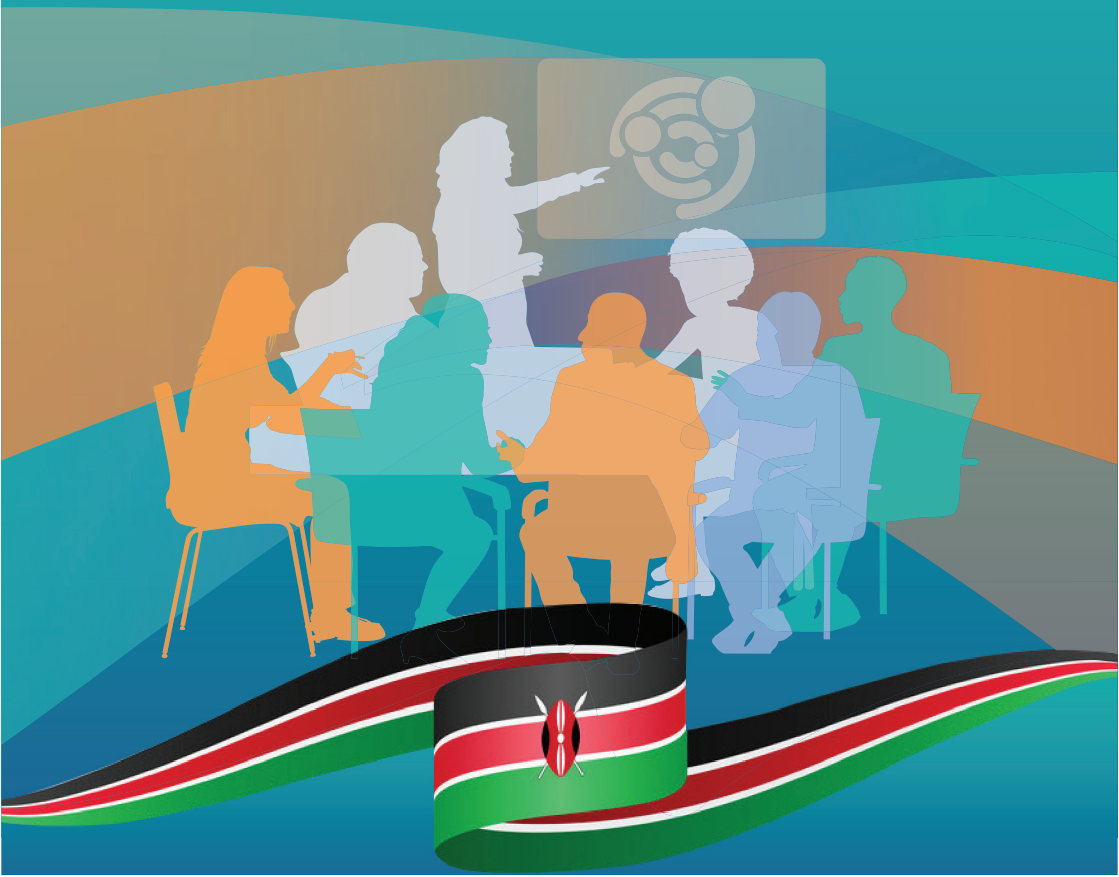
MINISTRY OF HEALTH

NATIONAL GUIDELINES FOR MATERNAL AND PERINATAL DEATH SURVEILLANCE AND RESPONSE

2024



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FOREWORD

The Kenya Health Policy Framework (2014-2030) goal is to offer the highest attainable standard of health and be responsive to the needs of the Kenyan citizens. Kenya has made some strides in improving maternal and newborn health outcomes. The maternal mortality reduced slightly from 362 per 100,000 live births (KDHS 2014) to 355 per 100,000 live births (Kenya Population and Housing Census, 2019) while skilled delivery has increased from 62% in 2014 to 89% in 2022 (KDHS 2022). There is a slight reduction in neonatal mortality over the last 8 years from 22 per 1000 live births in 2014 to 21 per 1000 live births in 2022 (KDHS 2022). Therefore, more needs to be done as many women and neonates continue to suffer or die from conditions, which are preventable or treatable.

Improving quality of Maternal and Newborn Health services is a priority for the Government of Kenya. MPDSR is a quality improvement process that responds to the Global Strategy for Women's Children's and Adolescent's Health (2016-2030) which seeks to end preventable maternal, new-born, child and adolescent death and stillbirths. The Ministry of Health reviewed the national guidelines for Maternal and Perinatal Death Surveillance and Response (MPDSR) 2016 through a consultative process led by the Division of Reproductive and maternal health in collaboration with partners and stakeholders in maternal and newborn health. The review of this guideline was necessitated by the recent developments in the revision of national reproductive and maternal health strategic policy documents such as the National guidelines for quality obstetric and perinatal care (MOH 2020), Maternal and Newborn Health Standards (MOH, 2022), and the launch of the ICD-11 guidelines.

The National Guidelines for Maternal and Perinatal Death Surveillance and Response 2024 provides guidance on how to constitute the different MPDSR Committees and conduct reviews of maternal and newborn death and stillbirths as well as near misses both at facility and community levels. The guidelines outline the reporting pathways and documentation process of avoidable factors with a clear response mechanism to avoid future deaths. The guidelines also serve as a point of reference for the implementation of the MPDSR system at different levels of the health system.

It is expected that successful implementation of this guideline will increase accountability for the causes of maternal and perinatal deaths and the associated factors as well as help County Health Management Teams, policy makers, stakeholders and communities prevent and respond to preventable and avoidable maternal and perinatal deaths.

It is my sincere hope that this guideline will go a long way in accelerating the reduction of maternal and perinatal morbidity and mortality and get the country on track to Vision 2030 and the Sustainable Development Goals. The Government of Kenya is committed to working closely with all stakeholders at the National and County level to strengthen the MPDSR system.

Dr Patrick Amoth, EBS
Director General of Health

ACKNOWLEDGEMENT

The review of the National Maternal and Perinatal Death Surveillance and Response guidelines involved in-depth consultations with a wide range of stakeholders through literature review, interviews, consultative meetings and reviews of the various drafts of the guidelines.

The Ministry of Health feels greatly indebted to individuals and organizations who contributed in one way or another to this elaborate process. Specifically, the Ministry would like to thank Dr. Edward Serem, Head, Division of Reproductive and Maternal Health, and Dr. Janet Karimi, Head, Division of Newborn and Child Health who gave invaluable inputs and support to the review and revision exercise.

We further wish to extend our gratitude to Dr. Jeanne Patrick, MNH Program Manager and Scolastica Wabwire M&E Program Manager for leading the process and working with Dr. Pamela Godia, the lead consultant, to collect, synthesize and incorporate stakeholders' views at every stage of revising the guidelines. The Ministry of Health would like to further recognize Hellen Mutsi, Karen Aura, Janet Mogire, Jane Koech, the guidelines review taskforce members and the Maternal and Newborn Health Technical Working Group (MNH TWG) members who worked tirelessly with the consultant to ensure success at each stage of the process.

The Ministry of Health also wishes to specifically acknowledge the contributions of the County Health Management Teams representatives, obstetricians/gynaecologists, paediatricians and midwives from various health institutions, multiple experts from medical training institutions various government agencies and institutions that led to the review and development of the National MPDSR Guidelines 2024.

Lastly, we acknowledge the technical and financial support provided by UNFPA and WHO.

Dr. Issak Bashir

Ag. Director of Family Health

ACRONYMS

ANC	Antenatal care
CEMD	Confidential Enquiry into Maternal Death
CDH	County Director for Health
CHV	Community Health Volunteer
CHP	Community Health Promoter
CRHC	County Reproductive Health Coordinator
CRVS	Civil Registration and Vital Statistics
HRIO	Health Records Information Officer
KHIS	Kenya Health Information System
ICD	International Classification of Diseases
ICD-PM	The WHO application of ICD-10 to deaths during the perinatal period
ICD	International Classification of Diseases
ICD 11	International Classification of Diseases Version 11
MDR	Maternal death review
MDSR	Maternal death surveillance and response
MPDSR	Maternal and perinatal death surveillance and response
MMR	Maternal mortality ratio
MOH	Ministry of Health
MNH	Maternal and Newborn Health
PDR	Perinatal death review
PNC	Postnatal care
SC HRIO	Sub-County Health Records Information Officer
SC RHC	Sub-County Reproductive Health Coordinator
RMHSU	Reproductive Maternal Health Services Unit
QI	Quality improvement
QoC	Quality of Care
SDG	Sustainable Development Goals
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WRA	Women of reproductive age

TARGET USERS

This National MPDSR guideline has a broad target audience, which include:

- Health care providers in clinical care for women and newborns, and the maternal and perinatal death review processes
- Public health officials and public health leadership
- Other stakeholders in maternal and perinatal death health, such as planners and managers
- Pre-service training institutions for medical doctors, nurses and clinical officers
- Epidemiologists
- Demographers
- Policy-makers
- Professional associations
- Professionals working with vital registration systems.

EXECUTIVE SUMMARY

Maternal and perinatal death surveillance and response (MPDSR) constitutes a quality improvement approach to identify the burden of maternal and perinatal deaths, the underlying causes of death and associated factors, identify and prioritize the implementation of actions to reduce future deaths. The primary goal of MPDSR is to reduce future preventable maternal and perinatal mortality through a continuous action and surveillance cycle followed by the interpretation of the aggregated information on the findings which is used for recommended actions.

Kenya published the National MPDSR guidelines in 2016 which formed the basis for the technical and financial support to the National MPDSR programme. Following the recent developments in the revision of national reproductive and maternal health strategic policy documents such as the National guidelines for quality obstetric and perinatal care (MOH 2020), Maternal and Newborn Health Standards (MOH, 2022), and the launch of the ICD-11 guidelines, there is need to align the national MPDSR guidelines to these changes. The guidelines also serve as a point of reference for the implementation of the MPDSR system at different levels of the health system.

The development of this guideline was through a consultative process and took a multi-pronged approach which included a desk review, consultative meetings and workshops, focus group discussions and interviews with key stakeholders including National and County Level MOH staff, Representatives of Development and Implementing Partners, and professional associations.

Some of the updates included in this guideline are: reconstitution of MPDSR committees at all levels for inclusivity, clarifying roles and responsibilities of MPDSR Committees and introduction of a code of conduct for committee meetings. The guidelines address the following sections:

- Approaches for the implementation of MPDSR in Kenya
- Situation analysis of the implementation of MPDSR in Kenya
- The structure and composition of MPDSR committees at the different levels
- Monitoring and evaluation
- Legal and ethical considerations

CHAPTER ONE

INTRODUCTION

1.1 Status of maternal and perinatal mortality

Reports by WHO and partners show that between 2000-2020, there has been a 34 percent reduction in the global maternal mortality ratio (342 to 223 per 100,000 live births), translating to an annual reduction rate of 11.6 percent. This is a lower annual reduction rate if the Sustainable Development Goal of less than 70 maternal deaths per 100,000 live births is to be achieved by the year 2030 (WHO, 2023). In 2020, almost 800 women died every day from preventable causes related to pregnancy and childbirth, translating to almost one maternal death every two minutes. Almost 95 percent of these maternal deaths occurred in low and lower middle-income countries (WHO 2023).

In 2019, an estimated 2.0 million babies were stillborn at 28 weeks or more of gestation, with a global stillbirth rate of 13.9 stillbirths per 1,000 total births. This equates to 1 stillbirth every 16 seconds. This number may be an underestimate, as stillbirths are often underreported. (UN IGME, 2020). Women in sub-Saharan Africa and Southern Asia bear the greatest burden of stillbirths in the world with 42 percent of the global stillbirth total occurring in sub-Saharan Africa. Overall, an estimated 729,000 babies died during labour in 2019 in sub-Saharan Africa and Southern Asia, accounting for 88 per cent of all intrapartum stillbirths worldwide. Intrapartum stillbirth is a sensitive marker of timeliness and quality of intrapartum care (UN IGME, 2020). Most deaths of newborn babies occur in the first 24 hours and 80 percent result from three preventable and treatable conditions: infection, breathing difficulties and complications due to prematurity (WHO and UNICEF 2020).

WHO, UNICEF, UNFPA and other partners are supporting the implementation of Ending Preventable Maternal Mortality (EPMM) and Every Newborn Action Plan (ENAP) which sets out recommendations, coverage targets, and milestones for countries on how they can accelerate the progress of reducing maternal and newborn morbidity and mortality by 2030 (WHO and UNICEF 2020).

The maternal mortality in Kenya has reduced slightly from 362 per 100,000 live births (KDHS 2014) to 355 per 100,000 live births (Kenya Population and Housing Census, 2019). Kenya has increased progress in skilled delivery from 62% in 2014 to 89% in 2022 (KDHS 2022). Kenya has also made little progress in reducing neonatal mortality over the last 8 years from 22 per 1000 live births in 2014 to 21 per 1000 live births in 2022 (KDHS 2022).

1.2 Maternal and Perinatal Death Surveillance and Response

Maternal death surveillance and response (MDSR) was introduced by the WHO in 2013, with the release of the MDSR technical guidance (WHO, 2013). Maternal and perinatal death surveillance and response is defined as an essential quality improvement intervention which permits the identification, notification,

quantification and determination of causes and availability of maternal and perinatal deaths with the goal of orienting the measures necessary for their prevention (WHO 2013). This definition also includes confidential enquiries, maternal death reviews and perinatal death reviews.

MPDSR constitutes a quality improvement approach to identify how many maternal and perinatal deaths occur (Surveillance), what the underlying causes of death and associated factors are (Review), and how to implement actions to reduce the number of preventable maternal, stillbirths and neonatal deaths (Response) (WHO, 2021).

The primary goal of MPDSR is to reduce future preventable maternal and perinatal mortality through a continuous action and surveillance cycle followed by the interpretation of the aggregated information on the findings which is used for recommended actions. MPDSR has the potential of strengthening the quality of maternal and newborn programmes as well as routine data systems such as Civil Registration and Vital Statistics (CRVS) and routine health information systems (HIS) (WHO, 2021).

1.3 Rationale for the review of the 2016 MPDSR guideline

Kenya published the National MPDSR Guideline in 2016 with an aim of documenting the burden of maternal and perinatal deaths at all levels of care and generating actions to address avoidable factors to prevent future deaths occurring at all levels of care. In the recent past, the Ministry of Health has reviewed and developed the national reproductive and maternal health strategic policy documents such as the National guidelines for quality obstetric and perinatal care (MOH 2020), Maternal and Newborn Health Standards (MOH, 2022). In addition, the WHO launched the ICD-11 guidelines for classification of diseases which has made changes on the classification of causes of death during pregnancy, childbirth or the puerperium. With all these new developments, there is need to align the national MPDSR guidelines to these changes.

In 2021 WHO published implementation tools for Maternal and Perinatal Death Surveillance and Response which provide a road map for conducting maternal and perinatal death surveillance and response in policy and clinical settings (WHO 2021). The review of this guideline has integrated this guidance and taken cognizant of the lessons learned in the implementation of MPDSR over the last seven years.

1.4 Methodology for the guideline review

The development of this new guideline was through a consultative process and took a multi-pronged approach: desk review, consultative meetings and workshops, focus group discussion and interviews with key stakeholders including National and County Level Ministry of Health staff, Representatives of development partners, and professional associations.

1.5 Updates made to the 2023 MPDSR guidelines

- Representation of MPDSR committees at all levels has been restructured for inclusivity
- The functionality of MPDSR committees has been defined

- A meeting code of conduct to be signed by members attending committee meetings has been included to enhance privacy and confidentiality of meeting proceedings. Guidance on how to conduct committee meetings has been provided
- The appointing authority of County MPDSR committee members shall be the County Chief Officer of Health to whom the committee will be accountable.
- Community maternal and perinatal deaths shall be notified within 24hrs and Verbal Autopsy conducted within 14 days
- Community data shall be analyzed on a monthly basis
- Community Health Promoters (CHPs) shall replace Community Health Volunteers (CHVs)
- Consent shall be sought from community members participating in a verbal autopsy session

1.6 Guiding principles for MPDSR

- **Notification:** All maternal deaths and perinatal deaths are notified within 24-hrs after occurrence by completing the death notification form uploading to the Kenya Health Information System (KHIS) by health records information officers.
- **Zero reporting:** A zero-reporting principle is adopted, meaning that reports are submitted monthly even if no death has occurred. Recurrent zero reporting is also analyzed to find out why.
- **No Blame:** A "No Name, no blame" policy and approach is embraced
- **Focus is on health systems:** Death reviews focus on health systems not individuals
- **Anonymity:** Death audit/review data and committee meeting deliberations are anonymized, confidential and cannot be used for disciplinary or litigation purposes.
- **Source of Information:** The main source of information for facility-based death reviews is patient case notes. Relatives are the main source of information for verbal autopsy.
- **Response to identified actions is Mandatory:** The death reviews are considered incomplete without response to prevent avoidable factors in the future
- **Reviewing and learning:** Review meetings are a learning opportunity for all participants to improve quality of care and end preventable deaths
- MPDSR meetings builds on existing quality improvement interventions
- Start small, learning from the experience, refining, and adapting as we scale up.
- **Integration of Maternal and perinatal death reviews:** Where possible maternal and perinatal mortality reviews shall be integrated.

1.7 Key Definitions

Terms	Definition
Maternal death	The death of a woman while pregnant or within 42 days of the 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
Pregnancy-related death	The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death (obstetric and non-obstetric); this definition includes unintentional /accidental and incidental causes.
Late maternal death	Death of a woman from direct and indirect obstetric causes, more than 42 days but less than one year after termination of pregnancy
Spontaneous abortion	(also referred to as miscarriage) is a spontaneous loss of pregnancy (i.e., embryo or fetus) before 28 completed weeks of gestation.
Fetal Death	Fetal death is death of a fetus prior to its complete expulsion or extraction from a woman, irrespective of the duration of pregnancy
Stillbirth	The internationally comparable definition of stillbirth as defined by WHO is death before birth, among fetuses that are, by order of priority, of at least 1000 g birth weight, and/or at least 28 weeks gestation, and at least 35 cm long.
Antepartum stillbirths	Stillbirths which occur after the onset of labour
Intrapartum stillbirths	Stillbirths which occur after the onset of labour
Stillbirth rate	The stillbirth rate is defined as the number of stillborn babies per 1000 total births (total meaning both live and stillborn babies)
Neonatal death	Death after birth and within the first 28 days of life
Early neonatal	The “early neonatal period” refers to the first seven days after birth (0-7 days)
Late neonatal	Days 8 through 28 after birth
Perinatal mortality	The number of fetal deaths of at least 28 weeks of gestation and/or 1000 g in weight and newborn deaths (up to and including the first seven days after birth)
Modifiable / contributing factors	A modifiable or contributing factor is something that may have prevented the death if a different course of action had been taken

Terms	Definition
Verbal Autopsy	A method used to ascertain the cause of a death based on an interview with next of kin or other caregivers where no physician can evaluate the deceased.
Ending Preventable Maternal Mortality (EPMM) Targets	By 2030, all countries should reduce MMR by at least two thirds of their 2010 baseline level. The average global target is an MMR of less than 70/100 000 live births by 2030. The supplementary national target is that no country should have an MMR greater than 140/100 000 live births (a number twice the global target) by 2030.

CHAPTER TWO

SITUATION ANALYSIS OF IMPLEMENTATION OF MPDSR IN KENYA

2.1 Status of the implementation of MPDSR in Kenya

MPDSR is a strategy to document the burden of maternal and perinatal deaths, the causes and avoidable factors coupled with a clear response plan to avoid future deaths and make significant contributions to the achievement of the 2030 Sustainable Development Goals (SDGs). Specifically, MPDSR responds to SDG 3: Ensure healthy lives and promote well-being for all at all ages (United Nations 2016). It involves a qualitative in-depth investigation of the causes and circumstances surrounding maternal and perinatal deaths. The MPDSR process relies on the effective identification, reporting and assigning causes of deaths, identifying actions that may contribute to the prevention of further deaths, assigning those actions to particular groups or individuals for implementation, designating time frames for completion of those actions, and following up to ensure that those actions have been taken. The MPDSR process is an integral part of Quality-of-Care (QoC) improvements efforts to reduce maternal death, stillbirths and early neonatal deaths.

The purpose of this guideline is to provide guidance on how to conduct MPDSR and maternal near miss reviews at the health facilities and communities. Kenya has demonstrated good leadership and a strong political will to improve the quality of care for pregnant women, newborns and women in the postnatal period.

- Kenya made maternal death notifiable in 2004 through a gazette notice and in-cooperated into the Integrated Disease Surveillance and Response (IDSR).
- Kenya re-launched the facility maternal deaths audit guidelines in 2009 which focused more on correcting health system challenges rather than individual faults.
- The National MPDSR Guideline was published and launched in 2016 with guidance from the 2013 WHO MDSR Technical Guidance. Although the WHO technical guidance addressed MDSR, Kenya included the “P” to guide the review of perinatal deaths
- Kenya established a national MPDSR committee in 2016 through official appointment by the Cabinet Secretary of Health. The committee is chaired by the Director General for Health, and meets bi-annually.
- Kenya produced the first Confidential Enquiry into Maternal Deaths (CEMD) report in 2017 which reviewed maternal deaths that occurred in 2014.
- The first National Annual MPDSR report was launched in 2021 which included maternal and perinatal death data between the period 1st July 2019 to 30th June 2020.
- Functionality of MPDSR Committees at county level is at 36 percent.

The 2022 (January-December) KHIS data shows that the majority (over 80 percent) of maternal deaths are reviewed/audited at health facilities. On the contrary, only 15 percent of perinatal deaths are reviewed and uploaded to the KHIS tracker system (National Annual MPDSR report 2020). However, reporting and notification of maternal and perinatal death is not optimal. During the financial year 2019-2020, only 56.8 percent of all maternal deaths were notified within 24 hours of occurrence of death. Notification of Perinatal deaths remains very low.

2.2 Factors contributing to the success of MPDSR implementation in Kenya

Implementation of MPDSR has been largely successful because of the following factors:

- Good leadership and management support of the implementation of MPDSR leading to prioritization and budgeting of MPDSR activities by national, county governments and development partners.
- Having a pool of National MPDSR Trainer of Trainers (TOTs) who are instrumental in rolling down MPDSR training at County and health facility levels.
- The publication of the first Confidential Enquiry into Maternal Death (CEMD) report that facilitated the demystification of maternal deaths audits and enhanced understanding of the No Blame policy.

Implementation of actions identified during committee meetings motivates staff. Examples of actions identified and implemented included: setting up maternity specific theatres, employing more staff in maternity units, equipping the newborn unit, conducting EMONC mentorship sessions, setting up blood banks, allocating domestic budget to MPDSR activities, and expanding bed capacity for maternity

2.3 Gaps in the implementation of MPDSR in Kenya

Despite the successful implementation of MPDSR in Kenya, more needs to be done. Some of the key challenges include:

- Existence of some leadership and governance inadequacies at the county level as manifested in frequent changes/ re-deployment of the county health leadership e.g., the County Health Management Teams (CHMTs) negatively affects consistency and continuity of services
- High staff turnover for managers and service providers leads to the need to continuously train and sensitize new staff
- Systemic inconsistency and inaccuracy of data from health facilities to the KHIS which is the main source of data for the MPDSR process and the CEMD
- Inadequate follow-up and tracking of the implementation of actions identified during MPDSR review meetings.
- Weak linkages between the MPDSR and IDSR system
- The consistent low coverage for perinatal death reviews across the counties. Perinatal death review still remains not well understood, and low priority amongst health care workers
- Low importance/status placed on perinatal death reviews as communities have a low perception of perinatal deaths and regard it as a non-issue

- Lack of sufficient guidance on selection of cases for perinatal death review; health workers lack clarity on how to select cases for review because of the high numbers in most health facilities

2.4 Lessons learned in the implementation of MPDSR in Kenya

The 2016 National MPDSR guideline provided a framework for the implementation of MPDSR in Kenya and the following lessons have been learned over the last seven years:

- Prioritization and inclusion of MPDSR activities into national and county work plans and budget promotes ownership by the management
- Leadership and management support at all levels: national, county, health facility and community are essential for the successful implementation of MPDSR actions and recommendations
- The review of Maternal and Perinatal Deaths and uploading on KHIS does not necessarily lead to improved quality of care, more action is needed to address the identified gaps in quality of care at the facility level
- Linking maternal and perinatal death audits with EmONC mentorship improves quality of care because maternal death and perinatal death cases are discussed as scenarios during EmONC mentorship sessions
- The **"P'** and **'R'** in MPDSR are weak and need more attention. Responding to priority actions is an essential component of the response cycle and has the potential of preventing future maternal and perinatal deaths
- Having consistent follow-ups, and mentorship sessions has the potential to produce positive results, helps improve understanding of the MPDSR process, and ensures that locally relevant solutions are implemented and sustained
- It is essential to have adequate preparation and information for maternal and perinatal audit/review committee meetings including having case summaries for maternal and perinatal deaths prior to meetings

CHAPTER THREE

MPDSR GOAL, OBJECTIVES AND APPROACHES FOR IMPLEMENTATION

3.1 Goal of MPDSR

The primary goal of MPDSR is to take action to eliminate preventable maternal and perinatal deaths by obtaining and using information on each death to guide public health decisions and actions as well as monitor the impact.

3.2 Specific objectives

1. To document the burden of maternal and perinatal deaths.
2. To gain understanding of the health system failures that led to the maternal or perinatal death or complication.
3. To generate information about modifiable factors contributing to preventable death, and to use the information to guide action in order to prevent similar deaths in the future.
4. To raise awareness among health professionals, decision makers, policy makers and community members about those factors in the facilities and the communities which, if avoided, the death may not have occurred (the avoidable/modifiable factors).
5. To stimulate action to address the avoidable factors thereby preventing future maternal and perinatal deaths.
6. To promote confidentiality and a “blame free” culture.
7. To track the implementation of actions that were recommended in the previous MPDSR committee meetings.

3.3 Rationale for MPDSR Process

The rationale of the MPDSR process is twofold:

1. Generates information about modifiable/ avoidable factors and identifies actions if implemented can contribute to the prevention of future deaths
2. Provides an opportunity for the establishment of a framework for accountability and accurate assessment of the magnitude of maternal and perinatal mortality and the effectiveness of interventions to prevent these deaths.

3.4 Approaches for implementation of MPDSR

There are several approaches that can be used to monitor maternal and perinatal deaths and clinical practice. All have the objective of reducing maternal and neonatal mortality and morbidity by improving

the quality of MNH care provided. Approaches that are currently in use in the guidelines include:

- Community-based maternal and perinatal death reviews (verbal autopsy)
- Facility-based maternal and perinatal death reviews
- Confidential enquiries into maternal deaths
- Near miss reviews

3.4.1 Community-based maternal and perinatal death reviews (verbal autopsy)

Community-based maternal death review is a method of finding out the medical causes of death and ascertaining the personal, family or community factors that may have contributed to the deaths of women who died outside of a health facility. The entry point is to ascertain from the immediate family members if the deceased woman was pregnant or not.

Subsequently, questions are asked about the major symptoms and presentations of the most common direct causes of mortality i.e., hemorrhage, infection, hypertensive disease, obstructed labour and abortions. Indirect causes of maternal death are also similarly enquired about. Once the presenting features of the main illness that led to the woman's death are identified, the cause of death is usually assigned following International Classification of Diseases (ICD 11) for wider comparison and ease of aggregation of data at the county or national level.

Efforts are also made to identify causes of delay in accessing MNH services using the three delays framework, focusing on any causes in delay in recognizing the need to go to a health facility (1st delay factors), delay in actually arriving at the facility once the decision to go to facility was made (2nd delay factors) and delays in receiving care at the health facility (where applicable).

For perinatal deaths, verbal autopsy revolves around whether there was a still birth or baby died within 7 days after being born alive. Maternal conditions during the pregnancy are then enquired about. Also important is the enquiry about the symptoms the new-born exhibited before death.

3.4.2 Facility-based maternal and perinatal death reviews

A facility-based maternal or perinatal death reviews are qualitative in-depth investigation of the causes of, and circumstances surrounding maternal/ perinatal deaths occurring at health facilities. It is particularly concerned with tracing the path of women and neonates who died, through the health care system to identify any avoidable factors, which when acted upon can prevent future deaths. The review process involves identifying the medical cause of death, evaluating clinical care, identifying non-medical / avoidable factors using the three delays framework, identifying actions/recommendations, and developing an action plan to implement these recommendations. Persons to conduct maternal and perinatal death reviews should be composed of both maternal health care providers and the new-born care team.

No maternal or perinatal death review is complete unless it is linked with a response with clear action and assigned responsibility.

3.4.3 Confidential Enquiries into Maternal Deaths

Confidential Enquiry into Maternal Death (CEMD) is a systematic multidisciplinary anonymous investigation of all or a representative sample of maternal death occurring at an area, regional (state) or national level which identifies the numbers, causes and avoidable or remediable factors associated with them (WHO, 2004). Through the lessons learnt from each woman's death, and through aggregating the data, confidential enquiries provide evidence of where the main problems in overcoming maternal mortality lie, an analysis of what can be done in practical terms, highlight key areas requiring recommendations for health sector and community action, and guidelines for improving clinical outcomes (WHO 2004). Confidential enquiries validate the national aggregated data on death reviews from individual, community and facility MPDSR committees. It involves assessment source of information documents including patient's notes by independent assessors and discussions to reach consensus on the cause of death. **The CEMD report shall be produced after every three years**

3.4.4 Near Miss Morbidity Reviews

WHO defines maternal near-miss (MNM) as a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy (WHO 2011). This strategy has been adopted in this guideline as a routine part of MPDSR. The near-miss approach yields results that inform policy decisions for improving the quality of maternal health care in health-care facilities.

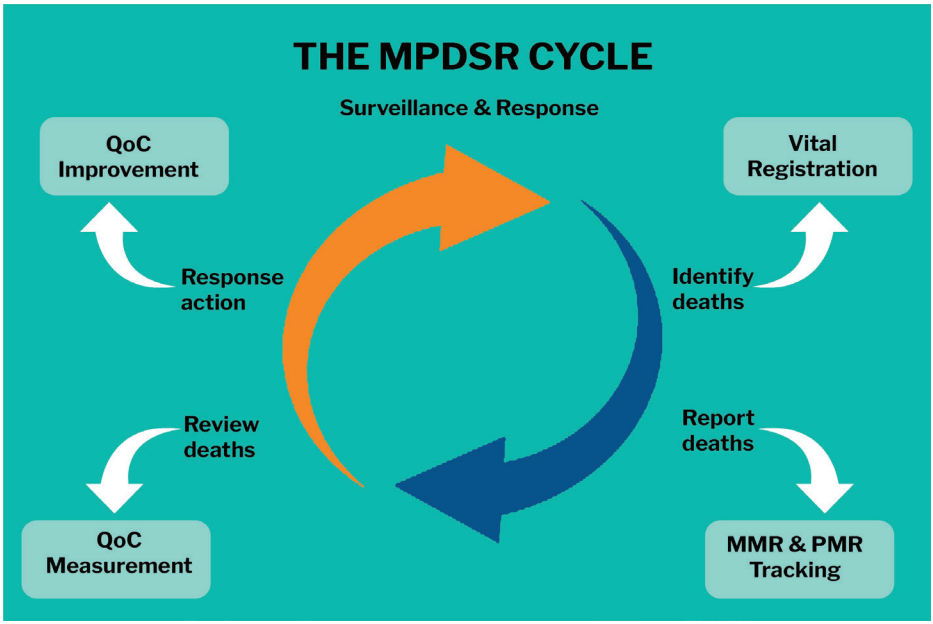
3.4.5 The National Annual MPDSR Report

The purpose is to identify the underlying causes of maternal and perinatal deaths, contributory and associated factors for each maternal and perinatal death, assess the status of health facilities and the functionality of MPDSR committees and make recommendations to improve the quality of care provided to women during pregnancy, childbirth and the puerperium. The National MPDSR report shall be produced annually following the Government of Kenya financial year.

3.5 The MPDSR Audit/Review Cycle

The MPDSR process is cyclic and comprises of:

- Effective identification of deaths
- Reporting the deaths
- Reviewing the death to assign causes of deaths
- Identifying actions that may contribute to the prevention of further deaths
- Assigning those actions to particular groups or individuals for implementation
- Allocating time frames for completion of those actions, and following up to ensure that those actions have been taken (as part of the response)

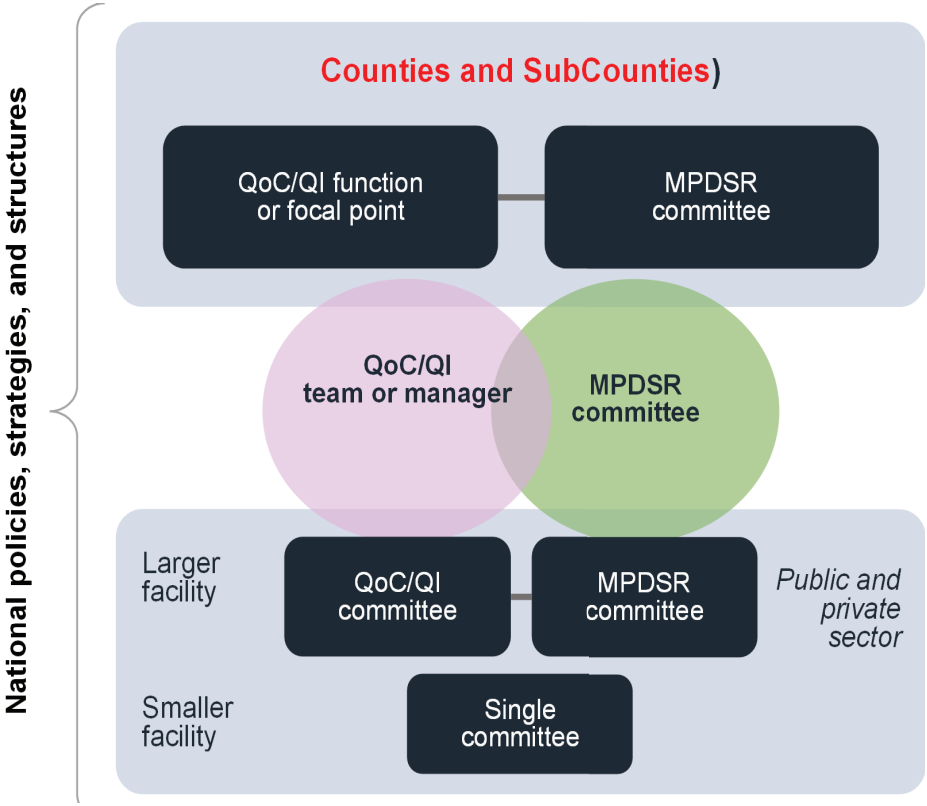


3.6 Linkages between MPDSR and Quality Improvement

A comprehensive MPDSR process generates quality information on leading causes of maternal and perinatal deaths and important common modifiable/avoidable factors. MPDSR often lacks systematic implementation and monitoring of responses and analysis of whether responses are yielding desired effects. Integrating MPDSR within the broader MNH QoC initiatives facilitates the implementation of actions and also ensures that there is proper follow-up at the different levels of health care.

In strengthening the linkages between MPDSR and Quality Improvement, gaps identified during maternal and perinatal death reviews shall inform the prioritization and implementation of responses and actions to prevent future deaths. For example, actions identified can be used to generate scenarios for skills building during the designing and implementation of quality improvement plans at health facilities.

Information sharing between MPDSR and QoC/QI teams include data, identified actions, action plans, reports. Where feasible, MPDSR and QoC/QI governance structures can be harmonized.



The linkage between MPDSR and Quality Improvement

CHAPTER FOUR

THE STRUCTURE OF MPDSR

4.1 The Organization of MPDSR in Kenya

Establishing a mortality audit or review system requires leadership and ownership by the health workers and the leadership at the community, health facility, sub-county, county and national levels. The model is grounded on an evidence-based premise that improving quality of maternal care will result in a reduction in maternal and perinatal mortality. Continuous quality improvement and strengthening of the health systems through clinical audit is a proven strategy for implementing response to maternal and perinatal deaths. The response component is critical to the completion of the loop and will often involve actions that may or may not require additional resources to achieve.

It is important to understand the structures, systems, regulations, guidelines and policies in place and scalable sustainable best practices and high impact interventions essential for the elimination of preventable maternal, perinatal and neonatal deaths. This guideline re- emphasizes the importance of the 5-tier MPDSR committee structure established in 2016 to facilitate comprehensive death reviews at each level: community, health facility, sub-county, county and national while addressing gaps identified in the functionality of the committees at each level.

Fully functional MPDSR committees can be used to mentor and strengthen partially functional committees through peer learning. This chapter provides a review of the composition of core team members of MPDSR committees at the different levels. The composition of the committees at each level is purposed to strengthen the review/audit process and monitor the implementation of actions identified during the committee meetings.

4.2 MPDSR structure and roles at different levels of health care

The 2016 national MPDSR guidelines recommended the establishment of a five-tier MPDSR committees at community, health facility, sub-county, county and national levels with core members and an opportunity to co-opt other members on a need basis. For example, representation from referring facilities may be necessary if a contributing factor to a maternal death is late referral. The 2024 guidelines build on this membership and provide guidance on the composition of committees at each level.

4.2.1 Community MPDSR

Community MPDSR Committee

The Community MPDSR Membership shall include the following:

Core Members:

1. Assistant Chief – Chairperson
2. Community Health Assistant (CHA)- Secretary
3. Health facility in-charge from the link health facility
4. Community Health Promoters (CHP) from the community unit who handled the deceased household
5. Chair of Community Health Committee
6. Village Elders/ Nyumba Kumi leader

Co-opted Members

1. Civil Society Groups / Community Based Organisations (CBO)
2. Religious leaders
3. Opinion Leaders
4. Family Member / Birth Companion with relevant information about the death
5. Sub-County Health Information Officer

Leadership

The Community MPDSR committee will be chaired by the Assistant Chief who will be appointed by the Medical Officer of Health at the Sub-County level in consultation with the Assistant County Commissioner (ACC). There will also be a communication to the County Director of Health with regards to this appointment.

Terms of Reference

1. Identify and document on the community death line list all deaths of Women of Reproductive Age (WRA) (15- 49 yrs) and deaths of early adolescents 10-14 yrs occurring in the specific community.
2. Screen the identified deaths for a maternal death using the Community Maternal Death Screening tool.
3. Identify all perinatal deaths occurring at the community level and record this on the community perinatal death line list.
4. Notify all maternal and perinatal deaths using the Community Maternal Death Notification form and the Community Perinatal Death Notifications forms respectively.
5. Hold maternal and perinatal death review (verbal autopsy) to determine the causes of deaths occurring within the community.
6. Submit a monthly report on maternal and perinatal deaths in the community to the link health facility
7. Support the implementation of community-based activities to prevent occurrence of similar deaths in the future. Such activities shall be identified and agreed upon during the death review (verbal autopsy) meetings.

8. Advocate and organize for meetings at the community level to promote maternal and new-born health.

The Community MPDSR Process

Community Maternal Death Notification

All maternal deaths occurring in the community should be recorded, **notified within 24hrs and a verbal autopsy conducted within 14 days.** In order to avoid missing cases of maternal death, all deaths of women in the reproductive age (WRA) and early adolescent girls 10-14 yrs occurring in the community shall be documented onto the Community Death Line List for WRA and screened to confirm if it was a maternal death.

1. Immediately a WRA or early adolescents 10-14 years old dies at home, or in the community, the CHP will notify the CHA either in person, by call or via text message.
2. The CHA will use the line list to document all deaths of WRA reported including early adolescents 10- 14yrs and use a screening tool to determine if this was a maternal death.
3. Immediately it is confirmed that it is a maternal death, the CHA will then inform the Sub-County Reproductive Health Coordinator (SCRHC) or the clinician in the link health facility by phone call or text message of the death.
4. The CHA will then complete the Community Maternal Death Notification Form in **quadruplicate** in consultation with the link health facility in-charge. Copies of the notification form will be submitted to the link facility in-charge, health facility HRIO/ Sub-County HRIO, the Sub- County RH coordinator, and the sub-county Disease Surveillance Officer.
5. The health facility/ sub-county HRIO then completes the process by uploading the form into the KHIS. The whole process from the CHP to the KHIS must be completed within 24 hours.

Community Maternal Death Review

The Community MPDSR committee will meet within 14 days after the death to carry out a community maternal death verbal autopsy. The CHA, who is the secretary, will invite all persons with information about the death to a verbal autopsy meeting within **14 days** after a maternal death. In setting the date for the verbal autopsy, due consideration must be made for the cultural sensitivities about the burial and post burial rites. Important sources of information will be;

- Persons who were present when the woman became unwell or developed complications that led to death.
- Persons who were present when the woman died
- The husband (if available) and a close relative
- Persons who were present during childbirth (if not the same persons referred to above)

The process entails:

1. The CHA together with the CHP visits the home of the deceased to obtain information about the death. Before getting any information from the family, the CHA shall ensure that informed consent is obtained from the family.

2. After obtaining the information, the CHA liaises with the assistant chief to invite all the members of the community MPDSR committee, and family members with information about the death to a verbal autopsy meeting.
3. During the verbal autopsy meeting, the CHA uses the Maternal Death Verbal Autopsy Form as a guide to obtain maximum information.
4. The Maternal Death Verbal autopsy form is filled in triplicate.
5. The CHA submits completed copies of the maternal death verbal autopsy form to the link facility in-charge, the Sub-County RH Coordinator and facility HRIO/ Sub-County HRIO for uploading into the KHIS2 platform.
6. The CHA then provides feedback to the community on the action points and progress of implementation of these action points.

Community Perinatal Death Notification

All perinatal deaths occurring in the community shall be recorded on the Community Perinatal Death Line list by the Community Health Assistant in consultation with the Community Health Promoter. The listed perinatal death shall be notified by the CHA within 24hrs by completing the Community Perinatal Death Notification Form in consultation with the link-facility in-charge.

1. The CHP informs the CHA of a perinatal death immediately it occurs in the community who then records the death on a community perinatal death line list.
2. The CHA completes a Perinatal Death Notification Form by obtaining relevant information from the mother and/or the immediate relatives within **24hrs** of the perinatal death.
3. The Perinatal Death Notification Form is completed in **Quadruplicate.**
4. The CHA submits copies of the Community Perinatal Death Notification Form to the link facility in-charge who then reports the community perinatal deaths together with those occurring at the health facility to the SRCHC.
5. Copies are also given to facility HRIO/SCHRIO for uploading into the KHIS, the sub-County Reproductive Health Coordinator and the sub-County Disease Surveillance Officer.
6. The CHA generates a line list of all perinatal deaths occurring in the community and provides this information to the link facility in-charge on a monthly basis.

Community Perinatal Death Review (Verbal Autopsy)

The Community MPDSR committee shall meet within 14 days of the occurrence of a perinatal death to carry out a verbal autopsy. The CHA invites all persons with information about the death to a verbal autopsy meeting within **14 days** of the perinatal death. In setting the date for the verbal autopsy, due consideration must be made for cultural sensitivity about burial and post burial rites. Information may be sought from the following: persons present during delivery, when the neonate fell sick and when the neonate died.

1. The CHA together with the CHP visits the home of the deceased to obtain information about the death. Before any information is obtained from family members, informed consent shall be sought.

2. During the verbal autopsy, the CHA uses the Perinatal Death Verbal Autopsy Form as a guide to obtain maximum information.
3. After obtaining the information, the CHA liaises with the Assistant Chief to convene the Community MPDSR Committee meeting within 14 days of the death.
4. In addition, members of the family with information about the death are also invited to participate in the verbal autopsy meeting.
5. The CHA submits the findings of the verbal autopsy to the link facility in-charge who then forwards copies to the Sub-County RH Coordinator and facility HRIO/SCHRIO for uploading into the KHIS platform.
6. The CHA then provides feedback to the community on the action points and progress of implementation of these action points.

Response at the Community

- The findings and action points of maternal and perinatal death verbal autopsy are shared with the community during community dialogue days or during Barazas by the CHA.
- The action points on perinatal deaths are similarly discussed, assigned responsibilities for implementation.
- The CHA discusses these action points with the link facility in-charge
- Any feedback from the facility MPDSR Committee is discussed at the same community forums

4.2.2 Health Facility MPDSR

Health Facility MPDSR Committee (all health facility levels)

The Health Facility MPDSR Committee Membership shall include the following:

Core Members:

1. Head of the Hospital / Medical Superintendent / Health facility in-charge - **Chair**
2. Maternity in-charge- **Secretary**
3. Obstetrician/Gynaecologist
4. Paediatrician
5. Nursing officer in-charge
6. Peadiatric unit in-charge
7. Health Records Information Officer (HRIO) responsible for uploading into the KHIS (Health Facility HRIO or Sub-County HRIO)
8. MCH Representative
9. RH Clinical Officer
10. Health Administrative Officer (HAO)
11. Head of Quality/Work Improvement Team
12. Disease Surveillance Officer

Co-opted members

1. Anaesthetist
2. Theatre in-charge
3. Medical Officer
4. Pharmacist
5. Clinical Officer
6. Nutritionist
7. The sub-county Reproductive Health (RH) Coordinator will be part of the MPDSR team for lower-level health facilities.
8. Laboratory In-Charge
9. Representative of Training Institutions (if students are attached to the health facility)
10. Representatives from the referring health facility
11. Representatives from private hospitals and Faith Based Hospitals

Terms of Reference

1. Collects information on all pregnancies, births, deaths of newborns and deaths of women of reproductive age in the facility and determines if a confirmed death is a maternal death, stillbirth or early neonatal death at the facility and in the community catchment area.
2. Oversees the notification and review of maternal and perinatal deaths occurring in the health facility and the community catchment area.
3. Generate a monthly report on maternal and perinatal deaths occurring in the health facility and the community (where applicable). This includes zero reporting where there is no maternal or perinatal death within the month.
4. Submits a copy of the monthly MPDSR report to the sub-county Reproductive Health Coordinator.
5. Organize and hold death review meetings for maternal and perinatal death occurring in the health facility. The reviews to be done within **7 days** of occurrence of a maternal or perinatal death.
6. Organizes and calls for monthly facility MPDSR committee meetings to review and discuss all maternal deaths occurring in the health facility.
7. During the review meetings, establish the underlying cause of death, identify contributing or modifiable/avoidable factors, assess quality of medical care, and provide recommendations for immediate and medium-term actions.
8. Adhere to a specified meeting code of practice that upholds anonymity, confidentiality, beneficence and autonomy for both patients and staff members.
9. Promote confidentiality and a **no name, no blame** culture environment.
10. Implement MPDSR recommendations and action points identified during the review meetings to prevent occurrence of similar deaths in the future.
11. Follow-up on the progress of the implementation of recommendations and actions.
12. Provide feedback to the community MPDSR committee on a monthly basis through the CHAs and community dialogue forums.

13. Conduct resource mobilization for MPDSR activities in the facility including budget allocation from local resources such as Linda Mama and other County-based funds.

The Health Facility MPDSR Process

Health Facility Maternal Death Notification

1. All deaths involving WRA within the health facility shall be evaluated for pregnancy or childbirth and hence the possibility of being a maternal death.
2. Immediately a death of a WRA occurs in any unit / ward of a health facility, the unit in charge, informs the facility in-charge of the death and indicates if the WRA was pregnant or died within 42 days after childbirth.
3. If the WRA was pregnant or died within 42 days after childbirth, the unit in charge will ensure that the MDN form is completed and submitted.
4. The Facility Maternal Death Notification Form is completed in quadruplicate within 24hrs. The copies are shared as follows: the original remains with the facility, copies are submitted to the facility/sub-county HRIO for uploading into KHIS within 24 hours, the sub-county RH coordinator and the disease surveillance officer.

Health Facility Maternal Death Review

1. The head of the unit/ward where the woman was admitted when the death occurred initiates the maternal death review process, if the woman was known to be pregnant or within 42 days of delivery or termination of the pregnancy.
2. The unit in-charge summarizes the history and relevant findings about the clinical presentation, investigations, treatment and circumstances surrounding the death.
3. The Facility MPDSR committee meets within 7 days of the death to discuss the case and complete the Maternal Death Review Form.
4. Before the start of any Facility Maternal & Perinatal Death Review meeting, all members present sign the confidentiality/ code of conduct form.
5. Meeting quorum shall constitute 40 percent of committee members and two relevant co-opted members.
6. The secretary documents all the key findings and decisions taken including the action plans developed.
7. After each meeting, all summary documents shall be kept under the sole custody of the facility HRIO or health facility in-charge (where there is no health facility HRIO).
8. The deliberations and minutes of the facility MPDSR committee meetings are confidential records and shall not be used for either disciplinary or litigation purposes.
9. The chair of the committee oversees the compilation of a monthly report summarizing each maternal death and/or the near miss with primary causes of death and possible avoidable factors and submits the report to the Sub-County MPDSR committee through the SCRHC.
10. The monthly MPDSR report will document all maternal deaths recorded during the month or zero reporting, if no death was recorded. (see **annex VII** for the outline of the Monthly Facility MPDSR Report)

Health Facility Maternal Near Miss Review

1. For near miss reviews, the same process is followed as for Maternal Death Review; but the surviving patient shall be a key source of information.
2. The unit in charge obtains relevant information from the survivor before the Maternal near miss review meeting.
3. The Facility MPDSR committee meets within 7 days of the occurrence of the near miss to discuss the case and complete the maternal near miss tool

Health Facility Perinatal Death Notification

The health facility /unit in-charge completes the Perinatal Death Notification Form for all perinatal deaths at the health facility within 24 hours. The perinatal death notification form is then submitted to the health facility/Sub- County HRIO for uploading into the KHIS.

Health Facility Perinatal Death Review

1. The head of the facility/unit/ward where the baby/mother was admitted initiates the perinatal death review process
2. The MPDSR committee summarizes the history and relevant findings about the clinical presentation, investigations, treatment and circumstances surrounding the death The Facility MPDSR committee meets within 7 days of the death to discuss the case and complete the perinatal death review form.
3. The Head of the facility/ facility in-charge/ medical superintendent convenes a monthly MPDSR committee meeting to review all perinatal deaths audit reports for the facility.
4. In Levels 4-6 all perinatal deaths should be described briefly with a few reviewed in detail
5. The Secretary and Quality Improvement (QI) staff shall be designated to monitor the implementation of actions identified during the review meetings
6. The perinatal death review form shall be completed in triplicate: the original remains at the health facility, and copies submitted to the health facility/ sub-county HRIO for uploading into the KHIS and another copy given to the sub-County RH Coordinator.

Identifying cases for perinatal death review

In smaller/low volume health facilities, all perinatal deaths should be reviewed.

In larger/high volume health facilities, a sample shall be reviewed based on the case load. However, basic data should be collected for all perinatal deaths. In order to get a representative statistical sample of perinatal death to be reviewed, the Krejcie & Morgan (1970) table for determining sample size shall be used to determine the number of perinatal deaths to be reviewed per month and hence per year (see annex III). Guidance for selecting a sample/subset of perinatal deaths to review include:

- Stratification of deaths by cause of death, then purposively selecting and reviewing cases that may be easily prevented e.g., term deaths, intrapartum stillbirths since these are likely to lead to actionable changes
- Death was unexpected

- Several similar deaths have occurred
- Staff or family have raised concern
- The case illustrates a possible deficit in management

During the monthly facility MPDSR committee meetings, an in-depth review of 2-3 cases per meeting shall be done. More time is required to review term intrapartum stillbirths and early neonatal deaths, especially in cases of no malformations and average weight.

Minimum perinatal data set

The minimum perinatal data set is a core set of data elements for mandatory collection on every birth and death. The data elements should be collected by all facilities and report to national level (See Annex IV for the minimum perinatal data set).

Response at the health facility

1. The Facility MPDSR committee develops action plans to avoid future preventable maternal deaths, perinatal deaths and near miss morbidities. Action plans should be based on simple institutional quality improvement activities.
2. The committee will assign individual responsibilities for each action from among its members.
3. The Secretary will be designated to monitor and document the progress of the implementation of actions identified during the review meetings
4. The Facility MPDSR committee shall allocate funds from the hospital budget towards implementation of MPDSR action points.

4.2.3 Sub-County MPDSR

Sub-County MPDSR Committee

The Sub-County MPDSR Committee Membership shall include the following:

Core Members

1. Sub-County Medical Officer of Health- Chair
2. Sub-County Reproductive Health Coordinator – Secretary
3. Sub-County Health Records Officer - Monitors implementation of MPDSR actions
4. Sub-County Child Health Focal Person
5. Sub-County Community Health Services focal person
6. Sub-County Health Administrator
7. Sub-County Disease Surveillance Coordinator
8. Sub-County Quality Improvement Officer

Co-opted members

1. Sub-County Laboratory in-charge
2. Sub-County Pharmacist
3. Sub-County Clinical Officer
4. Sub-County Public Health Nurse
5. Sub-County Nutritionist
6. Sub-County Primary Care Network focal person

Terms of Reference

1. Monitor the functionality of the MPDSR system in the sub-county.
2. Develop quarterly sub-county MPDSR reports aggregating all community and health facility maternal and perinatal deaths. (see **annex VIII** for the outline of the Quarterly Sub County MPDSR Report)
3. Identify community units / health facilities reporting high burden of maternal and perinatal deaths for locally relevant action.
4. Provide feedback to the community and facility MPDSR committees under their jurisdiction.
5. Support the lower-level health facilities and community MPDSR committees to notify and conduct maternal and perinatal deaths reviews.
6. Participate in maternal and perinatal deaths reviews in public, private and faith-based facilities within the Sub County

Role of Sub-County MPDSR Committee

1. Coordinates quarterly meetings to review MPDSR reports from all facilities and community MPDSR committees in the sub-county
2. The Chair of the sub-County MPDSR committee submits quarterly sub-county MPDSR report during sub-county monthly meetings. The HRIOs shall include MPDSR reports onto the checklist of reports received at the sub-county level. This will ensure that the sub-county MPDSR activities are entrenched in the overall sub-county activities.
3. Synthesizes the data and compiles a sub-county quarterly report for submission to the County MPDSR Committee.
4. Records proceedings of all meetings conducted.
5. Provides feedback to all health facilities and community MPDSR committees.
6. Provides support (technical and other resources) to all health facilities and communities to implement the action points and recommendations.
7. Monitors MPDRS processes in the sub-county, ensuring they are all functional and track sub-county specific MPDSR indicators through a dashboard.

4.2.4 County MPDSR

County MPDSR Committee

The County MPDSR Committee Membership shall include the following:

Core Members

1. County Director of Health - Chair
2. County Reproductive Health Coordinator- Secretary
3. County Director of Nursing /Chief Nursing Officer
4. County Health Records Information Officer (HRIO) – Monitors implementation of MPDSR actions
5. Obstetrician / Gynecologist
6. Pediatrician
7. County Child Health Focal Person
8. County Community Health Services focal person
9. County Disease Surveillance Officer
10. County Quality Improvement Focal Person
11. Health Administrative Officer
12. County RH Clinical Officer

Co-opted Members

1. County Laboratory Officer
2. County Civil Registrar
3. County Pharmacist
4. County Nutritionist

5. County Health Promotion Officer
6. County Epidemiologist
7. Representative of training institutions
8. Representatives of faith based and private health facilities
9. County Primary Care Network focal person

Leadership

1. The County MPDSR Committee will be appointed by the Chief Officer of Health and be Chaired by the County Director for Health.
2. Other members can be co-opted based on the case being discussed/reviewed
3. The secretary calls for meetings, records meeting notes and action points.
4. Quorum for meetings will be half of the core-members.
5. The County MPDSR Committee is accountable to the Chief Officer of Health

Terms of Reference

1. Meets Quarterly by 20th of every second Month of the Quarter.
2. Provides oversight role and technical support to ensure institutionalization of MPDSR system in the county.
3. Adhere to a specified meeting code of practice that upholds anonymity, confidentiality, beneficence and autonomy for both patients and staff members.
4. Promote confidentiality and a no name, no blame culture environment.
5. Receives, considers and adopts the quarterly County MPDSR reports with disaggregated data for all the sub-counties from the County Reproductive Health Coordinator.
6. Identify sub-counties reporting high burden of maternal and perinatal deaths, causes and institute relevant action.
7. Prepare a County Annual MPDSR Report based on the government financial year (see annex VI for the outline of the annual MPDSR Report). The
8. The Chair of the County MPDSR committee presents the annual MPDSR report to the Chief Officer of Health and the CECM–Health.
9. The CECM Health presents the annual report to the County Assembly Committee on Health and a copy to the office of the Governor. This is to enhance accountability and use the opportunity to advocate for resource allocation to improve maternal and neonatal outcomes.
10. The signed County Annual MPDSR report is submitted to the Division of Reproductive and Maternal Health by 31st August each year.
11. The reports presented to the County assembly should be a synthesized plain summary report with clear action points; and not just data/figures
12. The County MPDSR Committee assigns a committee member to track the progress of implementation of actions and recommendations made during the County MPDSR Meetings.
13. Conducts County advocacy forums for resource mobilization for MPDSR activities in the county.
14. Coordinates the activities of MPDSR partners in the county
15. Shares the MPDSR Report in a multi-stakeholder forum that includes partners. local political leaders

4.2.5 National Level MPDSR

The National MPDSR Committee

The National Committee for Maternal and Perinatal Death Surveillance and Response (MPDSR) is a non-statutory, ministerial advisory committee established by the Cabinet Secretary of Health through official appointment.

The primary purpose of the National Committee is to provide oversight for all MPDSR activities in the country and to promote the notification, review and response to all maternal and perinatal deaths in the country. The committee will hold bi-annual meetings.

The National MPDSR Committee Membership shall include the following:

Core Members

1. Director General for Health (DG-Health) – **Chair**
2. Head, Directorate of Family Health - **Secretary**
3. Legal Advisor, Ministry of Health
4. Head, Division of Reproductive and Maternal Health
5. Head, Division of Newborn and Child Health
6. Head, Division of Adolescent and School Health
7. Head, Department of Primary Health Care
8. Head, Division of Community Health services
9. Directorate Health Products and Technologies
10. Kenya Tissue and Transplant Authority (Blood Transfusion Services)
11. Directorate of Digital Health, Informatics, Policy and Research
12. Directorate of Health Standards, Regulations and Quality Assurance
13. Director Civil Registration Services
14. Director of Health, Council of Governors
15. The Director General, National Council for Population and Development
16. Chair Midwifery Association of Kenya
17. President Kenya Obstetrics/ Gynecological Society
18. Chair, Kenya Peadiatric Association
19. Chairperson of Association of Reproductive Health Clinical Officers (ARHCO)
20. Regulatory bodies (Nursing Council of Kenya, Kenya Clinical Officers Council and Kenya Medical Practitioners and Dentist Council)
21. Representatives of training institutions
22. Chair, Development Partners in Health of Kenya (DPHK)
23. Representative of Private Hospitals (Kenya Healthcare Federation)
24. Representative of FBOs (Christian Health Association of Kenya (CHAK)
25. Kenya National Commission on Human Rights (KNCHR)

Co-opted members

Co Opted members can also be engaged at National Reproductive Health Technical Working Group level. They include the following members:

1. Pharmacy and Poisons Board (PPB)
2. Chair, Kenya Anesthesiologist Society of Kenya
3. Division of Mental Health
4. Individual Development Partners
5. Inter-Religious Council of Kenya

Terms of Reference for the National MPDSR Committee

1. Meets bi-annually
2. Provides oversight of national MPDSR activities across the various levels
3. Adheres to a specified meeting code of practice that upholds anonymity, confidentiality, beneficence and autonomy
4. Promotes confidentiality and a no name, no blame culture environment.
5. Review/approve the National Annual MPDSR report and recommendations
6. Receives and adopts the Confidential Enquiry into Maternal Deaths (CEMD) Report
7. Make recommendations based on an analysis of the maternal deaths reported through the CEMD and National Annual MPDSR report(s) such that their implementation would result in a reduction in the maternal mortality ratio for Kenya
8. Reviews the progress of the implementation of the recommendations for the CEMD report and the National Annual MPDSR report
9. Submits a copy of the Confidential Enquiry Report into Maternal Deaths to the Cabinet Secretary, Ministry of Health for presentation to the Joint Senate and Parliamentary Committee on Health
10. Gives policy direction on key issues arising from the National Annual MPDSR reports and the CEMD reports.
11. Coordinates resource mobilization for MPDSR activities
12. Identifies and uses opportunities to embed MPDSR into the national legal framework
13. Advocates for continued visibility of maternal and perinatal health at the highest policy level

National MPDSR Secretariat

The National MPDSR Secretariat is based at the Division of Reproductive and Maternal Health within the Directorate of Family Health. The composition of **the National MPDSR Secretariat** include:

1. Head, Division of Reproductive and Maternal Health - **Chair**
2. Program Manager, Maternal and Newborn Health – **Secretary**
3. Head, Division of Newborn and Child Health
4. Head, Division of Adolescent and School Health
5. Head, Nutrition and Dietetics
6. Program Manager, M&E DRMH - Monitors implementation of MPDSR actions
7. Head, Health Management Information Systems
8. M&E Officer, Maternal Newborn Health Program
9. M&E Officer, Newborn Child and Adolescent Health
10. Technical staff from the MPDSR Development Partners (WHO, UNFPA, USAID, UNICEF, World Bank)
11. Technical staff from CSO/NGOs in MNH/MPDSR
12. Representation from KOGS
13. Representation from Kenya Pediatrics Association (KPA)

Functions of the National MPDSR Secretariat

The functions of the National MPDSR Secretariat include the following:

1. Coordination of MPDSR activities including its integration into existing health systems and processes.
2. Review county surveillance reports produced by IDSR and produce a six-monthly summary report for key stakeholders.
3. Monitor progress of the implementation of recommendations and action points at national, county and health facility level (where appropriate).
4. Promote the notification, review and response to all maternal deaths
5. Promote the notification and systematic review of perinatal deaths
6. Undertake regular evaluation of the MPDSR reporting system at national, county and health facility level.
7. Produce a National Annual MPDSR report.
8. Recommends the periodic update of National MPDSR guidelines, tools and training materials within a 5-year period.
9. Identify and support the training of maternal and perinatal death assessors who will review maternal and perinatal deaths through periodic review meetings.
10. Maintain a database of assessed maternal and perinatal deaths and generate national and county specific reports when need arises.
11. Build capacity of the County, sub-County and Facility MPDSR committees and sensitive them on their roles and responsibilities through technical assistance, On-Job-Training (OJT), close follow-up supportive supervision
12. Conduct or support operational research to generate evidence to improve implementation of MPDSR.

4.3 Maternal and Perinatal Death Assessors

Maternal and perinatal death assessors are health care providers with speciality in Obstetrics/ Gynaecology, Paediatrics, Midwifery, Anaesthesia, Public Health, medical officers, health records information officers. They are independent volunteers who are called upon to carry out Confidential in-depth Maternal and Perinatal Enquiries. The assessors go through a standardized training to enable them independently assess maternal and perinatal death using the ICD 11 classification of diseases and identify avoidable factors using the three delays model.

The assessors:

1. Conduct independent, detailed assessments of maternal deaths and perinatal deaths and correctly attribute cause of death based on WHO ICD-11: pregnancy, childbirth or the puerperium (Chapter 11); and certain conditions originating in the perinatal period (Chapter 19).
2. Explore and document the avoidable/ preventable factors for maternal and perinatal deaths using the three delays model framework.
3. Aggregate, analyze, interpret data and write reports on maternal and perinatal death.

4.4 The MPDSR Response Cycle

MPDSR shall have feedback mechanisms at all levels. MPDSR reports produced at facility, sub-county, County and National shall be disseminated at all levels for information. Actions that will have been identified, and implemented to prevent maternal deaths shall be disseminated and shared at all these levels.

Maternal and or perinatal death review needs to be seamlessly connected to a response strategy. This involves ensuring that action points to prevent avoidable future deaths are implemented at community, facility, sub-county, county and national levels and a system for tracking recommendations developed.

At the ***Community level,*** response entails feedback to the community, partnering to alleviate multiple causes of first delay in accessing care through discussion forums such as community dialogue days and barazas and development of locally relevant community-based transport networks.

At ***Facility level,*** response largely focuses on addressing causes of the third delay. A tried and tested strategy for this is clinical audit and or other continuous quality improvement programs.

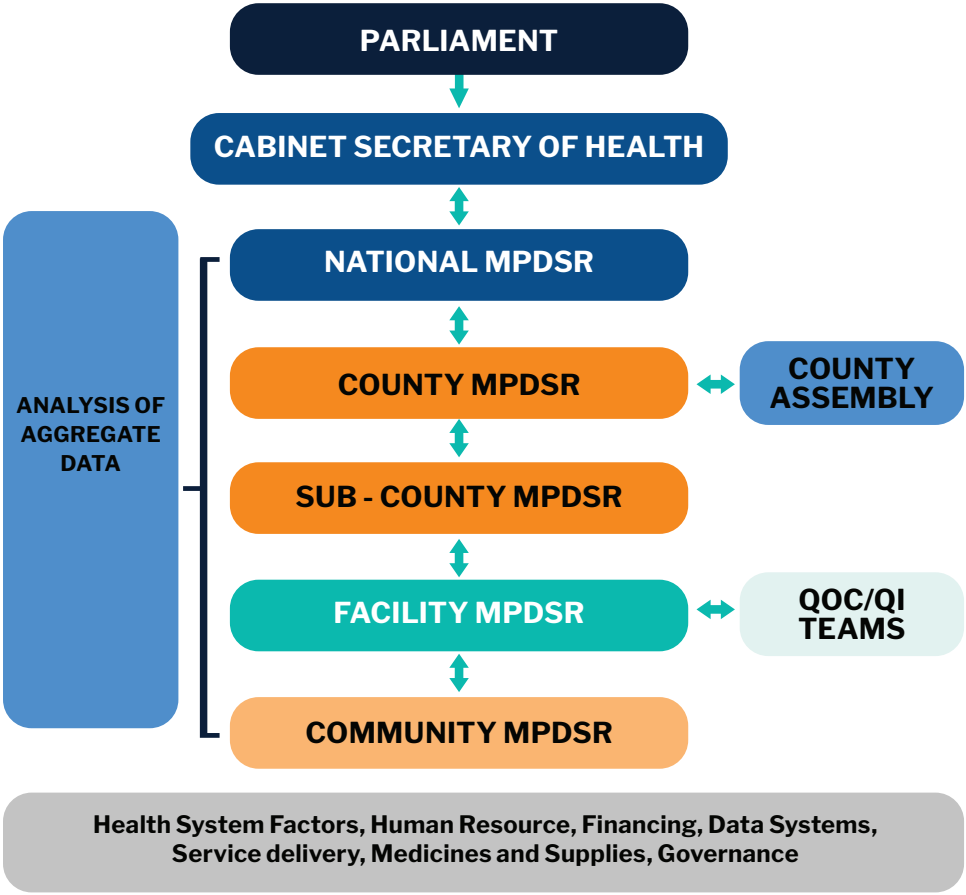
At ***Sub-County level,*** response entails aggregating community and facility data and addressing broad and common avoidable factors that affect multiple communities and or facilities. Sub-county level response should be escalated to the level of the county if common avoidable factors affect several sub-counties.

At ***County level*** the response should encompass monitoring of the MPDSR activities countywide. This should point out the sub-counties, facilities and or communities that report heavy burden of deaths in maternal and perinatal deaths for more intensive scrutiny and response in addressing countywide

avoidable causes of death. The other component of response at the county level is reviewing relevant county specific multisectoral frameworks and aligning them to achievement of MPDSR goals and also allocating necessary resources to support response as guided by the County MPDSR reports.

Finally, at ***National level,*** there should be national oversight of the complete MPDSR system through close monitoring of the MPDSR indicators to identify high burden counties as a basis for resource allocation for focused response and technical support. Again, review of relevant legislation and resource mobilization to address national avoidable factors where the need is greatest is a critical response parameter at this level.

MPDSR Response and Feedback Framework



CHAPTER FIVE

MONITORING AND EVALUATION OF THE MPDSR SYSTEM

The aim of monitoring the MPDSR system is to document the progress in the implementation of actions/solutions recommended by the MPDSR committees and assess implementation of quality of care provided. A monitoring system assesses timeliness and response so that decision makers (health managers, service providers) can assess the status of the MPDSR system, identify challenges and make recommendations for improvement as required. Monitoring also assess timeliness of data, coverage of the system and enables managers to determine whether the system is improving.

The aim of this chapter is to provide guidance on the indicators for monitoring progress of implementation of MPDSR and tools for documentation and reporting of maternal and perinatal deaths at community, health facility, sub-County, County level and National levels (see Annex I). Monitoring should be carried out annually.

The MPDSR Monitoring process and indicators are based on the following criteria:

- Maternal and perinatal deaths are notifiable events
- Timely committee review meetings
- Quality data – completeness, validity, availability and reliable data in the surveillance system
- Identification of action points/recommendations
- Timely implementation of action points/ recommendations

Monitoring will be carried out at community, health facility, sub-county, county and at the National level. Monitoring shall assess:

- Functionality of the MPDSR system i.e., functionality of MPDSR committees at the different levels of health care.
- Progress in the implementation of recommendations/ actions based on the timelines in the action plan. Monitoring of actions shall be done using the MPDSR action tracker (Annex V)
- Trends in the changes of maternal, perinatal and neonatal health indicators at facility level.
- Achievement of the desired results
- Challenges in achieving the desired results

5.1 Indicators for monitoring MPDSR system and processes

Monitoring of the MPDSR process will be conducted at different levels (community, facility, sub-county, county and National) will be done using MPDSR indicators listed in **Table 1.** Details of how to calculate the indicators can be found in **Annex II.** Monitoring should be a process of continuously collecting and reporting information on output and outcome indicators as indicated in **Table 1**

Table 1: Indicators for monitoring implementation of MPDSR system at the different levels

Level of care	Output Indicators	Outcome indicators
Community	• % of community MPDSR Committees established	• % of community MPDSR Committees conducting maternal deaths (verbal autopsy) • % of community MPDSR Committees conducting perinatal deaths (verbal autopsy
Health Facility Level	• % of monthly health facility MPDSR committee meetings conducted • % of identified actions / recommendations implemented	• No. of maternal death notified through KHIS tracker • % maternal death reviewed • % maternal deaths uploaded to the KHIS tracker • No. of perinatal death notified through KHIS tracker • % of perinatal death reviewed • % of perinatal death uploaded to the KHIS tracker
Sub County	• % of sub-counties with functional MPDSR committees • % of recommendations / action points implemented • % of quarterly Sub County MPDSR committee meetings conducted • No. of quarterly sub-county MPDSR reports submitted • Evidence of integration of recommendations with annual health plans	• No of MD notified through KHIS tracker • No of PD notified through KHIS tracker • % of health facilities uploading MD on KHIS tracker • % of health facilities uploading PD on KHIS tracker • % maternal deaths uploaded to the KHIS tracker • %perinatal deaths reviewed • % perinatal death uploaded to the KHIS tracker

Level of care	Output Indicators	Outcome indicators
County	• % of Level 4 & Level 5 facilities in the County with functional facility MPDSR committees • % of quarterly County MPDSR committee meetings conducted • Production of annual County MPDSR Report • % of recommendations / action points implemented • Evidence of integration of recommendations with annual health plans	• No of MD notified through KHIS tracker • No of PD notified through KHIS tracker • % of health facilities uploading MD on KHIS tracker • % of health facilities uploading PD on KHIS tracker • % maternal deaths uploaded to the KHIS tracker • %perinatal deaths reviewed • % perinatal death uploaded to the KHIS tracker
National	• % of counties with functional MPDSR committees • No of bi-annual National MPDSR committee meetings held • % of action points/ recommendations implemented at National level • Publication of National Annual MPDSR Report • Evidence of integration of recommendations with annual health plans • Production of periodic (three yearly) CEMD report	• % of maternal deaths reviewed and uploaded to KHIS tracker for the previous year (financial) • % of perinatal deaths reviewed and uploaded to KHIS tracker for the previous year (financial)

***these indicators can only be reported if MPDSR system included both facility and community deaths*

Community level indicators: informs monitoring of activities at the community level and informs the needed changes needed to improve

Health facility indicators: supports facility leadership and coordination functions in improving the quality of care in health facilities

Sub-county: guides coordination of activities at the sub-county level

County level indicators: guides coordination of activities at the County level and sustaining of MPDSR activities at the county level

National level indicators: guide monitoring of MPDSR activities at National level as well as informing sustaining of MPDSR activities

Global indicators: provide a way of standardizing measurement at the global level and facilitated learning and sharing between countries. This should be documented at National level for global comparison and should be reported within the National Annual MPDSR Report.

5.2 Evaluation of the MPDSR system

In addition to monitoring, it is necessary to conduct a more detailed evaluation to assess whether the system can function more efficiently and effectively. This shall be conducted if the routine monitoring of indicators demonstrates that:

- One or more of the steps in the MPDSR process is not reaching expected results
- The indicators demonstrate that health outcomes are not improving despite actions being taken
- Maternal and/or perinatal mortality ratios/rates are not decreasing

It shall also be useful to conduct a detailed evaluation (for example annually) to assess improvements in the community, the health system, or society in general, and changes in the types of delays or modifiable factors that are being identified.

5.3 Data Quality for MPDSR

Quality data is an essential principle in the success of implementation of MPDSR. Poor quality data or unreliable data creates long-term costs and unforeseen effects. Practical and affordable strategies exist for generating timely and reliable data on health systems, but appropriate investment is needed to develop the capacity to collect, manage, visualize, disseminate and use the findings for decision making.

Data obtained in the KHIS should be accurate and reflective of what happens at service delivery points. For this to happen the aspects of completeness, timeliness, accuracy, reliability, precision, integrity and confidentiality must be true.

5.4 Data Quality Review: Guidance for Conducting Data Quality Reviews at all levels

Data quality can be defined as the degree to which a data management system reflects the true situation of the information source.

As every data collection and management system is prone to errors resulting from data collection, processing and transmission it is of important to have data quality reviews. This process starts with a review of individual patient data at the community and health facilities for these errors to be minimized. Regular review of data is needed to validate the data being reported into the KHIS and to build trust in the data generated from the system. To achieve this health facility and county health management teams should do the following:

- Hold monthly data review meetings to monitor reporting of maternal and perinatal deaths, and provide recommendations to decision makers for action
- At the health facility level, the Facility in-Charge or a designated member of the MPDSR committee shall monitor the implementation of recommendations/ actions and report challenges and bottlenecks to the sub-county MPDSR committee for redress
- At the county level, the County HRIO in consultation with the County RH Coordinator will monitor the implementation of the recommendations and actions received from the sub-counties.
- Challenges and bottlenecks should be addressed and where needed reported to the national MPDSR Secretariat for further action.

5.5 Data flow and use at various levels of the healthcare system

Mortality data consumption is necessary at all levels of the healthcare system for varying reasons with the end line being improvements in the health care system and eventual elimination of preventable maternal and perinatal deaths. Decision makers and stakeholders explicitly consider information in one or more steps in the process of policymaking, program planning and management or service provision.

Every level of health care not only needs to improve documentation and reporting to the next level, but also make data available and accessible in varied formats for routine use of data in decision making and performance review as summarized in Figure 1.

MPDSR information flow

Community Deaths

Death of WRA or early adolescents 10-14

CHP informs CHA

The CHA records on the Line list and then administers screening tool to determine if it's a Maternal death (MD)

If MD, CHA and the link facility in-charge completes the MD notification form and submit to HRIO for uploading into KHIS

The **Community MPDSR committee** conducts verbal Autopsy within 14 days of death and submits the forms to link Facility in-charge and HRIO for uploading into KHIS and to the Facility MPDSR committee

The Sub- County, County and National MPDSR committees will regularly analyse the KHIS data for completeness and quality and provide feedback to the lower and higher levels
Each facility is also required to provide a monthly report on the number of maternal deaths (Both facility and community). This includes Zero reporting if there were no maternal deaths

Facility Deaths

Death of a WRA or early adolescent 10-14 years in Maternity, Gynecological or female medical ward

Unit in-charge reviews the records to determine if it's a Maternal death

If MD, the unit in-charge fills the Maternal Death Notification Form and submits it to the HRIO for uploading into KHIS

Facility MPDSR committee compiles and submits quarterly MPDSR reports to Sub-County MPDSR committee[2]

Sub-County MPDSR committee compiles and submits quarterly MPDSR reports to County MPDSR committee

Facility MPDSR committee conducts Maternal Death review within 7 days and submits the forms to the HRIO for uploading into KHIS

County MPDSR committee compiles and six monthly MPDSR reports, implement identified actions, and submits the report to **National MPDSR Secretariat**

National MPDSR committee compiles a **National Annual MPDSR Report**, disseminates to Counties/stakeholders and monitors implementation of recommendations

Figure 1: MPDSR organization

5.6 MPDSR system implementation plan

Clear guidance is needed for the successful implementation of this guideline. The 2024 National MPDSR guideline will be implemented by the Division of Reproductive and Maternal Health in collaboration with the Division of Newborn and Child Health and Division of Health Information System. Development partners, implementing partners and NGOs will also play a key role through technical and financial assistance.

Activities to guide the rolling out of this guideline will include the following:

- Review and development of the essential MPDSR forms for use at the community level and the health facilities
- Updating the revised and developed MPDSR forms onto the Kenya Health Information System
- Updating the standardized National MPDSR Training Package to be in-line with the WHO MPDSR Training Package AND ICD 11
- Training a core team of MPDSR Trainer of Trainers (ToTs) to assist in rolling down MPDSR training to the counties and health facilities
- Strengthening the functionality of MPDSR committees at all levels: National, County, sub-County, Health facilities and the community levels
- Production of County annual reports
- Production of National Annual MPDSR Reports
- Production of the Confidential Enquiry into Maternal death report (s) after every three years
- Enhance the understanding of MPDSR committees at all levels on their roles and responsibilities through technical assistance and sensitization
- Advocacy for integration of MPDSR activities in National and County level workplans and processes
- Monitoring the implementation of MPDSR using the identified indicators at the different levels

Other important aspects of implementation include: (a) Embedding the MPDSR principles in Kenyan Law (b) Development of accountability frameworks including performance contracts including MPDSR for managers of health services and (c) Development of an inter-operable program that includes an M&E dashboard to facilitate integration of data with existing systems such as DHIS, IDSR systems.

CHAPTER SIX

LEGAL AND ETHICAL CONSIDERATIONS

Although Kenya does not have a specific law addressing maternal and perinatal death notification and review, the National Reproductive Health Policy (2022 - 2032) states that **the results of the MPDSR committee proceedings and documentation are not admissible in a court of law.** This guideline also puts emphasis on "no name no blame" and as such, the process serves the purpose to identify health system gaps in order to put measures in place to prevent future deaths.

6.1 Confidentiality and ethical considerations

It is essential that there be separate processes for handling legal misconduct and professional discipline, which is distinct and separate from quality improvement through mortality death reviews. Issues of confidentiality and privacy are significant legal issue in protecting women, their families, health workers and review committees, including discussions and findings from review process (Berg, 2011). The lack of autonomy, privacy, anonymity and immunity of patients, families, health professionals and review committees threaten the success of an MPDSR system.

Autonomy: Women and families should be fully informed of the purpose of the investigation and participation clearly outlined as voluntary

Privacy: Privacy of the woman, her family and health workers are respected and maintained
Anonymity: Details of the women, health care workers and facility are anonymised to prevent attribution of events to individuals.

Immunity: Protection for committee members, witnesses and others providing information should be provided for and concerns of liability and litigation addressed.

Access to information: Lack of access to and availability of sensitive and confidential medical materials (e.g. medical records, family and staff interviews) will have a significant impact on the understanding of events leading up to the death.

Fear of liability and punitive measures: A lack of a legal framework can lead to misconceptions and fears regarding possible punitive measures and the perception that audits are judgments on the actions of professional medical staff

Poor transparency and quality of data: Underreporting and misreporting by health workers is likely to occur as a result of legal concerns including an overall lack of legal protection and fears of liability and punishment.

During MDRs and PDRs, health professionals involved can react defensively, justifying actions and inactions, shifting the blame (e.g. blame death on the time taken to seek care) or even covering-up deaths or errors

6.2 Overcoming the blame culture in MPDSR

The principle of **'no name, no blame'** within MPDSR, amongst health staff management and reviewers, should be established, supported and reiterated.

- Educate health professionals, that the MPDSR system seeks to identify improvements in the health care delivery system (at all levels) and use results for learning in order to improve quality of maternal care and not to provide the basis for litigating or punitive action.
- Establish immunity and legal protection for committee members, witness and others providing information from personal liability based on activities during the review process
- Engage stakeholders within the planning and set-up process and educate on the 'no-blame' process and atmosphere.
- Hospital management should value and integrate the process, through providing leadership and human or financial resources.
- Surveillance and monitoring of implementation and processes to prevent misuse of MPDSR findings (e.g., confidentiality rules respected and punitive measures not introduced).
- Multi- professional approach taken to ensure every member of the team understands the MPDSR process, feels involved and valued.
- Communicate the change in accountability efforts and perspective from identification of individual responsible and blame to making a difference and contributing to improvements.
- Promote forums for sharing experiences of health workers and facilities, such as workshops and exchange visits.

6.3 Strategies to Minimize the Blame Culture

1. Ensure MPDSR policy and planning
2. Ensure national prioritization
3. Strengthen leadership
4. Enabling environment for implementation
5. Nurture team relationships
6. Harmonize MPDSR in routine monitoring systems
7. Ensure audit meetings take place regularly and staff regularly attend.
8. Establish and apply a code of conduct
9. Promote individual awareness of roles and responsibilities and competence

REFERENCES

Ayele, Brhane, Hailay Gebretnsae, Tsegay Hadgu, Degnesh Negash, Fana G/Silassie, Tesfu Alemu, Esayas Haregot, Tewolde Wubayehu, and Hagos Godefay. 2019. "Maternal and Perinatal Death Surveillance and Response in Ethiopia: Achievements, Challenges and Prospects." PloS One 14 (10): e0223540–e0223540. https://doi.org/10.1371/journal.pone.0223540.

Bandali, S., Thomas, C., Wamalwa, P. et al. Strengthening the "P" in Maternal and Perinatal Death Surveillance and Response in Bungoma county, Kenya: implications for scale-up. BMC Health Serv Res 19, 611 (2019). https://doi.org/10.1186/s12913-019-4431-4

Helen Smith, Charles Ameh, Pamela Godia, Judith Maua, Kigen Bartilol, Patrick Amoth, Matthews Mathai, Nynke van den Broek. 2017. Implementing Maternal Death Surveillance and Response in Kenya: Incremental Progress and Lessons Learned. Global Health: Science and Practice Sep 2017, 5 (3) 345-354; DOI: 10.9745/GHSP-D-17-00130

WHO 2023. Maternal Mortality fact sheet. World Health Organisation

Krejcie, R.V., & Morgan, D.W., (1970). Determining Sample Size for Research Activities. Educational and Psychological Measurement.

Kouanda Seni. 2022. Implementing maternal death surveillance and response in Sub-Saharan Africa: The way forward. 18 May 2022 https://doi.org/10.1002/ijgo.14231

KDHS. Kenya 2014 Demographic and Health Survey. 2014.

KNBS and ICF. 2023. Kenya Demographic and Health Survey 2022. Key Indicators Report. Nairobi, Kenya, and Rockville, Maryland, USA: KNBS and ICF.

KNBS 2019. Kenya Population Census 2019. Kenya National Bureau of Statistics 2019

MOH 2020: National guidelines on quality obstetrics and perinatal care, Ministry of Health, Kenya October 2020

Ministry of Health. 2016. National Guidelines for Maternal and Perinatal Death Surveillance and Response. Ministry of Health, Kenya

Ministry of Public Health and Sanitation and Ministry of Medical Services Kenya. National Guidelines for Quality Obstetrics and Perinatal Care [Internet]. Ministry of Health Kenya; 2015 [cited 2022 Mar 31]. Available from: http://guidelines.health.go.ke:8000/media/National_Guidelines_for_Quality_Obstetrics_and_Perinatal_Care.pdf

Ministry of Health and Public Sanitation 2009. Kenya Maternal death Review Guidelines

Namagembe Imelda, Beyeza-Kashesya Jolly, Rujumba Joseph, Kaye Dan K, Mukuru, Moses, Kiwanuka Noah, Moffett Ashley, Nakimuli Annettee, Byamugisha Josaphat. 2023. Barriers and facilitators to maternal death surveillance and response at a busy urban National Referral Hospital in Uganda [version 2; peer review: 2 approved]. Open Res Africa 2023, 5:31 (https://doi.org/10.12688/openresafrica.13438.2)

Owolabi H, Ameh CA, Bar-Zeev S, Adaji S, Kachale F, van den Broek N (2014) Establishing cause of maternal death in Malawi via facility-based review and application of the ICD-MM classification BJOG (121) doi: 1111/14710528.12988.

Salawu, Moshood. 2023. 4 Lessons for Implementing Effective Community MPDSR from Nigeria. February 28, 2023. Policy Brief. Align MNH. https://www.alignmnh.org/2023/02/28/4-lessons-for-implementing-effective-community-mpdsr-from-nigeria/

USAID/Momentum 2022. Maternal and Perinatal Death Surveillance and Response (MPDSR) Capacity Building Package https://usaidmomentum.org/resource/mpdsr-capacity-building/

UN IGME 2020. A Neglected Tragedy. The global burden of stillbirths. Report of the UN Inter-agency Group for Child Mortality Estimation and its Core Stillbirth Estimation Group (CSEG), 2020. United Nations Children's Fund,
World Health Organization, World Bank Group and United Nations Population Division.

United Nations. 2016. Department of Economic and Social Affairs. Sustainable Development. https://www.un.org/sustainabledevelopment/. Accessed 11 September 2023

WHO 2021. Maternal and perinatal death surveillance and response: materials to support implementation. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO

WHO 2021. Implementation of maternal and perinatal death surveillance and response as part of quality-of-care efforts for maternal and newborn health: Considerations for synergy and alignment. Knowledge Brief.

WHO 2016. Making Every Baby Count, Audit and review of stillbirths and neonatal deaths. World Health Organization 2016

WHO. 2016. World Health Organization. Strategies toward ending preventable maternal mortality (EPMM). 2015. http://apps.who.int/iris/bitstream/10665/153544/1/9789241508483_eng.pdf?ua=1. Accessed 15 June 2016. 2015;6736(2013):1–4.

WHO and UNICEF 2020. Ending preventable newborn deaths and stillbirths by 2023. Moving faster towards high-quality universal health coverage in 2020–2025. World Health Organization and UNICEF. July 2020.

World Health Organization 2019. Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division: executive summary. Geneva PP - Geneva: World Health Organization; 2019.

WHO 2018. Improving the quality of paediatric care. Operational guide for facility-based audit and review of Paediatric Mortality

WHO 2016. Making Every Baby Count, Audit and review of stillbirths and neonatal deaths. World Health Organization 2016. http://www.who.int/maternal_child_adolescent/documents/stillbirthneonatal-death-review/en/

WHO 2013. Maternal death surveillance and response (MDSR): technical guidance (WHO, 2013). Information for action to prevent maternal death. World Health Organisation 2013.

Willcox ML, Okello IA, Maidwell-Smith A, Tura AK, van den Akker T, Knight M. Maternal and perinatal death surveillance and response: a systematic review of qualitative studies. Bull World Health Organ. 2023 Jan 1;101(1):62-75G. doi: 10.2471/BLT.22.288703. Epub 2022 Nov 2. PMID: 36593778; PMCID: PMC9795385.

Annex I:

List of MPDSR tools and guidance for completion

Data Tools	Who Fills	Period	Copy sharing
Community Level			
Maternal Death Line List	CHP in consultation with the CHA	Within 24 hours of death	Filled in Duplicate • Original retained by the link facility • SCRHC
Maternal Death Screening tool	CHP in consultation with the CHA	Within 24 hours of death	Filled in Duplicate • Original retained by the link facility • SCRHC
Maternal Death Notification Form	CHA in consultation with the CHA	Within 24 hours of death	Filled in Quadruplicate. • Original retained by the link facility • SCHRIO/facility HRIO for uploading into the KHIS • SCRHC • Sub-County Disease Surveillance Officer
Maternal Death Verbal Autopsy Form	CHA in Consultation with the Community MPDSR Committee	Within 14 days of death	Filled in Triplicate • Original retained by the link facility • SCHRIO/facility HRIO for uploading into the KHIS • SCRHC
Perinatal Death Line List	CHP	Within 24 hrs	Filled in Duplicate • Original retained by the link facility • SCRHC
Perinatal Death Notification Form	CHA	Within 24hrs of death	Filled in Quadruplicate • Original retained by the link facility • SCHRIO/facility HRIO for uploading into the KHIS • SCRHC • SC- Disease Surveillance Officer

Perinatal Death Verbal Autopsy Form	CHA in consultation with the Community MPDSR committee.	Within 14 days of death	Filled in Triplicate • Original retained by the link facility • SCHRIO/facility HRIO for uploading into the KHIS • SCRHC
Health Facility Level:			
Maternal Death Notification Form (MDNF)	Unit in-charge in consultation with immediate care-giver(s)	Within 24 hours of death	Filled in Quadruplicate: • Original retained in the facility • SCHRIO/facility HRIO for uploading into the KHIS • County Reproductive Health Coordinator • SC- Disease Surveillance Officer
Maternal Death Review Form	Health facility MPDSR committee	within 7 days of death	Filled in Triplicate • Original retained in the facility • SCHRIO/facility HRIO for uploading into the KHIS • County RHC
Perinatal Death Notification Form	Unit in-charge in consultation with immediate caregiv-er (s)	Within 24 hours of death	Filled in Quadruplicate: • Original retained in the facility • SCHRIO/facility HRIO for uploading into the KHIS • County Reproductive Health Coordinator • SC- Disease Surveillance Officer
Perinatal Death Review Form	Unit in-charge consultation with immediate care-giver(s)	Within 7 days of death	Filled in Triplicate • Original retained in the facility • SCHRIO/facility HRIO for uploading into the KHIS • County RHC

Annex II:

List of indicators for monitoring the MPDSR system

Indicator Definition: Health Facility indicators for monitoring the MPDSR system and processes

Indicator	Purpose	Numerator	Denominator	Data Source	Frequency, Target
COMMUNITY LEVEL INDICATORS					
Output indicators					
% of Community MPDSR Committees formed	Measures capacity and practice to perform community reviews	No of MPDSR committees formed	Total No of Community Units formed	Minutes of CHC meetings	Quarterly
HEALTH FACILITY INDICATORS					
Output Indicators					
% of monthly health facility MPDSR committee meetings conducted	Measures capacity and practice to perform facility reviews	No of monthly HF MPDSR committee meetings conducted	Total number of planned monthly HF MPDSR committee meetings	Minutes of HF MPDSR meetings, scheduled of planned meetings	Monthly, 100%

Indicator	Purpose	Numerator	Denominator	Data Source	Frequency, Target
% of identified actions / recommendations implemented	Measures response and implementation of recommendations/ actions	Number of actions / recommendations implemented or show evidence of implementation	Total number of recommendations/ action points identified	Minutes of HF MPDSR committee meetings, Scheduled of planned meetings	Quarterly, >80%
Outcome Indicators					
No of maternal death notified via KHIS tracker	Measures reporting of data at facility	No of maternal deaths notified through HKHIS tracker	N/A	Minutes of MPDSR Committee, KHIS summary, No MD notification forms	Quarterly, 100%
% maternal death reviewed	Measures performance of MPDSR system to review all MDs	No of maternal deaths reviewed	Total No of maternal death reported	Minutes of MPDSR Committee, KHIS data aggregate, KHIS tracker data	Quarterly, 100%
% of maternal death uploaded to the KHIS tracker	Measures performance of MPDSR system to review all MDs	No of maternal death reviewed and uploaded to the KHIS tracker	Total No of maternal death reported	Minutes of MPDSR Committee, KHIS data aggregate, KHIS tracker data	100%

Indicator	Purpose	Numerator	Denominator	Data Source	Frequency, Target
No of Perinatal death notified via KHIS tracker	Measures reporting of data at facility	No of perinatal deaths notified through KHIS tracker	N/A	Minutes of MPDSR Committee, KHIS data aggregate, No. of PD notification forms	Quarterly, 100% ENAP UNFPA
% of perinatal reviewed	Measures reporting of data at facility	No of perinatal deaths notified through KHIS tracker	No of perinatal death at facility	Minutes of MPDSR Committee, KHIS summary, no, of notification forms	Quarterly, 100%
% of perinatal death uploaded to the KHIS	Measures performance of MPDSR system to review PDs	No of perinatal reviewed and uploaded to KHIS tracker	Total No of perinatal deaths in the facility	Minutes of MPDSR Committee, KHIS data aggregate, No. of notification forms	Quarterly, 100% ENAP UNFPA

Indicator	Purpose	Numerator	Denominator	Data Source	Frequency, Target
COUNTY AND SUB COUNTY MPDSR INDICATORS					
Output indicators					
% of Level 4 & Level 5 facilities with functional facility MPDSR committees	Measures capacity of facilities to carry out MPDSR functions	No of Level 4 & Level 5 facilities with functional facility MPDSR committees	Total no of Level 4 and Level 5 facilities	County Plans Supervision reports Minutes of CHMT	Quarterly, 80%
% of sub-Counties with functional MPDSR committees	Measures the practice and capacity to perform reviews	No of sub-Counties with functional MPDSR committees	Total No of sub-counties	Minutes of County / sub-County MPDSR committees	Quarterly, 100%
% of quarterly county MPDSR committee meetings conducted	Measures the practice and capacity to perform reviews	No of planned county MPDSR committee meetings conducted	Total No of planned county MPDSR committee meetings as per schedule	Minutes of County / sub-County MPDSR committees	Quarterly Annually
% of recommendations / action points implemented	Measures the response and implementation of recommendations / actions	No of recommendations / action points at County level implemented	Total No of recommen2dations / action points at County level identified	Minutes of County / sub-County MPDSR committees	Quarterly Annually
Evidence of integration of recommendations with annual health plans	Measures integration	No of recommendations integrated in annual workplans	n/a	Minutes of County / sub-County MPDSR committees	Quarterly Annual

National MPDSR Indicators

Indicator	Purpose	Numerator	Denominator	Data Source	Frequency, Target
NATIONAL MPDSR INDICATORS					
Output indicators					
% of counties with functional MPDSR committees	Measures functionality of MPDSR system	No of counties with functional MPDSR committees	Total no of Counties (47)	Bi-annual County MPDSR reports	Quarterly
% of bi-annual National MPDSR committee meetings conducted	Measures functionality of MPDSR system	No of planned National MPDSR committee meetings conducted	Total no of expected meetings	Meeting minutes	Annually, 100%
% of action points/ recommendations implemented at National level	Measures Response and implementation of recommendations	No of action points /recommendations implemented at National level	Total no of action points/recommendations planned at National level	Minutes of National MPDSR Committee meeting	Semi-annually >80%
Publication of National Annual MPDSR Report	Measures dissemination of maternal and perinatal mortality data and implementation of recommendations	Annual report developed and published including performance of the MPDSR programme, description of implementation of recommendations, and follow up on recommendations from previous year	n/a	Minutes of National MPDSR Committee meeting	Annually UNFPA QED UNFPA
Evidence of integration of recommendations with annual health plans	Measures integration of recommendations at the national level and coordination of health systems and policies	Recommendations from MPDSR reviews included in annual health plans and health-system packages	n/a	Minutes of National MPDSR Committee meeting	Quarterly

Production of periodic (three yearly) CEMD report	Measures functionality of MPDSR System	CEMD report (three yearly)	n/a	KHIS	Quarterly
Outcome Indicators					
% of maternal deaths reviewed and uploaded to KHIS tracker for the previous financial year	Measures performance of MPDSR system at population level	No of maternal deaths reviewed and uploaded to KHIS tracker for the previous financial year	No of expected maternal deaths for the previous year	MPDSR annual report KHIS	Annually, 100%
% of perinatal deaths reviewed and uploaded to KHIS tracker for the previous financial year	Measures performance of MPDSR system at population level	No of perinatal deaths reviewed and uploaded to KHIS tracker for the previous financial year	No of expected perinatal deaths for the previous financial year	MPDSR annual report KHIS	Annually, 50%
Impact Indicators					
Facility maternal mortality ratio	Measures effects of MPDSR program	No of MD in health facilities	No of deliveries in health facilities (per 100,000 deliveries)	KHIS	Annually
Facility perinatal mortality rate	Measures effects of MPDSR program	No of Perinatal death in health facilities	Total births in health facilities (per 1000 total births)	KHIS	Annually
Maternal deaths by cause (ICD 11)	Measures effects of MPDSR program	No of maternal deaths by cause	n/a	KHIS	Annually
Perinatal death by Cause (ICD-11)	Measures effects of MPDSR program	No of Perinatal deaths by cause	n/a	KHIS	Annually

Annex III:

Sample size calculation for perinatal death review

The ever-increasing need for a representative statistical sample in empirical research has created the demand for an effective method of determining sample size. To address the existing gap, for a given population for easy reference.

For large case load facilities and in order to get a representative statistical of perinatal death to be reviewed, the Krejcie & Morgan (1970) table for determining sample size shall be used to determine the number of perinatal deaths to be reviewed.

Total Perinatal Deaths Per Year category	Total No of Perinatal deaths to be reviewed per Year	Total No of Perinatal deaths to be reviewed per Month
Less than 200	Review all perinatal deaths	17
>=200<=400	Review at least 200 perinatal deaths	17
>=400<=700	Review at least 250 perinatal deaths	21
>=700<=1000	Review at least 300 perinatal deaths	25
>=1000	Review at least 300 perinatal deaths	29

Annex IV:

Minimum perinatal data set

The minimum perinatal data set is a core set of data elements for mandatory collection on every birth and death. The following data elements have been proposed as the minimum, which all facilities should collect and report to national level:

- Mother's obstetric history (gravida, parity)
- Mother's medical history
- Mother's age
- Single or multiple pregnancy
- Antenatal care history (number of visits)
- HIV status
- Gestational age (and method of determination)
- Place of childbirth
- Date and time of birth
- Attendant at childbirth
- Mode of childbirth
- Sex of baby
- Birthweight
- Date and time of death (if applicable)
- Type of death (antepartum stillbirth, intrapartum stillbirth, neonatal death)
- Cause of death using ICD-10/11 or ICD-PM.

Annex V: MPDSR Action Plan Template

Meeting Month: mm/yyyy e.g April 2021						
Review Meeting Date						
Meeting Description						
Chair						
Summary of Last Meeting Actions						
Action	Responsibility	Status	Progress Notes	Cost	Timeframe for Completion	Further Action Needed?
Current Meeting Review and Actions						
What is the problem?	Evidence for the problem	Proposed Action	Person Responsible	Cost	Timeframe for Completion	Is this an issue to raise during the AWP?

Annex VI:

Outline of the Annual County MPDSR Report

1. The County annual MPDSR report shall include (but not limited to) the following sections:
   a. Introduction
   b. Methodology for drafting the report
   c. Status of health facilities in the county
   d. Functionality of County MPDSR Committees (subcounty/health facility)
   e. County maternal death data
      - The burden of maternal and perinatal death (in absolute numbers) and disaggregated by sub-counties
      - Underlying/Primary causes of maternal death in the county
      - Associated factors
      - Maternal complications and Obstetric case fatality rate
   f. County Perinatal Death Data
      - The number of perinatal deaths disaggregated by sub-counties and socio demographic characteristics
      - Causes of perinatal deaths in the county
      - Associated factors
      - Calculate the early neonatal death rate
   g. County level Outcome indicators
   h. Opportunities for inter-sectoral collaboration
   i. Action Plan for the County MPDSR Committee
      - Disaggregate the action points to be addressed at the county, sub-county and health facility levels, to prevent maternal and perinatal deaths
   j. Progress in the implementation of County MPDSR Action Plan
   k. Annex – Case studies/case reports: the case reports can be about near misses

Annex VII:

Outline of the Monthly Facility MPDSR Report

1. The Facility MPDSR report shall include (but not limited to) the following sections:
    a. Status of health facility (MNH data)
    b. Functionality of Facility MPDSR Committees
    c. Facility maternal death data
        i. The burden of maternal and perinatal death (in absolute numbers) in facility
        ii. Underlying/Primary causes of maternal death in the facility
        iii. Associated factors
        iv. Maternal complications and Obstetric case fatality rate
    d. Facility Perinatal Death Data
        i. The number of perinatal deaths in the facility
        ii. Causes of perinatal deaths in the facility
        iii. Associated factors
        iv. Calculate the early neonatal death rate
    e. Opportunities for inter-sectoral collaboration
    f. Action Plan for the facility MPDSR Committee
        i. Action points to be addressed for Health Facility, to prevent maternal and perinatal deaths
    g. Progress in the implementation of facility MPDSR Action Plan
    h. Annex – Case studies/case reports: the case reports can be about near misses or Unique deaths audited

Annex VIII:

Outline of the Quarterly Sub County MPDSR Report

1. The Sub County Quarterly MPDSR report shall include (but not limited to) the following sections:
    a. Status of health facilities in the Sub County (MNH status)
    b. Functionality of Sub County MPDSR Committees (subcounty/health facility)
    c. Sub County maternal death data
        i. The burden of maternal and perinatal death (in absolute numbers) in facilities
        ii. Underlying/Primary causes of maternal death in the sub county
        iii. Associated factors
        iv. Maternal complications and Obstetric case fatality rate
    d. Sub County Perinatal Death Data
        i. The number of perinatal deaths in the sub county
        ii. Causes of perinatal deaths in the Sub County
        iii. Associated factors
        iv. Calculate the early neonatal death rate
    e. Sub County level Outcome indicators
    f. Opportunities for inter-sectoral collaboration
    g. Action Plan for the Sub County MPDSR Committee
        i. Disaggregate the action points to be addressed by Health Facility, to prevent maternal and perinatal deaths
    h. Progress in the implementation of Sub County MPDSR Action Plan
    i. Annex – Case studies/case reports: the case reports can be about near misses or Unique deaths audited in the facility.

Annex IX:

List of Contributors

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