Oregon Maternal Mortality and Morbidity Review Committee Biennial Report

Maternal and Child Health Section of the Center for Prevention & Health Promotion within the Public Health Division of the Oregon Health Authority

January 1, 2021

PUBLIC HEALTH DIVISION

Contributors

- Maternal Mortality Review Team of the Maternal and Child Health Section
- The 2019 Governor-appointed Maternal Mortality and Morbidity Review Committee, including Dr. Maria I. Rodriguez, MD, MPH, MMRC Chairperson
- The multiple facilities and agencies that contributed to the formation and operation of the Oregon Maternal Mortality and Morbidity Review Committee

For more information, visit healthoregon.org/mmrc

Contact:

Lynne Gonzales
peggy.gonzales@dhsoha.state.or.us

Contents

» Contributors 2
» Contents 3
» Executive Summary 4
» Introduction 6
» Methodology 7
» Background of the MMRC 8
» Oregon MMRC Overview 9
» Committee Findings and Recommendations 16
» Summary 20
» Executive Appointments Board Roster 21
» Appendix A: Maternal Mortality Review Logic Model 22
» Appendix B: Oregon MMRC Scope, Mission, Vision and Goals 23
» Appendix C: Oregon MMRC Process 24
» Appendix D: Level of Impact Pyramid 25
» Appendix E: MMRC Group Agreements 26
» Glossary and Acronyms 27
» Endnotes and References 29

Executive Summary

In accordance with Oregon House Bill 4133, Chapter 63, 2018 Oregon Laws Section 1. (17)(a), the Oregon Maternal Mortality and Morbidity Review Committee (MMRC) presents this first biennial report to the Interim Committees of the Legislative Assembly related to Health Care. This initial report will cover background information about the Oregon MMRC, introduce processes that have been created to operationalize the committee, and offer findings from case reviews performed in 2020.

The response to the emergence of SARS-CoV-2 and the resultant COVID-19 disease pandemic affected the ability of the committee to complete its first and second in-person case review meetings which were scheduled in March and May 2020. As online venues became the norm, the committee met virtually and conducted its first set of case reviews in August 2020. Since that time the committee has reviewed the pregnancy-associated deaths of nine women. Of these, it was determined that three were specifically pregnancy-related and most were considered preventable with some chances to alter the outcomes.

The committee has reviewed only one year of cases (deaths that occurred in 2018); yet after learning about the experiences that led to each death, it has identified several important issues that surrounded maternal mortality in Oregon during that year.

Recommendations that address the following committee findings are listed later in this report:

- Instances of suicide, mental health issues and substance use disorder before, during or after pregnancy;
- Inadequate access to health care, wrap-around services and community resources, including missed opportunities for mental health and substance use disorder treatment and management;
- Possible implicit biases toward mental illness, personal behaviors and social determinants such as drug abuse and homelessness;
- Untreated childhood physical and emotional trauma and histories of intimate partner violence;
- Inappropriate management of chronic pain and/or missteps by pain or addiction medicine specialists.

The MMRC classifies maternal deaths into two categories and examines both levels:

- *Pregnancy-associated* deaths occur during pregnancy or within one year of the termination of pregnancy and the death is not causally related to pregnancy.
- *Pregnancy-related* deaths are directly attributed to pregnancy. These deaths also occur during pregnancy or within one year of the termination of pregnancy and are caused from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy[1].

While focusing on the cause of death for each case, the committee also examines social inequities that surrounded the lives of these women and identifies risk factors that contributed to the deaths. Based on these contributing factors they discuss whether the outcome was preventable and decide upon actionable strategies which, if initiated, may decrease and ultimately prevent future deaths from occurring.

> "The **vision** of the MMRC is to eliminate preventable maternal mortality and morbidity by reviewing pregnancy-related deaths, identifying contributing risk factors, and creating recommendations to reduce future deaths.
>
> -Oregon MMRC"

The State of Oregon has been tracking baseline numbers of maternal deaths for decades, but only through case review can we learn about the multiple risks that impact a woman's pathway to death during pregnancy, labor and delivery and the 365 days postpartum. Through the activities of the MMRC we are already gaining increased knowledge regarding upstream variables that can be targeted to change the course of events that lead to these maternal deaths. The committee recognizes the importance of looking at additional factors beyond the medical components of each case that include an examination of the overall systemic, community, healthcare and individual levels -- including health and social inequities associated with each case.

This first biennial report introduces the now operational Oregon MMRC. It also includes a first set of recommendations, based upon the findings from the committee reviews of deaths in 2018, to inform Oregon decision makers of early recommendations for preventive interventions. The goal of implementing these recommendations is to reduce maternal mortality and morbidity and to improve care for women of reproductive age.

Introduction

Every year approximately 700 women die from pregnancy-related causes in the United States and approximately 60% of these deaths were preventable[2]. According to the Centers for Disease Control and Prevention (CDC) Pregnancy Mortality Surveillance System (PMSS) the number of pregnancy-related deaths in the United States increased from 7.2 deaths per 100,000 live births in 1987 to 17.3 deaths per 100,000 live births in 2017[3]. Data from the PMSS for 2007 to 2016 indicate American Indian/Alaskan Native and non-Hispanic Black women are 2 to 3 times as likely to die from a pregnancy-related cause than non-Hispanic White women[4]. Indeed, a great deal of attention nationally has been focused on the observed racial inequities in maternal mortality.

The CDC has increased its capabilities to address the multifaceted issues of maternal mortality and severe maternal morbidity (SMM) through state and urban-based MMRCs. These committees examine maternal deaths and are best positioned to create recommendations for prevention that are tailored to their state's demographics. The CDC Enhancing Reviews and Surveillance to Eliminate Maternal Mortality (ERASE MM) Program[5] supports MMRCs nationwide with guidance, resources and tools to build the capacity of each committee.

Maternal mortality and severe morbidity are receiving much needed attention nationally. The December 2020 release of the U.S. Department of Health and Human Services (HHS) *Action Plan to Improve Maternal Health in America*[6] and the Surgeon General's *Call to Action to Improve Maternal Health*[7] emphasize the need for a comprehensive approach to decreasing maternal deaths spanning from the federal level to interventions targeted at individual women/families and includes the work of state and urban-based MMRCs.

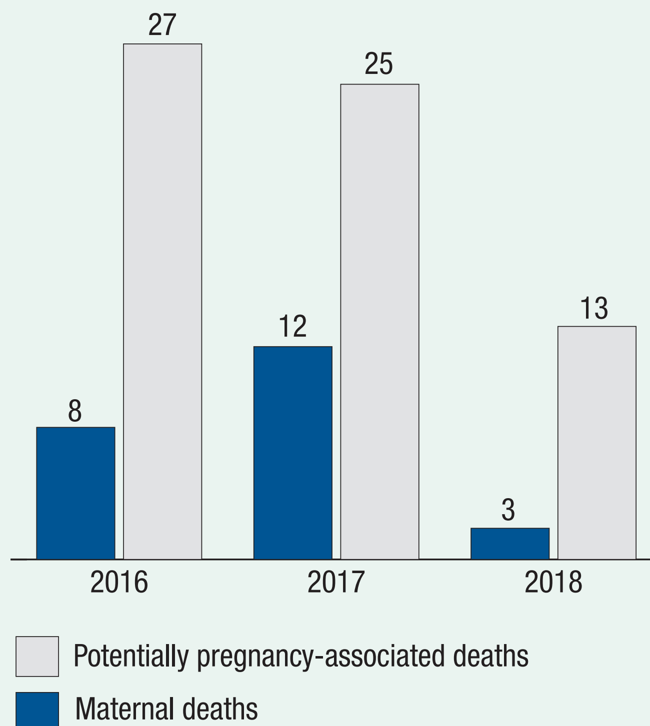
Methodology

Between 2008 and 2018, the Oregon Health Authority (OHA) Center for Health Statistics (CHS) tabulated between three and twelve maternal deaths each year. Oregon's maternal death rate, measured by CHS as the number of maternal deaths per 100,000 live births, is typically at or below the overall U.S. rate. Prior to 2016, the number of maternal deaths in Oregon were identified from specific cause of death codes and/or an indication of pregnancy via a checkbox on death certificates. These two methods may have undercounted the true number of maternal deaths.

In 2016 OHA began matching reproductive aged female decedents to parents listed on certificates of live birth and fetal and infant deaths that occurred on or within 365 days prior to the woman's date of death. The use of this additional method revealed an increased number of potentially pregnancy-associated deaths (e.g. the death of a woman while pregnant or within one year of pregnancy, *regardless of the cause*) (Figure 1). Although these data were helpful in determining information about the causes of death during pregnancy and the postpartum period, they did not provide any background about life events that led up to and surrounded each death and whether the outcome may have been preventable.

Figure 1. Oregon Maternal Deaths and Potentially Pregnancy-Associated Deaths

Comparison between number of maternal deaths and potentially pregnancy-associated deaths, Oregon 2016-2018



Background of the MMRC

In 2018, the Oregon Legislature passed Oregon House Bill 4133 (2018 HB 4133) which gave authority and direction to OHA to establish the MMRC. The multidisciplinary committee and its activities are coordinated and staffed by the Maternal and Child Health (MCH) Section of the OHA Public Health Division.

Committee members review deaths that occurred during pregnancy and the 365 days following pregnancy. The fundamental goals of the Oregon MMRC are twofold:

1. To review pregnancy-associated deaths including those that resulted from pregnancy complications and those resulting from other associated causes to gain a holistic understanding of the issues surrounding these deaths, and

2. To provide policy recommendations and prevention strategies to improve quality of care at the individual, healthcare, community and systems levels. This includes identifying associated social and racial inequities that contribute to maternal mortality and severe maternal morbidity and recommending public health and community interventions to reduce and ultimately prevent these adverse outcomes.

Significant events for the Oregon MMRC between 2018 and 2020 included:

- 2018 HB 4133 was passed by the Oregon Legislature in April 2018.
- The MMRC members were appointed by the Governor's Office in May 2019.
- Two introductory committee meetings were held in July and October 2019.
- As per the 2018 HB 4133, Section 1. (6), in 2019 the committee elected one of its members to serve as the MMRC Chairperson.
- The first MMRC case review meeting was held via a virtual platform on August 18, 2020.
- Two additional case review meetings were held in October and December 2020.

Oregon MMRC Overview

As a newly established committee, the Oregon MMRC needed to be systematically planned and assembled. The CDC Maternal Mortality Prevention Team provided guidance and multiple resources to assist with the processes that needed to be in place for the committee to perform its assignments. CDC's ERASE Program has created an MMRC Logic Model (Appendix A) which lists the following as major inputs for creating an MMRC:

Legislative Authorities and Protections

This has been established through 2018 HB 4133.

Leadership and Staff

The Office of the State Public Health Director, Maternal and Child Health Section Management, and other State of Oregon agency leadership have supported the MMRC. Committee activities are coordinated by a specific group of MCH Section staff (the Maternal Mortality Review Team) that includes the following positions:

- Administrative Support Specialist
- Unit Manager
- CDC MCH Epidemiology Assignee
- Medical Record Abstractor
- MMRC Coordinator
- Perinatal Nurse Consultant
- Program Analyst
- Research Analyst

Funding

Activities and personnel associated with the MMRC are funded by the Oregon state general funds.

Defined Scope and Protocols

The following documents have been created for the Oregon MMRC:

- Oregon MMRC Charter
- Confidentiality Statement (this is signed by MCH staff and committee members)
- Oregon MMRC Scope/Mission and Vision/Goals (Appendix B)
- MMRC Group Agreements

Data

This item refers to the information that is collected from various sources including social services summaries, medical records, law enforcement reports, etc. It is used to create the very detailed, deidentified narratives about each case that are reviewed and discussed by the committee. Further information about how records are accessed is addressed later in this section.

Defined Stakeholders

Support for the Oregon MMRC has ranged from testimonies endorsing the approval of 2018 HB 4133 to ongoing promotion and recognition of the work of the current committee. Associations whose members are searching for methods to address social inequalities and advocacy groups that serve diverse populations throughout Oregon, including communities of color have provided their support for the MMRC. The American College of Obstetricians and Gynecologists (ACOG) Oregon Section and the Oregon Perinatal Collaborative (OPC) have spoken about the importance of identifying data-driven recommendations to decrease pregnancy-related deaths. Multiple agencies and facilities have assisted with the review process by providing the MMRC with records when these were requested for case narrative creation.

Defined Membership

The Committee consists of a diverse panel of 15 Governor-appointed members that possess expertise in clinical and community-based maternal health promotion and represent various specialties and systems. Committee members have signed a State of Oregon Oath of Office to perform the duties associated with the MMRC and 2018 HB 4133 outlines other charges including service terms, compensation and chairperson election. An Executive Appointments Board Roster of the 2019 Governor-appointed Oregon MMRC is located after the report summary.

1.1 MMRC Case Review Meeting Process

The MCH Maternal Mortality Review Team has established specific activities that occur before and during the committee review meetings (Appendix C). Pre-meeting discussions are commonly held with the MMRC Chair to decide upon additional agenda items and updates as needed. The primary focus of each meeting is the discussion about the life and death of each woman who died and the factors that can be used to determine pregnancy relatedness or association. The following section presents a brief explanation about the process from case finding to case review:

Step 1: Case Finding/Ascertainment

With the assistance of the Oregon CHS, cases for committee review are initially obtained from Oregon death certificates of reproductive-aged females using any of the following methods:

- One of the applicable pregnancy checkbox options on the death certificate is selected. (decedent was pregnant at death; pregnant within 42 days before death; or pregnant within 43 days to one year before death).
- An "obstetric" code is used in any cause of death field on the certificate. (The National Center for Health Statistics assigns ICD-10 codes to all causes of deaths reported in the United States).
- Death certificates of female decedents are linked with certificates of live births, fetal deaths, and infant deaths occurring on or within 365 days prior to the woman's date of death.
- A literal search for pregnancy-related keywords (e.g. "pregnancy", "postpartum") is performed on death certificates for female decedents.

Once cases have been identified, the data from applicable certificates is entered into the Oregon Maternal Mortality Review (OMMR) database, which is a secure MCH FileMaker database created specifically for use in preparing MMRC cases for review. The OMMR system possesses the ability to track and securely store the information that has been requested and received from outside agencies and is modeled off the CDC's national Maternal Mortality Review Information Application database.

Step 2: Investigation and Data Abstraction

The "Investigation Phase" begins as the data from each case is reviewed for essential information such as cause of death, location of death and significant dates in order to obtain "clues" about which organizations to contact to acquire pertinent information about each case. 2018 HB 4133, Sec.1 (12)(a) through (13) ensures information that is requested for the purpose of accurately presenting cases to the MMRC is made available by the agencies that possess this material. Documentation that is received from various sources is used to create a comprehensive narrative of the circumstances leading to and involving each death and is for the sole purpose of assisting the committee during its review. To prepare for case reviews during 2020, information was requested from various sources including hospitals, medical providers, law enforcement, and emergency response services.

The investigation and data abstraction procedures are conducted simultaneously. The goal of MMRC abstraction is to glean as much information as possible from all applicable reports to create a comprehensive case narrative. The Oregon MMRC Abstractor (a physician with extensive experience in obstetric health) examines the records, identifies relevant clinical information and recognizes social determinants that affected the lives of the women. It is common for records that have been received to reference other agencies with further information about significant life events and additional records are often requested.

The CDC has provided a national database, known as the Maternal Mortality Review Information Application (MMRIA) to assist MMRCs with standardized data collection. "MMRIA" provides a common data language that is recognized nationally by other state and urban-based MMRCs. This system assists the abstractor with data organization and narrative creation that is free of any personal identifiers. In Oregon, the narratives describing each case are securely emailed to committee members ahead of review meetings so members can analyze each case before the committee convenes to discuss them.

Step 3: Case Review Meetings

Nationally, Maternal Mortality Review Committee meetings have traditionally been held in-person in order to encourage member teamwork and confidentiality. The Oregon MMRC members met twice in 2019 to receive introductions about case review activities, decide upon group agreements and processes, and participate in a "mock" case review presented by a member of the CDC Maternal Mortality Prevention Team. As previously noted, the coronavirus pandemic precluded continuing in-person meetings. With the advent of physical distancing regulations in 2020, the CDC's ERASE Program conducted multiple presentations about best practices for conducting mortality reviews using a virtual platform. The MCH Maternal Mortality Review Team revised the committee meeting format to assure effective member participation while maintaining the same level of confidentiality as in-person meetings. Three virtual case review meetings have been conducted in 2020.

The Oregon MMRC examines each case, identifies contributing risk factors that they believe led to each death and creates recommendations with the goal of decreasing and ultimately eliminating future deaths. Committee members discuss medical, socioeconomic, mental health, and environmental concerns that surrounded the lives of the women involved. During their reviews they assess the effects of discrimination and biases to determine if these were factors that contributed to each outcome.

The following six questions (Table 1) guide the Oregon MMRC when reviewing case narratives[8].

Table 1

Guiding questions for MMRC case narrative review

Was the death pregnancy-related?	This is a death that occurred 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.
What was the underlying cause of death?	The causes of death are found on the death certificate. The *underlying* cause of death refers to the disease or injury that led to each death.
What factors contributed to the death?	The committee discusses factors that contributed to the death of each woman using the following levels: • The systems that surrounded her life (e.g. payer and healthcare systems); • The community she lived in; • The facilities and providers she sought care from and; • Her personal and family life
What recommendations address these contributing factors?	After reviewing factors that contributed to the death, these are the recommendations the committee decides upon that may ultimately improve systems of care for women and avert future deaths from occurring.
What impact could these recommendations have?	This is the anticipated impacts of the recommendations that are determined by the committee. These levels of impact can be found in the CDC *MMRC Facilitation Guide's* "Level of Impact Pyramid". (Appendix D)
Was the death preventable?	A death is considered preventable if there was at least some chance of the death being averted by changes within the systems that surrounded her; the community she lived in; the facilities and providers she sought care from; and her personal and family life.

Discussing the lives of women who have tragically died while pregnant or within the year following pregnancy can be heartrending. In order to foster a culture of collaboration, consideration for the opinions of others and self-care, guidelines for meeting interactions in the form of the MMRC Group Agreements (Appendix E) have been implemented. These agreements are a component of the OHA Public Health Division MCH Section Trauma Informed Meeting Guidelines, and they are presented at each committee meeting. The Maternal Mortality Review Team continues to promote practices for physical and emotional wellness for MMRC members during and after case review meetings.

Committee Findings and Recommendations

Thirteen potentially pregnancy-associated deaths were identified during 2018. Of the cases that initially met criteria for review (n=10) all but one has been completed by the MMRC and are included in this report; the remaining case will be reviewed in 2021.

This initial one-year review period limits our ability to make conclusions about the final number of pregnancy-related and pregnancy-associated deaths that occur in Oregon in other years, and about how race and ethnicity, age and manner of death are involved. This limited initial number of cases reviewed have not yet provided data about pregnancy-related causes of death attributed to medical issues such as cardiovascular conditions, hemorrhage and infection[2] or how these conditions are related to maternal health inequities in Oregon.

Among the cases that have been reviewed, chronic and postpartum depression and substance use disorders are recurring themes. In multiple cases, lives ended in suicide. The recent U.S. Department of Health and Human Services *Action Plan to Improve Maternal Health in America* highlighted challenges regarding access to care. The Oregon MMRC also identified this issue, especially with regards to mental health and substance use disorder outreach. Although the committee reviewed just one year of cases, they identified several issues and gaps that were noticeable in the lives of the women they discussed. The more prominent and frequent findings and committee recommendations that address these concerns are found in Table 2.

Table 2

MMRC Findings and Recommendations

Committee Findings	Committee Recommendations*
Suicide, mental health (MH) issues and histories of substance use disorder (SUD) before, during or after pregnancy are prevalent throughout the cases reviewed to-date	Ensure reliable access to appropriate outreach services such as local public health and universally-offered postpartum home visiting programs that specifically address MH and SUD, and that go beyond pregnancy to include the 12-week postpartum period with the ability to increase visits to at least one year postpartum if concerns/risk factors continue. Ensure culturally responsive home visiting services and prioritize more frequent contact for higher risk clients.
Inadequate access and missed opportunities to health care and medical services; Inadequate access to wrap-around services	All pregnant women must have access to strong maternal health-care systems. Extend expanded Medicaid coverage eligibility for pregnant women to include one year of postpartum care. Approve Medicaid exemption during pregnancy and the postpartum period to allow clients to continue to visit the same OBGYN/primary care provider after a move to a different county; ensure that clients who are requesting this exemption receive assistance with the process. Create a quality improvement body that analyzes client encounters, interventions and outcomes within the various health care and public health systems; provide feedback on the efficacy of interventions. Establish trust via “anchor persons” (obstetric case management worker, home visitor, etc.) who will have regular contact with Medicaid eligible clients throughout each pregnancy, the 6 to 12-week postpartum period and beyond if needed. Develop a team to investigate federal grants that assist with pregnancy-related concerns. Create partnerships between providers, home visitors and Coordinated Care Organizations to assist with referral processes which can be difficult and often confusing. Create a quality improvement team to review outpatient care gaps (e.g. timeliness of follow-up visits) to improve care coordination.

Committee Findings	Committee Recommendations*
Inadequate resources and missed screening opportunities for MH and SUD treatment and management	Staff emergency departments with physicians, nurses and social workers with psychiatric education and include them during the treatment course. House Behavioral Health (BH) workers in primary care and OBGYN clinics and incorporate one-on-one time with a BH clinician during provider visits. Provide e-consults/telehealth visits and ensure that clients understand how to access these services. Utilize doulas who have substance use specialties to provide culturally knowledgeable care. Develop state sponsored community-based support groups with home visiting programs for new mothers with risk factors for suicide/substance misuse. Invest in additional social workers, BH specialists and community health workers to assist with the transition from pregnancy to the postpartum period and beyond, if needed, for Medicaid patients. Provide reliable access to engagement services such as peer outreach to pregnant women with active/severe SUD/MH issues by peers who have a personal history of drug use in pregnancy.
Possible implicit biases toward homelessness, tobacco/drug abuse, mental illness, low income, alcohol abuse, etc.	Develop expanded implicit bias and values training for individuals working within the healthcare system. Provide mandatory education for workers in settings that use Medicare and Medicaid funds to identify and decrease actions that may lead to substandard care. Include a doula or other support person for the mother in the delivery room to facilitate time between mother and infant when there is an Oregon Department of Human Services (ODHS) order in place for removal in order to make the separation less traumatic for mothers. Create methods of support and follow-up for all women who leave the hospital without a baby, including instances of stillbirth and orders of removal.

Committee Findings	Committee Recommendations*
Histories of intimate partner violence (IPV)	Mandate screenings for IPV universally within all healthcare entities and monitor and measure how often these screenings are conducted and their outcomes. Staff all hospitals with individuals with specific training in IPV who will be available for all patients with positive domestic violence screens. Invest in specially trained IPV intervention teams to assist when law enforcement responds to calls involving domestic violence.
Untreated childhood physical and emotional trauma	Provide additional funding to the child welfare system to improve and expand programs dealing with mental health, school-based home visiting projects and education and training of child welfare workers.
Inappropriate management of chronic pain/missteps by pain or addiction medicine specialists	Identify high prescribers and routinely provide outreach and education with peer-to-peer discussions. Develop additional state pain management services, especially for pregnant patients on Medicaid or in rural areas. Create healthcare facility policies to perform thorough and culturally appropriate evaluations of pregnant patients with high risk factors including homelessness, IV drug use, etc. Hospitals should consider the risk of post-cesarean narcotic addiction when the decision for a surgical birth is made and provide culturally matched doulas for these birthing mothers.

***The recommendations will need to be refined to include responsible parties and applicable timeframes.**

Summary

Maternal mortality reviews will continue to be conducted with a minimum of two meetings per year including additional review meetings as needed. As our pool of fully reviewed cases enlarges over time, we expect to find similar plus many newly identified risk factors and gaps that contribute to maternal deaths. The Oregon MMRC case review discussions will greatly improve our ability to evaluate the data derived from case information such as age and manner of death. We strive to collect additional input to provide a better understanding about the effects of racial inequities and discrimination during pregnancy and the postpartum period. As case reviews are conducted, we will expand upon our recommendations to create more concise and data-driven interventions to inform and stimulate public health policy.

The Oregon MMRC has the distinct charge of reviewing the lives and circumstances of women whose deaths occurred during pregnancy and the year postpartum and recommending specific and feasible actions to prevent future deaths. There are specific steps involved in identifying, preparing and reviewing each case (Appendix C). This report is the first deliverable of the "dissemination" process.

Executive Appointments Board Roster

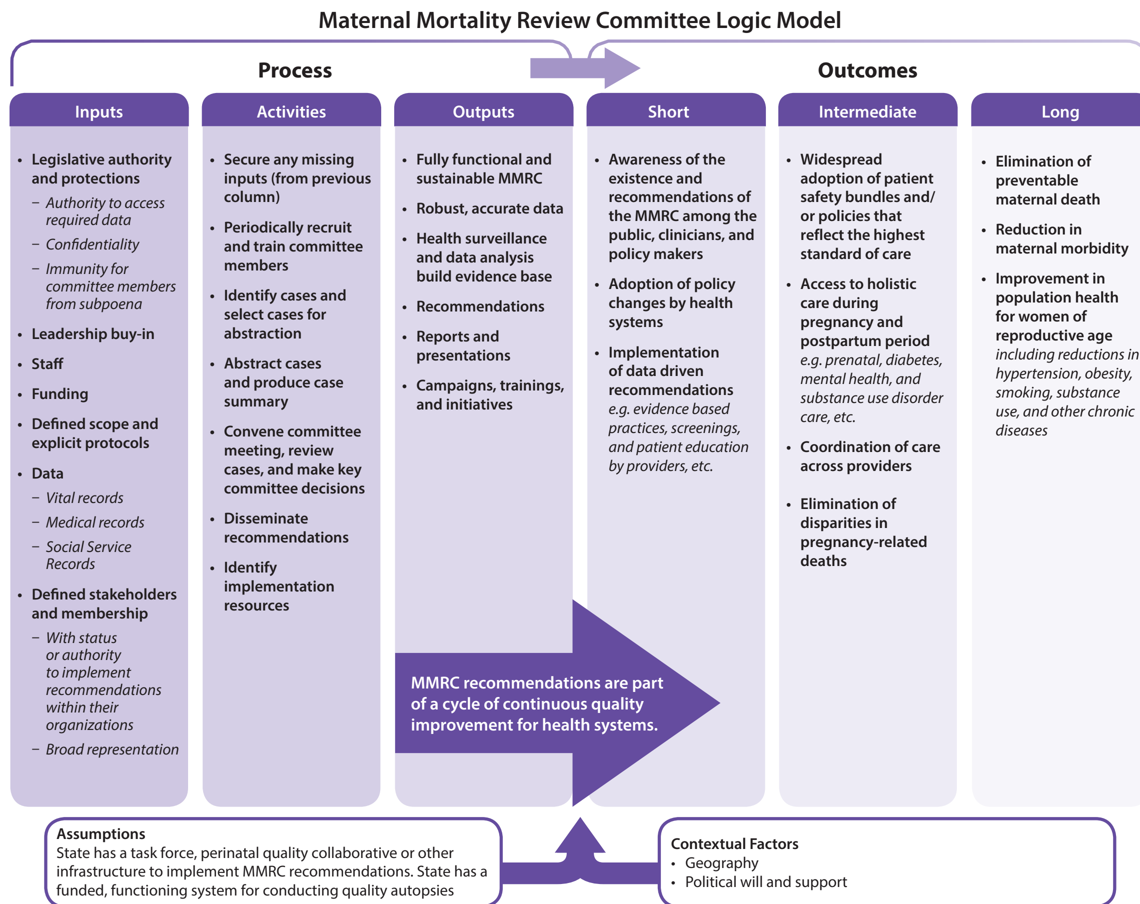
Maternal Mortality and Morbidity Review Committee
Oregon Health Authority

Current Appointments (alphabetical):

Member Name	Committee Position
LaRisha R Baker	Public Health Expert
Melissa J Cheyney	Licensed Direct Entry Midwife
Sarah E Cole	Licensed Registered Labor and Delivery Nurse
Nafisa N Fai	Member At Large
Alivia M Feliciano	Doula
Amie L Keys	Medical Examiner (Deputy)
Jackie Leung	Traditional Health Worker
Nancy J MacMorris-Adix	Licensed Registered Nurse and Certified Midwife
Lesa R O'Dell	Maternal and Child Health Subject Matter Expert on OHA
Maria I Rodriguez	OB/GYN Physician / MMRC Chairperson
Jeanne S Savage	Family Medicine Physician
Brandon M Togioka	Member At Large
Mark W Tomlinson	Maternal Fetal Medicine Physician
Rick Treleaven	Community Based Organization Representative (Mental Health)
Ana del Rocío Valderrama	Community Based Organization Representative (Communities of Color)

Appendix A: Maternal Mortality Review Logic Model

The CDC ERASE Program created the Maternal Mortality Review Logic Model that identifies starting points (inputs) and operating processes of an MMRC and leads to multiple levels of outcomes achieved as the work of the MMRC continues.



Appendix B: Oregon MMRC Scope, Mission, Vision and Goals

Scope

The scope of the 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.

Mission

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

The Oregon MMRC will identify and review pregnancy-associated deaths, review those caused by pregnancy complications and other associated causes, identify the factors contributing to these deaths and recommend public health and clinical interventions that may reduce these deaths and improve systems of care.

Vision

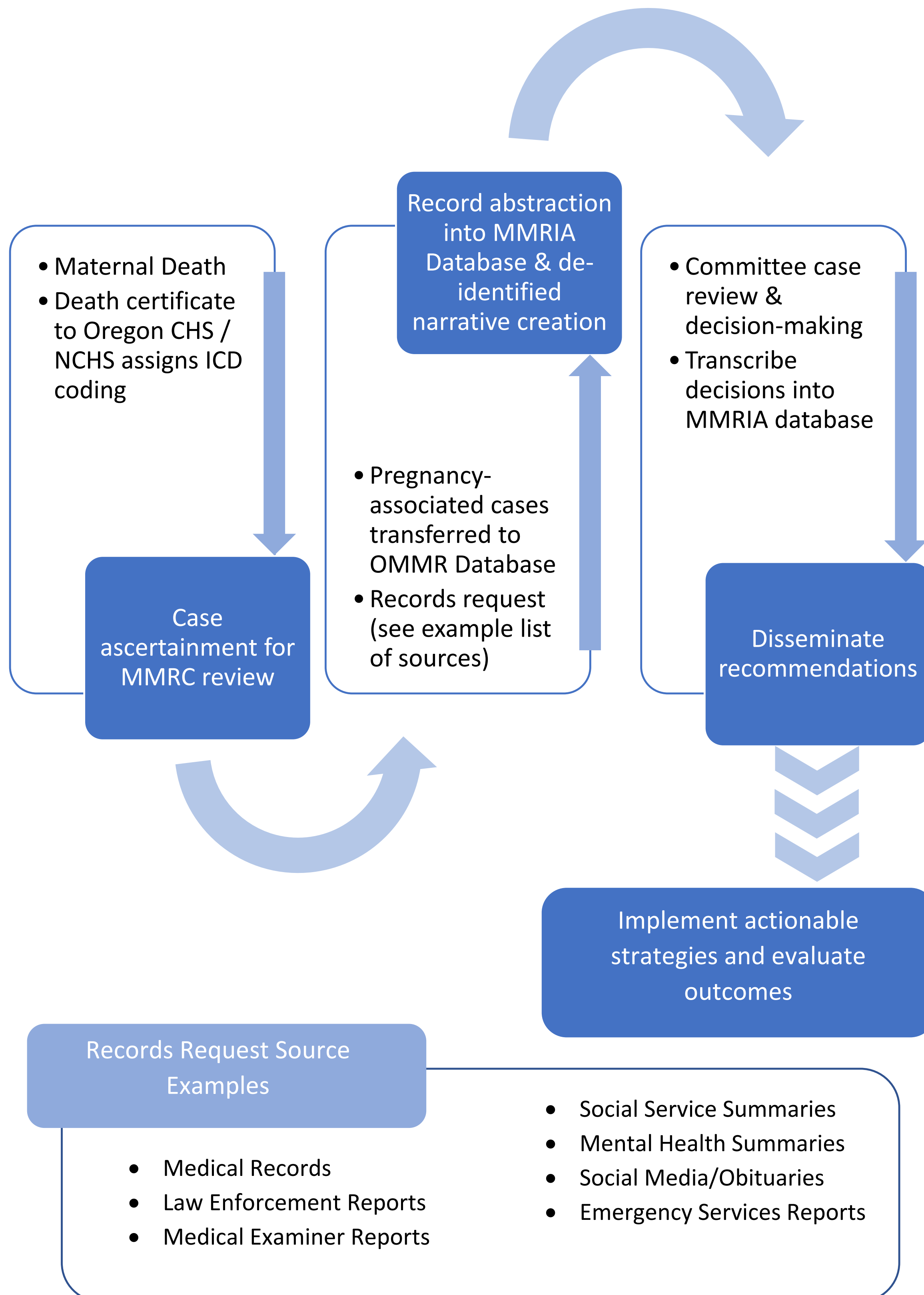
The vision of the MMRC is to eliminate preventable maternal mortality and morbidity by reviewing pregnancy-related deaths, identifying contributing risk factors, and creating recommendations to reduce future deaths.

Goals

The goals of the MMRC are to:

- **Perform thorough record abstraction** 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 Oregon.
- **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.

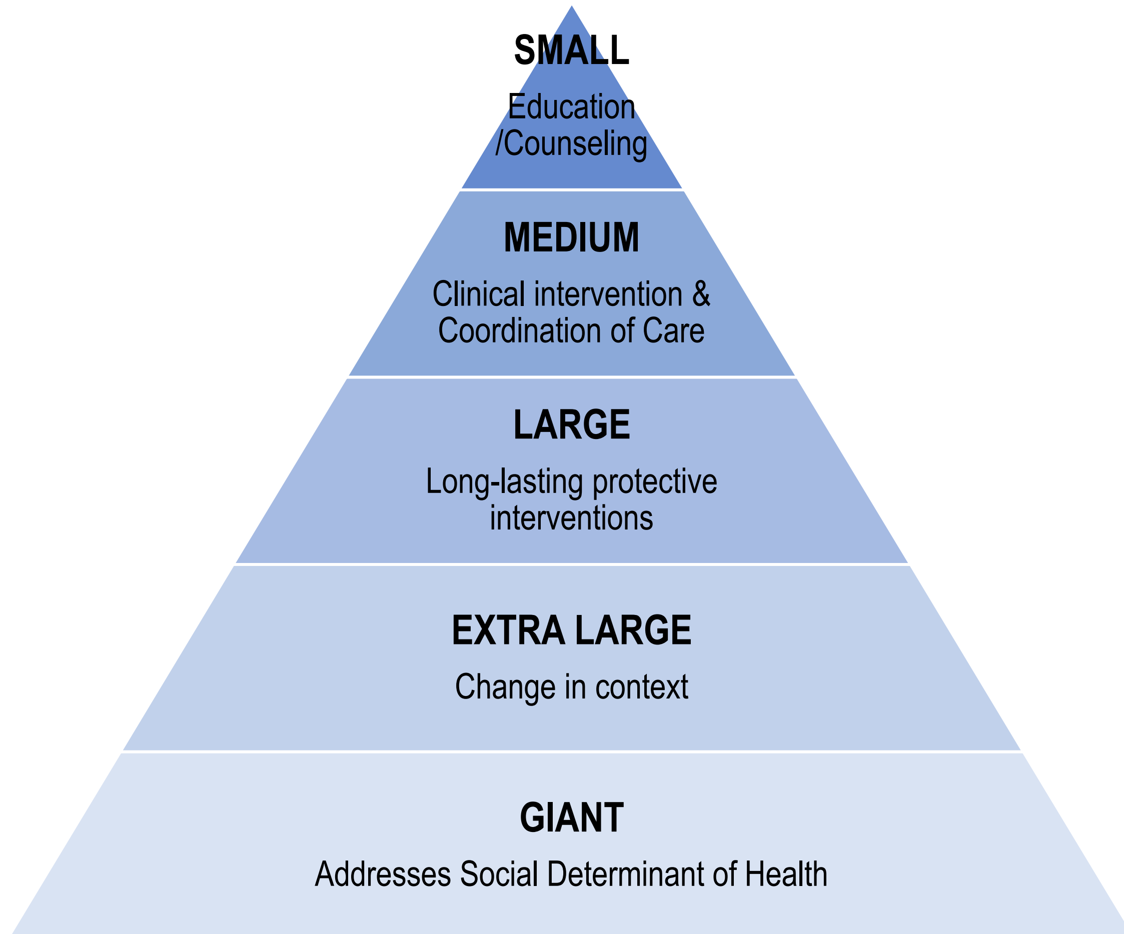
Appendix C: Oregon MMRC Process



Adapted from the Ohio Pregnancy-Associated Mortality Review (PAMR) Maternal Mortality Review System Flowchart

Appendix D: Level of Impact Pyramid

The anticipated level of impact helps prioritize recommendations[9].



Appendix E: MMRC Group Agreements

Maternal Mortality and Morbidity Review Committee (MMRC) Group Agreements

Group agreements are a component of the MCH Section Trauma Informed Meeting Guidelines. These provide guidance for meeting interactions such as those that will occur during case review discussions.

Group agreements will be presented and reviewed at every meeting. These may change depending on member's feedback.

- Be Prepared
- Respect Confidentiality
- Be Open to Learning - no one knows everything, together we know a lot
- Speak from Your Own Experience - use "I" statements rather than generalizations
- Be Mindful of Jargon, Acronyms and Industry Language
- Take Space / Make Space - if you are usually quiet challenge yourself to take more space, and if you are usually more talkative be mindful to leave room for quieter voices
- Honor Reflection Time and Silence
- Value, Honor and Appreciate Multiple Perspectives
- Address members by first name / Avoid titles
- Be Curious, Open, and Respectful
- One Mic: one voice at a time
- Take care of yourself: use restroom, eat, take breaks, stretch, stand up, etc.
- Incorporate Trauma Informed Care Practices – acknowledge and understand the impact of trauma on members. Contribute to a space of collective care

Glossary and Acronyms

Key Terms and Definitions

Maternal Death Rate: Number of maternal deaths per 100,000 live births. (Measurement used by the Oregon Center for Health Statistics.)

Pregnancy-Associated, But Not Related Death: A death during pregnancy or within one year of the end of pregnancy from a cause that is not related to pregnancy. (CDC Maternal Mortality Review Committee Decisions Form v.20)

Pregnancy-Related Death: A death 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. (CDC Maternal Mortality Review Committee Decisions Form v.20)

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. (CDC Maternal Mortality Review Committee Decisions Form v.20)

Acronym	Meaning
ACOG	American College of Obstetricians and Gynecologists
BH	Behavioral Health
CDC	Centers for Disease Control and Prevention
CHS	Center for Health Statistics
ERASE MM	Enhancing Reviews and Surveillance to Eliminate Maternal Mortality
HB 4133	House Bill 4133
HHS	Department of Health and Human Services
ICD-10	International Classification of Diseases, 10th Revision
IPV	Intimate Partner Violence
IV	Intravenous
MH	Mental Health
MMRIA	Maternal Mortality Review Information Application
MCH	Maternal and Child Health
MMRC	Maternal Mortality and Morbidity Review Committee
NCHS	National Center for Health Statistics
OBGYN	Obstetrician and Gynecologist
ODHS	Oregon Department of Human Services
OHA	Oregon Health Authority
OMMR	Oregon Maternal Mortality Review (Database)
OPC	Oregon Perinatal Collaborative
PMSS	Pregnancy Mortality Surveillance System
SMM	Severe Maternal Morbidity
SUD	Substance Use Disorder
U.S.	United States

Endnotes and References

1. Review to Action. *Committee Decisions* Form v.20. Retrieved December 22, 2020 from https://reviewtoaction.org/sites/default/files/national-portal-material/mmria-form-v20-fillable.pdf

2. Peterson, E.E., Davis, N.L., Goodman, D., et al. (2019). Vital Signs: Pregnancy-related deaths, United States, 2011–2015, and strategies for prevention, 13 States, 2013–2017. *MMWR*, 68, 423–9. http://dx.doi.org/10.15585/mmwr.mm6818e1

3. Centers for Disease Control and Prevention. Pregnancy Mortality Surveillance System. Retrieved December 23, 2020 from https://www.cdc.gov/reproductivehealth/maternal-mortality/pregnancy-mortality-surveillance-system.htm

4. Peterson, E.E., Davis, N.L., Goodman, D., et al. (2019). Racial/Ethnic Disparities in Pregnancy-Related Deaths – United States, 2007-2016. *MMWR*, 68(35),762-65. https://www.cdc.gov/mmwr/volumes/68/wr/mm6835a3.htm

5. Centers for Disease Control and Prevention. Enhancing Reviews and Surveillance to Eliminate Maternal Mortality (ERASE MM). Retrieved December 22, 2020 from https://www.cdc.gov/reproductivehealth/maternal-mortality/erase-mm/index.html

6. United States Department of Health and Human Services. *Healthy Women, Healthy Pregnancies, Healthy Futures: Action Plan to Improve Maternal Health in America*. Retrieved December 3, 2020 from https://aspe.hhs.gov/system/files/aspe-files/264076/healthy-women-healthy-pregnancies-healthy-future-action-plan_0.pdf

7. United States Public Health Service. *The Surgeon General's Call to Action to Improve Maternal Health*. Retrieved December 3, 2020 from https://www.hhs.gov/sites/default/files/call-to-action-maternal-health.pdf

8. Shellhaas, C.S., Zaharatos, J., Clayton, L., Hameed, A.B. (2019). Examination of a death due to Cardiomyopathy by a Maternal Mortality Review Committee. *American Journal of Obstetrics and Gynecology*, 221(1), 1-8.

9. Review to Action. *Maternal Mortality Review Committee Facilitation Guide*. Retrieved December 23, 2020 from https://reviewtoaction.org/sites/default/files/national-portal-material/Maternal%20Mortality%20Review%20Committee%20Facilitation%20Guide_V10.pdf

PUBLIC HEALTH DIVISION
Phone: 971-673-0252
Email: mchsection.mailbox@dhsoha.state.or.us

This document can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request this publication in another format or language, contact the Publications and Design Section at 503-378-3486, 711 for TTY, or email dhs-oha.publicationrequest@state.or.us