Process[8]

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 offers 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 relation 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),[9] 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, 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.

5. 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).[10, 11]

8. For an example of case identification and data flows, see Appendix J: Sample Case Identification Process.
9. MMRC may designate a subcommittee to preliminarily classify cases to be sent for abstraction.
10. 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.
11. For this form, see Appendix F: Maternal Mortality Review Committee Decisions Form.

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.
- 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.

6. 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[12]
- 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[13]

Facilitation is a unique skill. It requires effective management of committee dynamics, including a sense of how the group members interact as individuals and as a whole. The facilitator must be an effective communicator, an active listener (paraphrases, summarizes, reflects) who inquires and seeks clarification in a non-critical manner, and encourages authenticity and maintains trust in the group.

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, abstractor(s),[14] 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. An Abstraction and Case Review Time Cost Estimator is available to assist committees in budgeting for abstraction and planning for the number and length of committee meetings necessary. [i] 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.

Succession planning for leadership is a must – often when a key person to the review retires or leaves, the program ends.

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 in addition to executing their other job duties.

12. See Appendix G or a committee meeting agenda template.
13. For more tips on facilitating a committee, see Appendix H: Notes on Facilitative Group Leadership.
14. See Appendix E: Considerations for Hiring Abstractors

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[15]

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 process has its 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 an inefficient use of committee time. A majority vote can be a more efficient approach to decision-making, but minority voices can be lost. Members who feel their voices are never heard may disengage from the committee. A committee may decide that some decisions are made by consensus, while others are by majority vote.

15. The Maternal Mortality Review Committee Decisions Form found in Appendix F, serves 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) underlying cause of death listing 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 to 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.

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	☐ PROBABLY	☐ NO	☐ UNKNOWN
WAS THIS DEATH A **HOMICIDE**?	☐ YES	☐ PROBABLY	☐ NO	☐ UNKNOWN

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 ☐ NOT APPLICABLE
IF HOMICIDE, WHAT WAS THE **RELATIONSHIP OF THE PERPETRATOR TO THE DECEDENT**?	☐ NO RELATIONSHIP ☐ PARTNER ☐ EX-PARTNER ☐ OTHER RELATIVE	☐ OTHER ACQUAINTANCE ☐ OTHER, SPECIFY:	☐ UNKNOWN ☐ NOT APPLICABLE

Preventability and Chances to Alter Outcome[16]

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

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, provider, facility, system and/or community factors.	WAS THIS DEATH **PREVENTABLE**?	☐ YES	☐ NO
	CHANCE TO ALTER OUTCOME?	☐ GOOD CHANCE ☐ NO CHANCE	☐ SOME CHANCE ☐ UNABLE TO DETERMINE

Some committees choose to only answer one question or the other. Each has its 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 most preventable, there is a range of opportunity for prevention. Used together, these decisions help committees to identify the best opportunities for recommended action.

16. The committee may not be ready to label a case pregnancy-related or preventable when they reach these components on the Committee Decisions Form. 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.

Contributing 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 Contributing Factors list on the *Committee Decisions Form*, identify all factors that the committee determines contributed to the death.
- Align each Contributing Factor with a corresponding Factor Level. You may provide a description explaining the contributing factor and factor level to document more specifically the contributing factor, and how it reflects the specific recommendations when you develop a report and translate your findings to action.

Maintaining member engagement is facilitated by using the data for improvements; tangible evidence of the work of the review may be discussed, disseminated, and used to develop interventions.

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 contributing 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

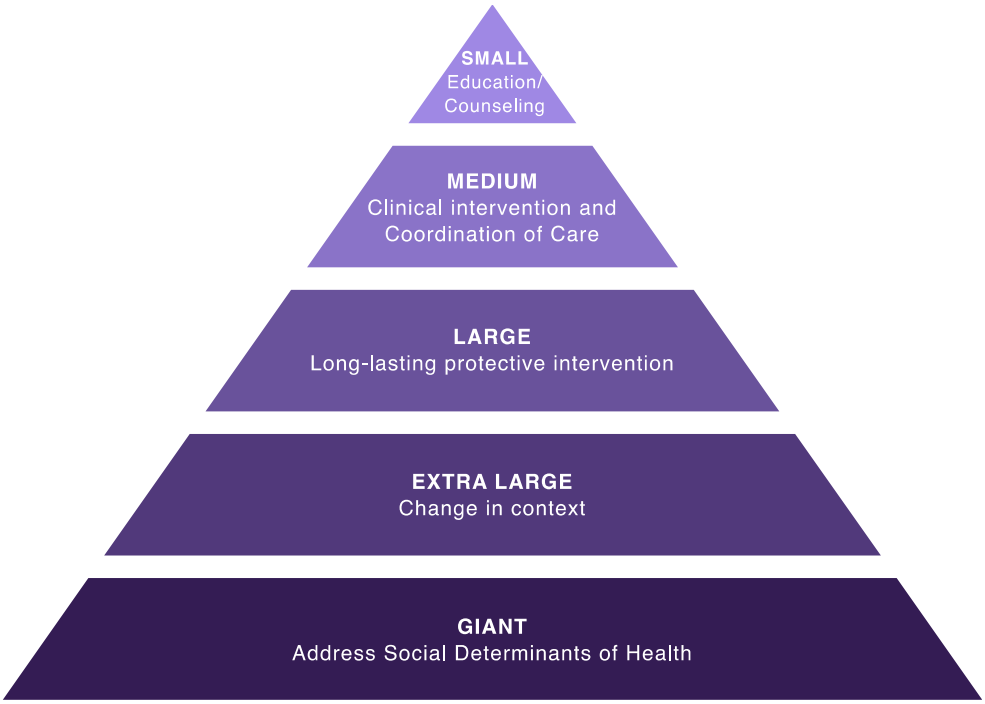
For each recommendation that your committee makes, determine the level of prevention that is achieved if implemented. Like preventability decisions, this decision helps support prioritization of recommendations by the committee to then translate into action:

- **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.[17] Use the following as a guide, which was adapted from CDC Director Tom Frieden's Health Impact Pyramid:[ii]



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 to reduce maternal mortality would include interventions at multiple levels of the pyramid. Some examples of recommended interventions at each level:

17. 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).

- **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

7. Conclude by Providing a Recap of Cases Reviewed

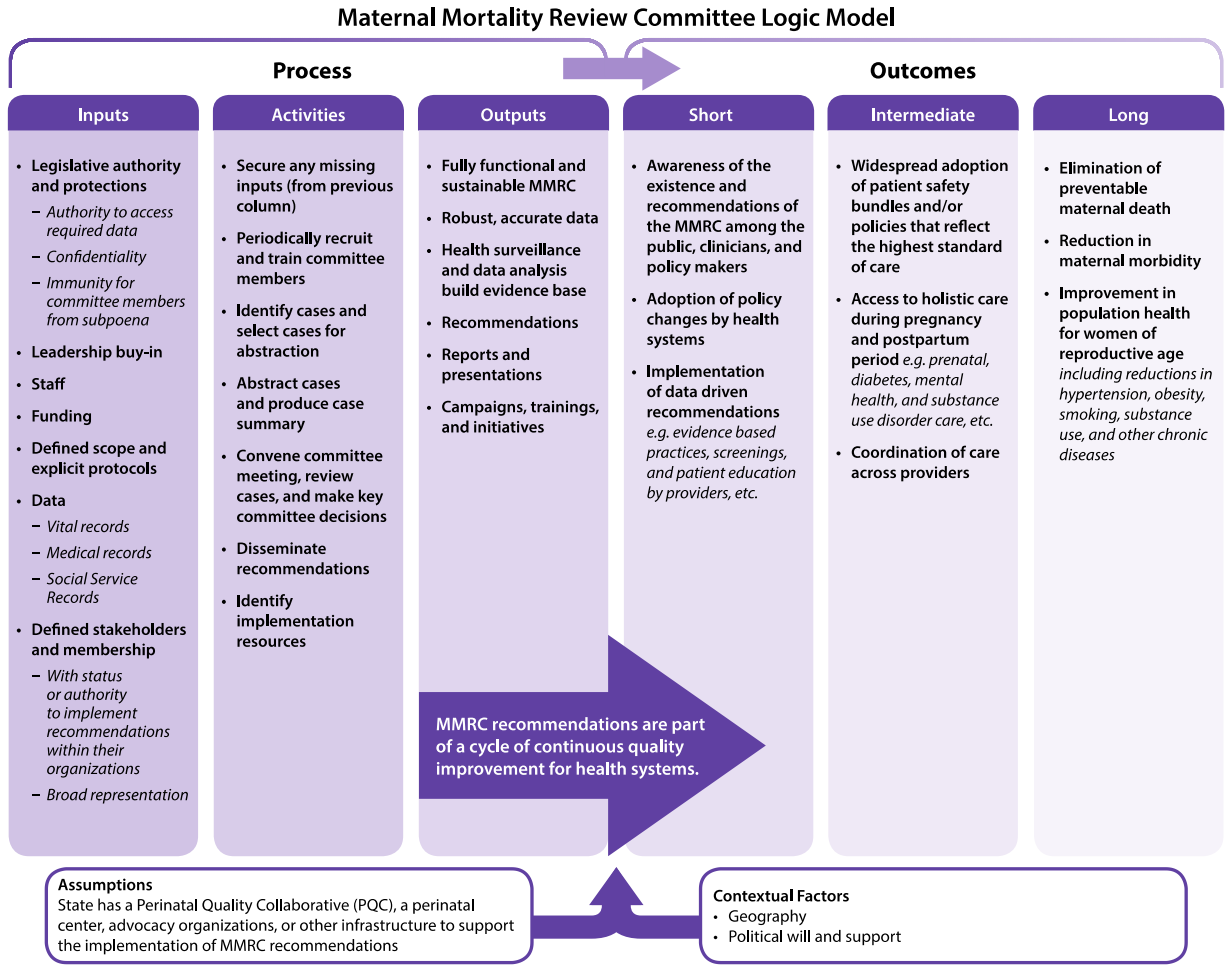
After you have finished reviewing cases and before you adjourn your meeting, consider recapping the accomplishments of the meeting with your committee members. You may utilize MMRIA to project some basic summary reports or to simply make a summary statement, such as the following:

> 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 in 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 U.S.

APPENDIX A: MATERNAL MORTALITY REVIEW COMMITTEE LOGIC MODEL



APPENDIX B: KEY COMPONENTS TO SUPPORT AUTHORITIES AND PROTECTIONS

Efforts to establish or strengthen a maternal mortality review committee (MMRC) should include a review of what protections and authorities are already in place. The purpose of the MMRC is not to assign blame to individual providers or hospitals but to look for opportunities to prevent maternal deaths within and across cases for population level action. It is distinct from and not a substitute for hospital peer review committees, root cause analysis, or complaint investigations. Authority and protections for MMRCs must protect the intent of the public health surveillance process.

The “Building US Capacity to Review and Prevent Maternal Deaths” initiative developed a short video <youtu.be/jtKde7hGz4I> on the steps to establish an MMRC. This video is useful in educating individuals about MMRCs.

What are some key components to consider?

COMPONENT	RATIONALE AND OBJECTIVE	EXAMPLE
1. AUTHORITY TO ACCESS DATA	Case abstractors should be able to collect at a minimum vital records, hospitalization and prenatal care records, and autopsy reports. Other desirable data sources include interviews with family members or police reports. Pointing to clear authority in legislation can facilitate compliance with data requests.	WASHINGTON: *(5) The department of health shall review department available data to identify maternal deaths. To aid in determining whether a maternal death was related to or aggravated by the pregnancy, and whether it was preventable, the department of health has the authority to: (a) Request and receive data for specific maternal deaths including, but not limited to, all medical records, autopsy reports, medical examiner reports, coroner reports, and social service records; and (b) Request and receive data as described in (a) of this subsection from health care providers, health care facilities, clinics, laboratories, medical examiners, coroners, professions and facilities licensed by the department of health, local health jurisdictions, the health care authority and its licensees and providers, and the department of social and health services and its licensees and providers.* *(6) Upon request by the department of health, health care providers, health care facilities, clinics, laboratories, medical examiners, coroners, professions and facilities licensed by the department of health, local health jurisdictions, the health care authority and its licensees and providers, and the department of social and health services and its licensees and providers must provide all medical records, autopsy reports, medical examiner reports, coroner reports, social services records, information and records related to sexually transmitted diseases, and other data requested for specific maternal*

COMPONENT	RATIONALE AND OBJECTIVE	EXAMPLE
		deaths as provided for in subsection (5) of this section to the department.
2. CONFIDENTIALIATY AND PROTECTION OF COLLECTED DATA, PROCEEDINGS, AND ACTIVITIES	Confidentiality for MMRCs refers to the legal protection of information collected as part of the review process and the protection of the MMRC's discussions and findings from discovery or subpoena. Strong confidentiality protections can facilitate participation in reviews and the sharing of data and information.	GEORGIA: *(e)(1) Information, records, reports, statements, notes, memoranda, or other data collected pursuant to this Code section shall not be admissible as evidence in any action of any kind in any court or before any other tribunal, board, agency, or person. Such information, records, reports, statements, notes, memoranda, or other data shall not be exhibited nor their contents disclosed in any way, in whole or in part, by any officer or representative of the department or any other person, except as may be necessary for the purpose of furthering the review of the committee of the case to which they relate. No person participating in such review shall disclose, in any manner, the information so obtained except in strict conformity with such review project.* *(2) 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 pursuant to this Code section shall be confidential.* *(f)(1) All proceedings and activities of the committee under this Code section, opinions of members of such committee formed as a result of such proceedings and activities, and records obtained, created, or maintained pursuant to this Code section, 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 Code section, shall be confidential and shall not be subject to Chapter 14 of Title 50, relating to open meetings, or Article 4 of Chapter 18 of Title 50, relating to open records, or subject to subpoena, discovery, or introduction into evidence in any civil or criminal proceeding; provided, however, that nothing in this Code section shall be construed to 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.*

COMPONENT	RATIONALE AND OBJECTIVE	EXAMPLE
3. IMMUNITY FOR COMMITTEE MEMBERS	Immunity protects MMRC members as well as any witnesses or others providing information from personal liability based on activities during the review process. Immunity facilitates full participation in the review process.	GEORGIA: *(2) A health care provider, health care facility, or pharmacy providing access to medical records pursuant to this Code section shall not be held liable for civil damages or be subject to any criminal or disciplinary action for good faith efforts in providing such records.* *(2) 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; provided, however, that nothing in this Code section shall be construed to prevent a member of the committee from testifying to information obtained independently of the committee or which is public information.*
4. REGULAR REPORTING AND DISSEMINATION OF FINDINGS	Specifying how often and to whom/to what entity the MMRC will report its findings and recommendations helps keep MMRC as a public health priority for the state and facilitates dissemination of best practices.	GEORGIA: (g) Reports of aggregated non-individually identifiable data shall be compiled on a routine basis for distribution in an effort to further study the causes and problems associated with maternal deaths. Reports shall be distributed to the General Assembly, health care providers and facilities, key government agencies, and others necessary to reduce the maternal death rate.
5. MULTIDISCIPLINARY COMMITTEE WITH LOCAL INPUT	The MMRC members should represent a variety of clinical and psychosocial specializations and members working in and representing diverse communities and from differing geographic regions in the state. Specifying committee membership facilitates diversity and inclusion of key stakeholder groups.	TEXAS: In appointing members to the task force, the commissioner shall: 1. include members: a) working in and representing communities that are diverse with regard to race, ethnicity, immigration status, and English proficiency; and b) from differing geographic regions in the state, including both rural and urban areas; 2. endeavor to include members who are working in and representing communities that are affected by pregnancy-related deaths and severe maternal morbidity and by a lack of access to relevant perinatal and intrapartum care services; and 3. ensure that the composition of the task force reflects the racial, ethnic, and linguistic diversity of this state.

COMPONENT	RATIONALE AND OBJECTIVE	EXAMPLE
6. ABILITY TO SHARE DE-IDENTIFIED DATA AND FINDINGS LOCALLY AND REGIONALLY	Flexible authority for limited access to MMRC data for research and to collaborate with other jurisdictions helps MMRCs overcome challenges presented by identification of trends from small caseloads or cases where the place of residence and place of death are in different states, and participate in activities to advance regional or national priorities in maternal mortality prevention.	CONNECTICUT: …the Department of Public Health may exchange personal data for the purpose of medical or scientific research, with any other governmental agency or private research organization; provided such state, governmental agency or private research organization shall not further disclose such personal data. TENNESSEE: (2) The state team: … (B) May share information with other public health authorities or their designees as the state team may determine necessary to achieve the goals of the program. (b) The state team may request that persons with direct knowledge of circumstances surrounding a particular fatality provide the state team with information necessary to complete the review of the particular fatality; such persons may include healthcare providers or staff involved in the care of the woman or the person who first responded to a report concerning the woman.

Questions about MMRCs? Please contact Julie Zaharatos at CDC, Andria Cornell at AMCHP, and Kathryn Moore at ACOG. ACOG has a state toolkit with additional examples.

APPENDIX C: SAMPLE MATERNAL MORTALITY REVIEW COMMITTEE SCOPE, MISSION, GOALS, AND VISION

Scope:

The scope of cases for committee review is all pregnancy-associated deaths or any deaths of women with indication of pregnancy up to 365 days, regardless of cause (i.e. motor vehicle accidents during pregnancy, motor vehicle accidents postpartum, suicide, homicide). Deaths are identified from review of death certificates with a pregnancy checkbox selection and linkage of vital records by searching death certificates of women of reproductive age and matching them to birth or fetal death certificates in the year prior.

Mission:

The mission is to increase awareness of the issues surrounding pregnancy-related death and to promote change among individuals, healthcare systems, and communities 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 the factors contributing to these deaths and recommend public health and clinical interventions that may reduce these deaths and improve systems of care.

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 Maternal Mortality review Committee's vision is to eliminate preventable maternal deaths, reduce maternal morbidities, and improve population health for women of reproductive age 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?
- What were the contributing factors to the death?
- What specific and feasible recommendations for action should be taken to prevent future deaths?
- What is the anticipated impact of those actions if implemented?

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 D: POTENTIAL MATERNAL MORTALITY REVIEW COMMITTEE MEMBERS

Organizations

- Academic Institutions
- Behavioral Health Agencies
- Blood Banks
- Community Advocate
- Community Birth Workers
- Federally Qualified Health Centers
- FIMR/CDR 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
- State Title X Program
- Tribal Organizations
- Violence Prevention Agencies

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

- Cardiology
- 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
- Addiction Counseling

APPENDIX E: 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:

- 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 he or she can go to for questions, concerns, and emotional support.

APPENDIX F: MMR COMMITTEE DECISIONS FORM

MMRIA

MATERNAL MORTALITY REVIEW COMMITTEE DECISIONS FORM v17 1

REVIEW DATE

Month Day Year

RECORD ID #

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
- ☐ **PREGNANCY-ASSOCIATED BUT UNABLE TO DETERMINE PREGNANCY-RELATEDNESS**
- ☐ **NOT PREGNANCY-RELATED OR -ASSOCIATED**
  (i.e. false positive, woman was not pregnant within one year of her death)

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**

DOES THE COMMITTEE AGREE WITH THE UNDERLYING CAUSE OF DEATH LISTED ON DEATH CERTIFICATE? ☐ YES ☐ NO

COMMITTEE DETERMINATION OF CAUSE(S) OF DEATH

TYPE	CAUSE (DESCRIPTIVE)
IMMEDIATE	
CONTRIBUTING	
UNDERLYING	
OTHER SIGNIFICANT	

IF PREGNANCY-RELATED, COMMITTEE DETERMINATION OF UNDERLYING CAUSE OF DEATH
Refer to page 3 for PMSS-MM cause of death list. If more than one is selected, list in order of importance beginning with the most compelling (1-2; no more than 2 may be selected in the system).

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	☐ PROBABLY	☐ NO	☐ UNKNOWN
WAS THIS DEATH A **HOMICIDE**?	☐ YES	☐ PROBABLY	☐ NO	☐ UNKNOWN

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
- ☐ NOT APPLICABLE

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

- ☐ NO RELATIONSHIP
- ☐ PARTNER
- ☐ EX-PARTNER
- ☐ OTHER RELATIVE
- ☐ OTHER ACQUAINTANCE
- ☐ OTHER, SPECIFY:
- ☐ UNKNOWN
- ☐ NOT APPLICABLE

MMRIA

MATERNAL MORTALITY REVIEW COMMITTEE DECISIONS FORM v17 2

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, provider, facility, system and/or community factors.

WAS THIS DEATH **PREVENTABLE**?	☐ YES	☐ NO
CHANCE TO ALTER OUTCOME?	☐ GOOD CHANCE	☐ SOME CHANCE
	☐ NO CHANCE	☐ UNABLE TO DETERMINE

CONTRIBUTING FACTORS WORKSHEET

What were the factors that contributed to this death? Multiple contributing factors may be present at each level.

CONTRIBUTING FACTOR LEVEL	CONTRIBUTING FACTOR (SEE BELOW) AND DESCRIPTION OF ISSUE
PATIENT/FAMILY	
PROVIDER	
FACILITY	
SYSTEM	
COMMUNITY	

CONTRIBUTING FACTOR KEY (DESCRIPTIONS ON PAGE 4)

- Delay
- Adherence
- Knowledge
- Cultural/religious
- Environmental
- Violence
- Mental health conditions
- Substance use disorder - alcohol, illicit/prescription drugs
- Tobacco use
- 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
- Law Enforcement
- Referral
- Assessment
- Legal
- Other

RECOMMENDATIONS OF THE COMMITTEE

If there was at least some chance that the death could have been averted, what were the specific and feasible actions that, if implemented or altered, might have changed the course of events? [Who?] should [do what?] [when?]

RECOMMENDATIONS OF THE COMMITTEE	LEVEL OF PREVENTION (SEE BELOW)	LEVEL OF IMPACT (SEE BELOW)

PREVENTION LEVEL

- **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 what has become an ongoing contributing factor (i.e. management of complications)

EXPECTED IMPACT LEVEL

- **SMALL:** Education/counseling (community- and/or provider-based health promotion and education activities)
- **MEDIUM:** Clinical intervention and coordination of care across continuum of well-woman visits (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 aneurysms 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/postpartum 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** Postpartum genital tract (e.g. of the uterus/ pelvis/perineum/necrotizing fasciitis)
- ☐ **20.2** Sepsis/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** Preeclampsia
- ☐ **50** Eclampsia
- ☐ **60** Chronic hypertension with superimposed preeclampsia
- ☐ **70** Anesthesia complications
- ☐ **80** Cardiomyopathy
- ☐ **80.1** Postpartum/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 erythematosis (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 congenital and acquired
- ☐ **90.4** Vascular aneurysm/dissection (non-cerebral)
- ☐ **90.5** Hypertensive cardiovascular disease
- ☐ **90.6** Marfan 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, non-acute 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

CONTRIBUTING FACTOR DESCRIPTIONS

DELAY OR FAILURE TO SEEK CARE

The provider or patient was delayed in referring or accessing care, treatment, or follow-up care/action.

ADHERENCE TO MEDICAL RECOMMENDATIONS

The provider or patient did not follow protocol or failed to comply with standard procedures (i.e. non adherence to prescribed medications).

KNOWLEDGE - LACK OF KNOWLEDGE REGARDING IMPORTANCE OF EVENT OR OF TREATMENT OR FOLLOW-UP

The provider or patient 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 lacked 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 social environment.

VIOLENCE AND INTIMATE PARTNER VIOLENCE (IPV)

Physical or emotional abuse perpetrated by current or former intimate partner, family member, or stranger.

MENTAL HEALTH CONDITIONS

The patient carried a diagnosis of a psychiatric disorder. This includes postpartum depression.

SUBSTANCE USE DISORDER – ALCOHOL, ILLICIT/ PRESCRIPTION DRUGS

Substance use disorder is characterized by recurrent use of alcohol and/or drugs causing clinically and functionally significant impairment, such as health problems or disability. The committee may determine that substance use disorder contributed to the death when the disorder directly compromised a woman's health status (e.g. acute methamphetamine intoxication exacerbated pregnancy-induced hypertension, or woman was more vulnerable to infections or medical conditions).

TOBACCO USE

The patient's use of tobacco directly compromised the patient's health status (e.g. long-term smoking led to underlying chronic lung disease).

CHRONIC DISEASE

Occurrence of one or more significant pre-existing medical conditions (e.g. obesity, cardiovascular disease, or diabetes).

CHILDHOOD SEXUAL ABUSE/TRAUMA

The patient experienced rape, molestation, or one or more of the following: sexual exploitation during childhood plus persuasion, inducement, or coercion of a child to engage in sexually explicit conduct; physical or emotional abuse or violence other than that related to sexual abuse during childhood.

LACK OF **ACCESS/FINANCIAL** RESOURCES

System issues, e.g. lack or loss of healthcare insurance or other financial duress, as opposed to woman's noncompliance, 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). Other barriers to accessing care: insurance non-eligibility, provider shortage in woman's geographical area, and lack of public transportation.

UNSTABLE HOUSING

Woman lived "on the street," in a homeless shelter, or in transitional or temporary circumstances with family or friends.

SOCIAL SUPPORT/ISOLATION - LACK OF FAMILY/ FRIEND OR SUPPORT SYSTEM

Social support from family, partner, or friends was lacking, inadequate, and/or dysfunctional.

INADEQUATE OR UNAVAILABLE **EQUIPMENT/ TECHNOLOGY**

Equipment was missing, unavailable, or not functional, (e.g. absence of blood tubing connector).

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 healthcare facilities or units, (e.g. records not available between inpatient and outpatient or among units within the hospital, such as Emergency Department and Labor and Delivery).

LACK OF **CONTINUITY OF CARE** (PROVIDER OR FACILITY PERSPECTIVE)

Care providers did not have access to woman's complete records or did not communicate woman's status sufficiently. Lack of continuity can be between prenatal, labor and delivery, and postpartum providers.

CLINICAL SKILL/QUALITY OF CARE (PROVIDER OR FACILITY PERSPECTIVE)

Personnel were not appropriately skilled for the situation or did not exercise clinical judgment consistent with current standards of care (e.g. error in the preparation or administration of medication or unavailability of translation services).

INADEQUATE COMMUNITY **OUTREACH**/RESOURCES

Lack of coordination between healthcare system and other outside agencies/organizations in the geographic/cultural area that work with maternal child health issues.

INADEQUATE **LAW ENFORCEMENT** RESPONSE

Law enforcement response was not in a timely manner or was not appropriate or thorough in scope.

LACK OF **REFERRAL** OR CONSULTATION

Specialists were not consulted or did not provide care; referrals to specialists were not made.

FAILURE TO SCREEN/INADEQUATE **ASSESSMENT** OF RISK

Factors placing the woman at risk for a poor clinical outcome recognized, and the woman was not transferred/transported to a provider able to give a higher level of care.

LEGAL

Legal considerations that impacted outcome.

OTHER

Contributing factor not otherwise mentioned. Please provide description.

APPENDIX G: MMRC MEETING AGENDA TEMPLATE

<<MM/DD/YYYY>>, <<00:00 a.m. - 00:00 p.m.>>

<<Location>>, <<Street Address>>, <<City>>, <<State>> <<ZIP>>

Open Meeting/Introductions		Co-Chair	9:00 – 9:10
Topic-Specific Updates	Present and Discuss	Staff Member, Other, i.e. Subject Matter Expert	9:10 – 9:15
Recommendations to Action Update	Share and Discuss	Group	9:15 – 9:30
Sign Confidentiality Statement	*All case information, including decedent names, provider names and facility names **must remain anonymous**.*	Coordinator or Lead Abstractor	9:30 – 9:45
Overview of Cases Identified for Review that are within Scope from Preliminary Review of Vital Records	Present	Coordinator or Lead Abstractor	9:45 – 10:00
Case Reviews *20-30 minutes per case*	• Review Case Narratives and Core Elements Summaries • Complete Committee Decisions Forms	Group	10:00 – 12:00
Lunch			12:00 – 12:30
Case Reviews *20-30 minutes per case*	• Review Case Narratives	Group	12:30 – 3:00

	and Core Elements Summaries • Complete Committee Decisions Forms		
Synopsis and Conclusion	*Today we reviewed ___ **(NUMBER)** deaths. We determined ___ were pregnancy-related, ___ **(NUMBER)** were pregnancy-associated but not -related, ___ **(NUMBER)** were **(UNABLE TO BE DETERMINED)**. We determined ___ **(NUMBER)** to be preventable, and we made the following recommendations: _____.*	Coordinator or Other Staff Member	3:00-3:15

Upcoming Meeting Dates:

- << MM/DD/YYYY>>
- << MM/DD/YYYY>>
- << MM/DD/YYYY>>
- << MM/DD/YYYY>>

Upcoming Conferences <<Examples>>:

American College of Nurse Midwives Annual Meeting <<mm/dd/yyyy>>

ACOG District __ Annual Meeting <<mm/dd/yyyy>>

APPENDIX H: 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 scope, 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.[iii, iv]

4. **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

5. **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.

6. **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 challenges[v]

Additional Resources

- **How to be a Great Facilitator:** 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 in Groups&gsc.page=1

APPENDIX I: MATERNAL MORTALITY REVIEW SUCCESS STORIES

Maternal Mortality Review - Success Stories from Five States:

Five 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 check box 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

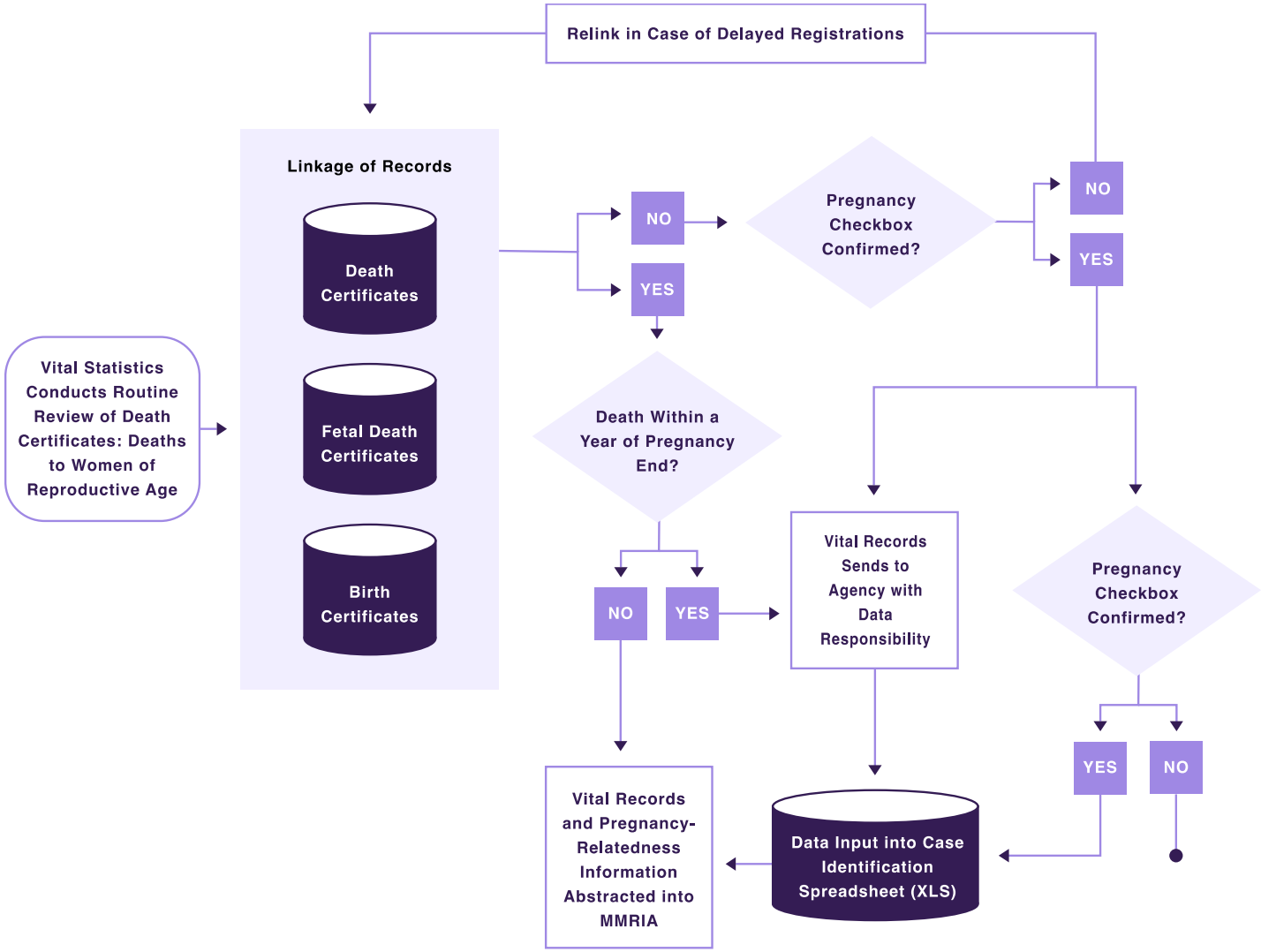
The New Jersey Maternal Mortality Review Team received at least two cases where young women died in motor vehicle accidents while crossing a busy county road. Pertinent documents described a common location of death and that the women lived in a low-income dwelling, had young families, and that a store 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.

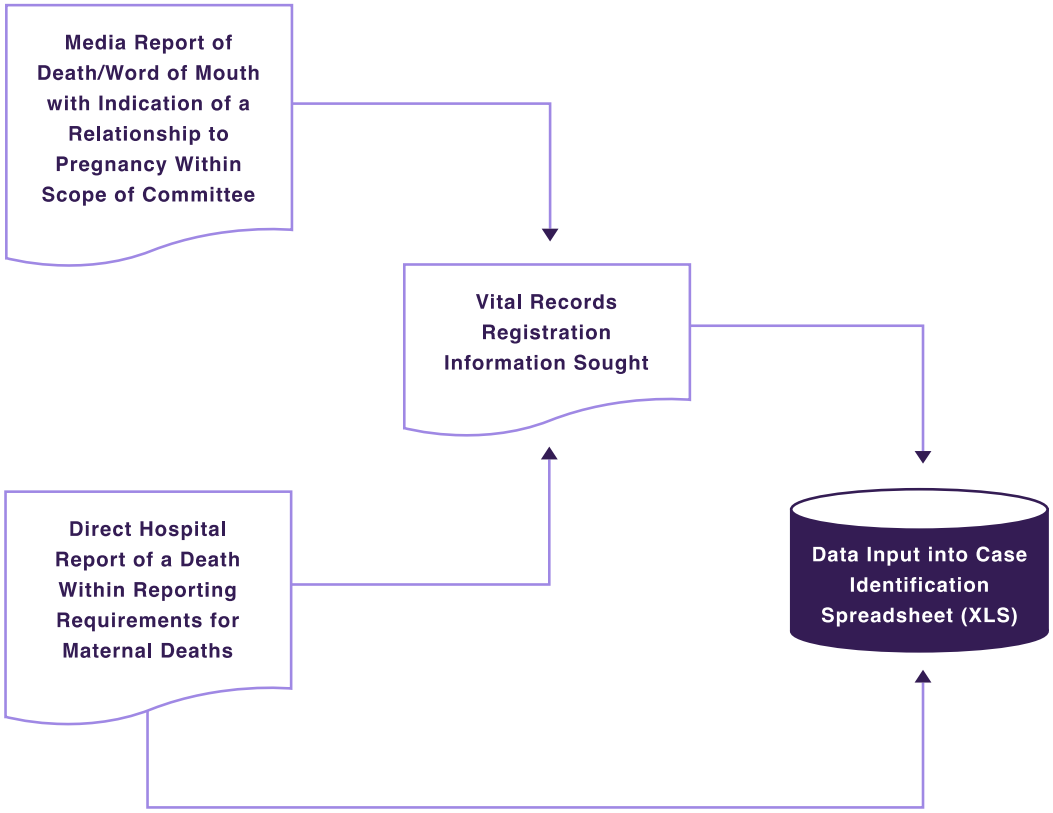
The second phase of this work provided "Train the Trainer" courses for obstetric clinical nurse educators from Level I and II birthing centers including didactics and skills-building sessions. Future plans involve a targeted training effort directed toward the small rural hospitals in the Appalachian counties of southeast Ohio.

APPENDIX J: SAMPLE CASE IDENTIFICATION AND DATA FLOWS



CASE IDENTIFICATION AND DATA FLOWS:

Alternative Reporting



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ORIGINAL
STATE COPY

STATE OF ARIZONA
DEPARTMENT OF HEALTH SERVICES-BUREAU OF VITAL RECORDS
CERTIFICATE OF DEATH

State File Number

1. DECEDENT'S LEGAL NAME (FIRST, MIDDLE, LAST, SUFFIX)	2. AKA'S (IF ANY)	3. DATE OF DEATH

4. SEX	5. SOCIAL SECURITY NUMBER	6. DATE OF BIRTH	7. AGE

8. CITY/TOWN, COUNTY AND ZIP OR LOCATION OF DEATH

9. PLACE OF DEATH (TYPE OF PLACE OF DEATH AND FACILITY NAME/ADDRESS)

10. BIRTHPLACE (CITY AND STATE OR FOREIGN COUNTRY)	11. MARITAL STATUS	12. NAME OF SURVIVING SPOUSE PRIOR TO FIRST MARRIAGE (FIRST, MIDDLE, LAST, SUFFIX)

13. DECEDENT'S USUAL RESIDENCE ADDRESS (STREET, CITY, COUNTY, STATE, ZIP)

14. DECEDENT'S HISPANIC ORIGIN(S):	15. DECEDENT'S RACE(S):	16. EVER IN ARMED FORCES 17. OCCUPATION

18.	19.

20. INFORMANT'S NAME (FIRST, MIDDLE, LAST, SUFFIX)	21. RELATIONSHIP

22. INFORMANT'S MAILING ADDRESS

23. NAME AND ADDRESS OF FUNERAL FACILITY OR RESPONSIBLE PERSON	24. FUNERAL DIRECTOR'S NAME OR RESPONSIBLE PERSON	25. LICENSE NUMBER

26. METHOD(S) OF DISPOSITION	27. NAME AND LOCATION OF 1ST DISPOSITION FACILITY	28. NAME AND LOCATION OF 2ND DISPOSITION FACILITY

MEDICAL CERTIFICATION SECTION CAUSE OF DEATH PART I

IMMEDIATE CAUSE OF DEATH	29. A	30. APPROXIMATE INTERVAL
DUE TO OR AS A CONSEQUENCE OF:	31. B	32. APPROXIMATE INTERVAL
DUE TO OR AS A CONSEQUENCE OF:	33. C	34. APPROXIMATE INTERVAL
DUE TO OR AS A CONSEQUENCE OF:	35. D	36. APPROXIMATE INTERVAL

CAUSE OF DEATH PART II

37. OTHER SIGNIFICANT CONDITIONS CONTRIBUTING TO THE DEATH BUT NOT RESULTING IN THE UNDERLYING CAUSE GIVEN IN PART I:	38. INJURY?	39. INJURY AT WORK?	40. MANNER OF DEATH	41. TIME OF DEATH
	42. WAS AN AUTOPSY PERFORMED?		43. WERE AUTOPSY FINDINGS AVAILABLE TO COMPLETE THE CAUSE OF DEATH?	

CAUSE AND MANNER CERTIFICATION

TO THE BEST OF MY KNOWLEDGE, THE INFORMATION ABOVE IS CORRECT AND THE DEATH OCCURRED DUE TO THE CAUSE(S) AND MANNER STATED.	44. NAME OF PERSON COMPLETING CAUSE OF DEATH	45. DATE CERTIFIED

46. CERTIFIER'S ADDRESS

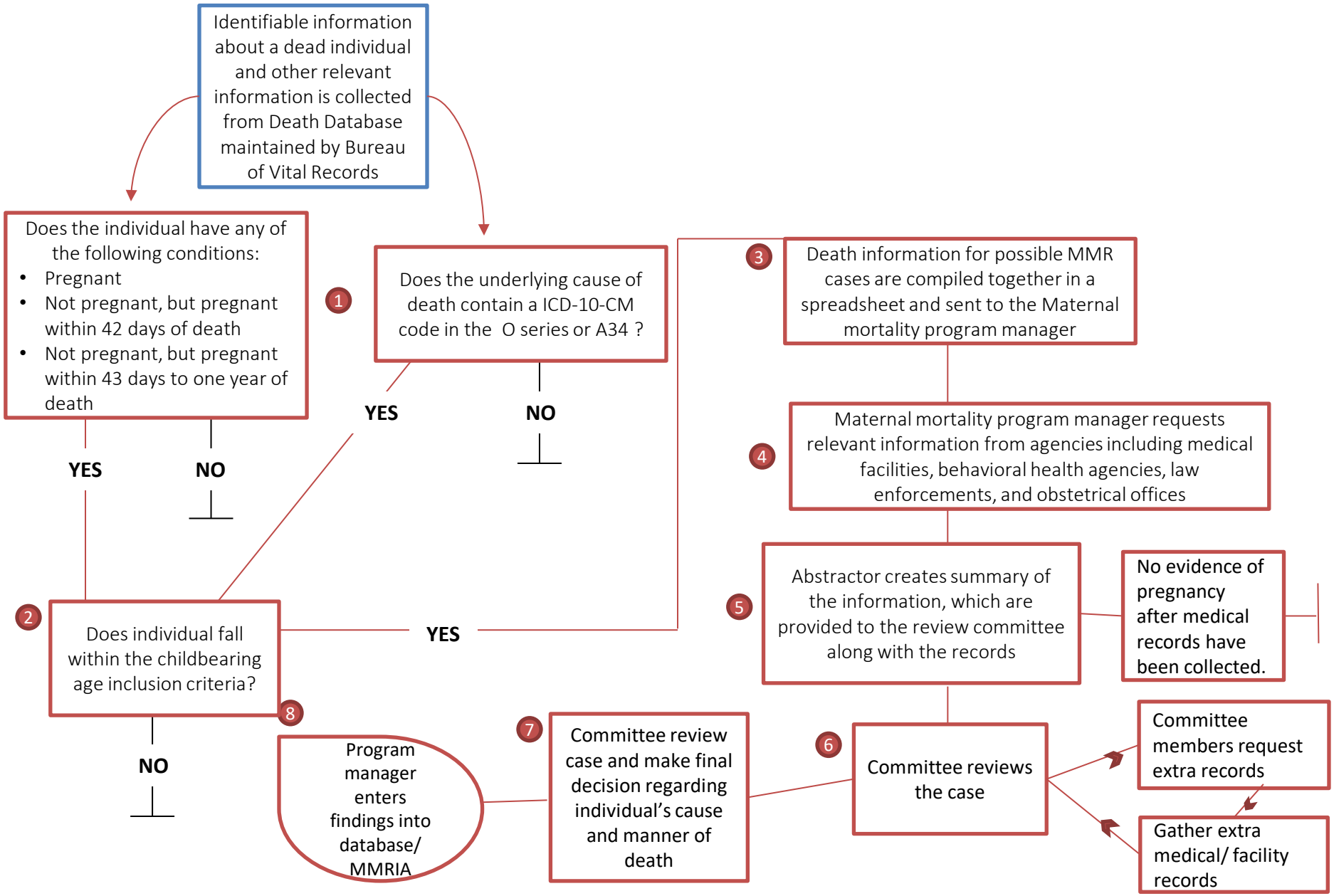
Date Registered:

Date Issued:

VS-48 Rev. 08/2017

Maternal Mortality Review
Case Identification and Data Flow

Rev. 8/26/2019



Inpatient Records in Hospital Discharge Database, by Facility, 2016-2018

Facility Name	City	County	excluded / withheld
REMUDA RANCH CENTER FOR ANOREXIA AND BULEMIA	Wickenburg	Maricopa	
SAGE MEMORIAL HOSPITAL	Ganado	Apache	
WHITE MOUNTAIN REGIONAL MEDICAL CENTER	Springerville	Apache	
BENSON HOSPITAL	Benson	Cochise	
COPPER QUEEN COMMUNITY HOSPITAL	Bisbee	Cochise	
NORTHERN COCHISE COMMUNITY HOSPITAL	Willcox	Cochise	
CANYON VISTA MEDICAL CENTER	Sierra Vista	Cochise	2017 Q3-4
FLAGSTAFF MEDICAL CENTER	Flagstaff	Coconino	2017 Q1-4
BANNER PAGE HOSPITAL	Page	Coconino	
BANNER PAYSON MEDICAL CENTER	Payson	Gila	
COBRE VALLEY REGIONAL MEDICAL CENTER	Globe	Gila	
MOUNT GRAHAM REGIONAL MEDICAL CENTER	Safford	Graham	
LA PAZ REGIONAL HOSPITAL	Parker	La Paz	
ABRAZO ARROWHEAD CAMPUS	Glendale	Maricopa	
BANNER BEHAVIORAL HEALTH HOSPITAL	Scottsdale	Maricopa	
BANNER DESERT MEDICAL CENTER	Mesa	Maricopa	
BANNER DEL E WEBB MEDICAL CENTER	Sun City West	Maricopa	
BANNER UNIVERSITY MEDICAL CENTER PHOENIX CAMPUS	Phoenix	Maricopa	
JOHN C LINCOLN MEDICAL CENTER	Phoenix	Maricopa	
MARICOPA MEDICAL CENTER	Phoenix	Maricopa	
ABRAZO MARYVALE CAMPUS (CLOSED 12/18/17)	Phoenix	Maricopa	
HEALTHSOUTH SCOTTSDALE REHABILITATION HOSPITAL	Scottsdale	Maricopa	
ABRAZO CENTRAL CAMPUS	Phoenix	Maricopa	
HONORHEALTH DEER VALLEY MEDICAL CENTER	Phoenix	Maricopa	
ST LUKE'S BEHAVIORAL HOSPITAL	Phoenix	Maricopa	
ST LUKE'S MEDICAL CENTER	Phoenix	Maricopa	2017 Q3-4
SCOTTSDALE OSBORN MEDICAL CENTER	Scottsdale	Maricopa	
SCOTTSDALE SHEA MEDICAL CENTER	Scottsdale	Maricopa	
TEMPE ST LUKE'S HOSPITAL	Tempe	Maricopa	2017 Q3-4
BANNER THUNDERBIRD MEDICAL CENTER	Glendale	Maricopa	
BANNER BAYWOOD MEDICAL CENTER	Mesa	Maricopa	
HEALTHSOUTH VALLEY OF THE SUN REHAB	Glendale	Maricopa	
BANNER BOSWELL MEDICAL CENTER	Sun City	Maricopa	
WESTERN ARIZONA REGIONAL MEDICAL CENTER	Bullhead City	Mohave	2017Q1-2018Q2
HAVASU REGIONAL MEDICAL CENTER	Lake Havasu C	Mohave	
KINGMAN REGIONAL MEDICAL CENTER	Kingman	Mohave	
SUMMIT HEALTHCARE REGIONAL MEDICAL CENTER	Show Low	Navajo	
LITTLE COLORADO MEDICAL CENTER	Winslow	Navajo	
NORTHWEST MEDICAL CENTER	Tucson	Pima	
ST JOSEPH'S HOSPITAL (Tucson)	Tucson	Pima	
ST MARY'S HOSPITAL	Tucson	Pima	
TUCSON MEDICAL CENTER	Tucson	Pima	
BANNER UNVERSITY MEDICAL CENTER TUCSON CAMPUS	Tucson	Pima	
BANNER CASA GRANDE MEDICAL CENTER	Casa Grande	Pinal	
VERDE VALLEY MEDICAL CENTER	Cottonwood	Yavapai	2017 Q1-4
YAVAPAI REGIONAL MEDICAL CENTER	Prescott	Yavapai	
YUMA REGIONAL MEDICAL CENTER	Yuma	Yuma	
KINDRED / CURAHEALTH HOSPITAL - PHOENIX (CLOSED 10/14/17)	Phoenix	Maricopa	
HEALTHSOUTH REHAB INSTITUTE OF TUCSON [2650 North Wyatt Dr]	Tucson	Pima	
HOLY CROSS HOSPITAL	Nogales	Santa Cruz	
HEALTHSOUTH REHAB. HOSPITAL OF SOUTHERN AZ [1921 W. Hospital Dr]	Tucson	Pima	
LOS NINOS HOSPITAL (CLOSED 9/30/17)	Phoenix	Maricopa	
SELECT SPECIALTY HOSPITAL - PHOENIX [350 W. Thomas]	Phoenix	Maricopa	
KINDRED / CURAHEALTH HOSPITAL - TUCSON	Tucson	Pima	
GUIDANCE CENTER (THE)	Flagstaff	Coconino	
CHG HOSPITAL OF TUCSON	Tucson	Pima	
ABRAZO ARIZONA HEART HOSPITAL	Phoenix	Maricopa	
MAYO CLINIC HOSPITAL	Phoenix	Maricopa	
SIERRA TUCSON	Tucson	Pima	
SONORA BEHAVIORAL HEALTH HOSPITAL	Tucson	Pima	
CORE INSTITUTE SPECIALTY HOSPITAL (THE)	Phoenix	Maricopa	
SELECT SPECIALTY HOSPITAL - SCOTTSDALE (closed 8/17/16)	Scottsdale	Maricopa	
CHANDLER REGIONAL MEDICAL CENTER	Chandler	Maricopa	

Inpatient Records in Hospital Discharge Database, by Facility, 2016-2018

Facility Name	City	County	excluded / withheld
ST JOSEPH'S HOSPITAL AND MEDICAL CENTER	Phoenix	Maricopa	
ABRAZO SCOTTSDALE CAMPUS	Phoenix	Maricopa	
SELECT SPECIALTY HOSPITAL - PHOENIX DOWNTOWN [1012 E. Willetta]	Phoenix	Maricopa	
BANNER HEART HOSPITAL	Mesa	Maricopa	
PHOENIX CHILDRENS HOSPITAL	Phoenix	Maricopa	
HAVEN SENIOR HORIZONS / HAVEN BEHAVIORAL HOSPITAL OF PHOENIX	Phoenix	Maricopa	
WICKENBURG COMMUNITY HOSPITAL	Wickenburg	Maricopa	
ARIZONA SPINE AND JOINT HOSPITAL	Mesa	Maricopa	
YUMA REHABILITATION HOSPITAL	Yuma	Yuma	
GREENBAUM SPECIALTY SURGICAL HOSPITAL	Scottsdale	Maricopa	
PROMISE HOSPITAL OF PHOENIX	Mesa	Maricopa	
ABRAZO WEST CAMPUS	Goodyear	Maricopa	
ARIZONA ORTHOPEDIC AND SURGICAL SPECIALTY HOSPITAL	Chandler	Maricopa	
BANNER UNIVERSITY MEDICAL CENTER SOUTH CAMPUS	Tucson	Pima	
BANNER ESTRELLA MEDICAL CENTER	Phoenix	Maricopa	
ORO VALLEY HOSPITAL	Oro Valley	Pima	
GILBERT HOSPITAL (CLOSED 6/18/18)	Higley	Maricopa	
VALLEY VIEW MEDICAL CENTER	Fort Mohave	Mohave	
YAVAPAI REGIONAL MEDICAL CENTER EAST	Prescott Valley	Yavapai	
MOUNTAIN VALLEY REGIONAL REHABILITATION HOSPITAL	Prescott Valley	Yavapai	
AURORA BEHAVIORAL HEALTH SYSTEM	Glendale	Maricopa	
MERCY GILBERT MEDICAL CENTER	Gilbert	Maricopa	
MOUNTAIN VISTA MEDICAL CENTER	Mesa	Maricopa	
SCOTTSDALE THOMPSON PEAK MEDICAL CENTER	Scottsdale	Maricopa	
BANNER GATEWAY MEDICAL CENTER	Gilbert	Maricopa	
KINDRED / CURAHEALTH HOSPITAL - NORTHWEST PHOENIX	Glendale	Maricopa	
WINDHAVEN PSYCHIATRIC HOSPITAL	Prescott Valley	Yavapai	
WESTERN REGIONAL MEDICAL CENTER CANCER HOSPITAL	Goodyear	Maricopa	
CHANGEPOINT PSYCHIATRIC HOSPITAL	Lakeside	Navajo	
HEALTHSOUTH EAST VALLEY REHABILITATION HOSPITAL	Mesa	Maricopa	
BANNER GOLDFIELD MEDICAL CENTER	Apache Junctio	Pinal	
AURORA BEHAVIORAL HEALTHCARE - TEMPE	Tempe	Maricopa	
VALLEY HOSPITAL	Phoenix	Maricopa	
BANNER IRONWOOD MEDICAL CENTER	San Tan Valley	Pinal	
OASIS HOSPITAL	Phoenix	Maricopa	
SCOTTSDALE LIBERTY HOSPITAL (was FREEDOM PAIN HOSPITAL)	Scottsdale	Maricopa	
FLORENCE HOSPITAL AT ANTHEM (CLOSED 6/18/18)	Florence	Pinal	
HONORHEALTH REHABILITATION HOSPITAL	Scottsdale	Maricopa	
KINGMAN RMC - HUALAPAI MOUNTAIN CAMPUS	Kingman	Mohave	
ST JOSEPH'S WESTGATE MEDICAL CENTER	Glendale	Maricopa	
OASIS BEHAVIORAL HEALTH HOSPITAL	Chandler	Maricopa	
PALO VERDE BEHAVIORAL HEALTH	Tucson	Pima	
QUAIL RUN BEHAVIORAL HEALTH	Phoenix	Maricopa	
PHOENIX CHILDRENS HOSPITAL - MERCY GILBERT MEDICAL CENTER	Gilbert	Maricopa	
DIGNITY HEALTH - ARIZONA GENERAL HOSPITAL	Laveen	Maricopa	
TMC - GEROPSYCHIATRIC CENTER AT HANDMAKER	Tucson	Pima	
GREEN VALLEY HOSPITAL / SANTA CRUZ VALLEY REGIONAL HOSPITAL	Green Valley	Pima	
HACIENDA CHILDREN'S HOSPITAL	Mesa	Maricopa	
COBALT REHABILITATION HOSPITAL (opened 01/13/16)	Surprise	Maricopa	
CORNERSTONE BEHAVIORAL HEALTH EL DORADO (opened 11/01/16)	Tucson	Pima	
COPPER SPRINGS (opened 05/05/16)	Avondale	Maricopa	
DIGNITY HEALTH EAST VALLEY REHABILITATION HOSPITAL (opened 10/13/16)	Chandler	Maricopa	
DIGNITY HEALTH - ARIZONA GENERAL HOSPITAL - EAST MESA (OPENED 11/8/18)			
REHABILITATION HOSPITAL OF NORTHERN ARIZONA (OPENED 2/23/18)			