Government of Pakistan
Ministry of National Health Services,
Regulations & Coordination

Maternal & Perinatal Death Surveillance and Response (MPDSR)

Participant's Manual

World Health Organization

Maternal and Perinatal Death Surveillance and Response (MPDSR)

Participant's Manual

وزارت صحت، حکومت پاکستان

Government of Pakistan
Ministry Of National Health Services,
Regulation & Coordination

Acknowledgements

In order to institutionalize maternal and perinatal death surveillance and response (MPDSR) in Pakistan, the Ministry of National Health Services, Regulations & Coordination (NHSR&C), Government of Pakistan, developed the national guidelines and a training package with the support from World Health Organization, Pakistan in 2018. These technical resources were developed through a thorough consultation process with a broad range of stakeholders and partners including UNFPA and UNICEF.

The Ministry expresses deep appreciation to the technical experts who have led the task including Dr Lubna Hasan & Dr Najma Lalji. The leadership and support from Dr Malik Muhammad Safi and Dr Atiya Aabroo from the Ministry of NHSR&C was pivotal in development of the training package. Gratitude is due to the galaxy of experts, both international and in-country, who played a key role in providing valuable contributions during the development of the training package including the draft review and final consensus building of the package. Special thanks to the technical team from WHO including Dr Karima Gholbzouri, Dr Lamia Mahmoud and Dr Qudsia Uzma from EMRO and Pakistan office.

Message

Pakistan is committed to achieving the Sustainable Development Goals and the Government of Pakistan is expanding its efforts to address the challenges in achievement of health-related targets. Improving the well-being of mothers, infants, and children is an important public health goal for Pakistan. Their well-being determines the health of the next generation and ensures a healthy and productive citizenry. With an ever-increasing population, at an inter-census annual growth rate of more than 2 percent, the challenge is obvious.

In Pakistan, maternal mortality ratio has decreased from a high of 431 maternal deaths per 100,000 live births in 1990 to a low of 186 maternal deaths per 100,000 live births in 2019 (Pakistan Maternal Mortality Survey).

While infant and Under-5 child mortality indicators have shown reduction, it is clear that we have much to do to reduce neonatal deaths from the current 42 per 1000 live births to the SDG target of 12 per 1000 live births by 2030.

In order to ensure the timely and accurate recording of maternal and perinatal deaths, the Maternal and Perinatal Death Surveillance and Response system is being institutionalised with the support of the World Health Organization in selected districts of Khyber Pakhtunkhwa, Balochistan and Islamabad Capital Territory. This system will ensure that no maternal and perinatal death goes unrecorded and unaccounted for. With WHO support, this system will initially be started at health facility level in selected districts and will later be extended to the community level. Likewise, the focus at the early stage of implementation would be on maternal death reviews while perinatal death reviews would be added along the way.

The training package for implementation of MPDSR is a document that will be an important resource for the trainers and facilitators engaged in the reporting of maternal and perinatal deaths. We are fully committed to operationalize this system and expand the scope both technically and geographically to implement it across the country and at all levels fo reducing preventable maternal and perinatal mortality in Pakistan.

Director (Programs)
Dr. Malik Muhammad Safi

Acronyms & Abbreviations

ANC	Antenatal care
APH	Antepartum Hemorrhage
BHU	Basic Health Unit
CHF	Congestive Heart Failure
CRVS	Civil Registration and Vital Statistics
CS	Caesarean section
ICD	International Classification of Disease
ICD-MM	International Classification of Disease –Maternal Mortality
ICD-PM	International Classification of Disease- perinatal Mortality
MDF	Maternal Death Form
MDR	Maternal Death Review
MMR	Maternal Mortality Ratio
MPDSR	Maternal and Perinatal Death Surveillance and Response
NM	Neonatal Mortality
PDF	Perinatal Death Form
RHC	Rural Health Centre
UNFPA	United Nations Population Fund
WHO	World Health Organization

Contents

ACKNOWLEDGEMENTS	2
MESSAGE	3
ACRONYMS & ABBREVIATIONS	4
CONTENTS	5
BACKGROUND AND INTRODUCTION	6
NOTES TO THE PARTICIPANTS	7
OBJECTIVES	7
TRAINING/LEARNING METHODOLOGY	8
ADDITIONAL REFERENCES	8
TRAINING AGENDA	9
MODULE 1: INTRODUCTION OF TRAINING	11
SESSION 1.1: WELCOME AND INTRODUCTION	12
SESSION 1.2: SETTING COURSE EXPECTATIONS AND PRE-TEST	12
SESSION 1.3: GOAL AND OBJECTIVES OF THE TRAINING	13
SESSION 1.4: TRAINING PACKAGE	13
MODULE 2: MATERNAL AND PERINATAL MORTALITY	14
SESSION 2.1: OVERVIEW ON MATERNAL AND PERINATAL MORTALITY	15
SESSION 2.2: CAUSES AND DETERMINANTS OF MATERNAL AND PERINATAL DEATH	16
SESSION 2.3: THE THREE DELAYS MODEL	20
SESSION 2.4: STANDARDS OF CARE	22
MODULE 3: MATERNAL AND PERINATAL DEATH SURVEILLANCE AND RESPONSE	25
SESSION 3.1: INTRODUCTION TO MPDSR	26
SESSION 3.2: MPDSR SYSTEM	27
SESSION 3.3: LEGAL AND ETHICAL ISSUES REQUIREMENTS DURING MPDSR	31
SESSION 3.4: STEPS FOR MPDSR IMPLEMENTATION	36
MODULE 4: FACILITY REVIEW	43
SESSION 4.1: PREPARING FOR MATERNAL DEATH REVIEW	44
SESSION 4.2: CONDUCTING MDR	71
SESSION 4.3: MOVING TO ACTION RESPONSE	76
SESSION 4.4: DISSEMINATION OF MPDSR RESULTS	89
SESSION 4.5: ANDROID APPLICATION FOR DATA COLLECTION	92
MODULE 5: COMMUNITY REVIEW	96
SESSION 5.1: COMMUNITY BASED MATERNAL AND PERINATAL DEATH REVIEW	97
MODULE 6: PERINATAL DEATH REVIEW	105

Background and Introduction

Maternal and perinatal mortality remains a challenge worldwide affecting most of the low and middle income countries. Pakistan contributes substantially to regional and global maternal and perinatal mortality figures with an estimated Maternal Mortality Ration (MMR) of 276 per 100,000 live births; the lifetime risk of a maternal death stands at 1 in every 110 women. Neonatal mortality rate is equally high in Pakistan, reported to be 55 per 1,000 births, with stillbirth rate of 47 per 1000 live births. A major proportion of these deaths can be prevented by timely intervention and good quality care during pregnancy and at the time of delivery.

The Government of Pakistan stands committed to globally recommended actions for eliminating preventable maternal and perinatal mortality. This will require establishment of strong monitoring systems that are capable of tracking all maternal and neonatal deaths in real time, allowing for better understanding of the underlying factors contributing to the deaths, and guiding actions to avert similar deaths from occurring.

Maternal and Perinatal Death Surveillance and Response (MPDSR) is a systematic approach that provides required information for guiding public health actions focused on reducing maternal and perinatal deaths. It is a form of continuous surveillance that links the health information system and quality improvement processes from local to national levels. MPDSR includes routine identification, notification, quantification and determination of causes of maternal and perinatal deaths, as well as the use of this information to respond with actions that will prevent future deaths.

Notes to The Participants

Purpose

This training package is developed for orienting relevant stakeholders on maternal/ perinatal death surveillance and response (MPDSR) and building capacities in conducting facility based reviews of maternal deaths. The training package includes facilitator and participant manuals. Participant manual includes technical details pertaining to the subject, tools required for conducting maternal/ perinatal death reviews and handouts for practicing the process during the training. The training package is designed based on adult learning approach including interactive lectures and problem based learning. Training should focus on active engagement of participants and reviewing maternal death cases in localized context.

Objectives

By the end of this training, participants will:

1. Understand how MPDSR can reduce maternal and perinatal mortality
2. Know the structure and requirements of Pakistan MPDSR system, including roles and responsibilities
3. Understand the process for conducting facility and community based maternal death review
4. Be able to use MPDSR tools

Participants

This training is intended for mid-level health care providers and facilities in charge. Participants should be selected on the basis of their roles and responsibilities, and experience. Following participants are envisioned for this training:

1. Referral/District/Provincial health facilities - facility based medical officers
2. District health departments - involved in collecting and reporting data from both community and facilities
3. Provincial departments of health and ministry; for advocacy and policy implementation.

Using the Manual

- This training package has two components
  (i) Facilitator Manual and
  (ii) Participant Manual
- Each manual consists of six modules which are further divided in sessions.
- Facilitator Manual contain
  (i) training process and instructions for facilitator,
  (ii) presentations,
  (iii) responses to exercises and case studies,
  (iv) pre and posttests and
  (v) training evaluation form

- Participants' Manual contains
  (i) technical details pertaining to MPDSR,
  (ii) case studies and exercises for practice, and
  (iii) Maternal/ perinatal death review tools
- Handout numbers correspond with respective exercise number

Guide to Symbols

Symbols are assigned for various activities for the ease of facilitator and participants. The symbols used are:

				
Interactive session	Instruction for trainer	Group work	Brainstorm session	Individual Task

Training/Learning Methodology

- Presentations
- Discussion
- Group work
- Role plays

Additional References

- National Guidelines on Maternal & Perinatal Death Surveillance and Response (MPDSR)
- ICD Classification
  http://apps.who.int/iris/bitstream/handle/10665/70929/9789241548458_eng.pdf;jsessionid=82CCE6832DDFC76F2E40710560AC5189?sequence=1

Training Agenda

DAY 1		
Time	**Duration**	**Activity**
09:00 am	**1 hour**	**MODULE 1: INTRODUCTION**
09:00 am	20 min	1.1 Welcome and introduction
09:20 am	20 min	1.2 Setting course expectations and pre test
09:40 am	10 min	1.3 Goal and Objectives
09:50 am	10 min	1.4 Training Package
10:00 am	**15 min**	**Tea break**
10:15 am	**2 hours**	**MODULE 2: MATERNAL & PERINATAL MORTALITY**
10:15 am	30 min	2.1 Overview on Maternal and Perinatal Mortality
10:45 am	30 min	2.2 Causes and Determinants of Maternal and Perinatal Death
11:15 am	40 min	2.3 Three delays Model Why did Mrs. X die
11:50 pm	20 min	2.4 Standards of Care
12:10 pm	**2 hours 40 min**	**MODULE 3: MATERNAL AND PERINATAL DEATH SURVEILLANCE AND RESPONSE**
12:10 pm	60 min	3.1 Introduction to MPDSR
01:10 pm	**02:10 pm**	**Lunch Break & Prayers**
02:10 pm	60 min	3.2 MPDSR System
03:10 pm	30 min	3.3 Policy, legal and ethical requirements for MPDSR
03:40 pm	60 min	3.4 Steps for MPDSR implementation
04:40 pm	**20 min**	**Q&A Reflections**
05:00 pm		**Closure**

DAY 2		
Time	**Duration**	**Activity**
09:00 am	15 min	Where we are
09:15 am	**6 hours**	**MODULE 4: FACILITY REVIEW**
09:15 am	2 hrs. 40 min	4.1 Preparing for Maternal Death Review
10:15 am	**15 min**	**Tea break**
12:10 pm	1 hr. 30 min	4.2 Conducting the Review
01:40 pm	**60 min**	**Lunch Break & Prayers**
02:40 pm	90 min	4.3 Response – Action Plan
04:10 pm	20 min	4.4 Dissemination
04:30 pm	**15 min**	**Q&A Reflection**
04:45 pm		**Closure**

DAY 3		
Time	**Duration**	**Activity**
09:00 am	15 min	Where we are
09:15 pm	45 min	4.5 Android Application
10:00 am	**15 min**	**Tea break**
10:30 am	**2 hrs.**	**MODULE 5: COMMUNITY REVIEW**
10:30 am	2 hrs.	5 Community Based Maternal and Perinatal Death Review
12:30 am	**60 min**	**MODULE 6: PERINATAL DEATH REVIEW**
01:30 pm	**60 min**	**Lunch Break & Prayers**
02:30 pm	30 min	Post-Test
03:00 pm	15 min	Evaluation Form
03:15 pm	30 min	Certificates Distribution
04:45 pm		**Closure**

Module 1: Introduction of Training

You are here	**Module 1**	Introduction
	Module 2	Maternal and Perinatal Mortality
	Module 3	Overview of MPDSR
	Module 4	Facility Review
	Module 5	Community Review
	Module 6	Perinatal Death Review

Learning Objectives of this Module

By end of this module participants will

- Discuss training expectations
- Get to know each other
- Complete the pre-test

Sessions of Module 1		
Session #	**Session Title**	**Time**
1.1	Welcome and introduction	20 min
1.2	Setting course expectations and pre test	20 min
1.3	Goal and Objectives	10 min
1.4	Training Package	10 min
	Total time	**1hr**

Session 1.1: Welcome and Introduction

Establishing Norms and Housekeeping
Brainstorm norms for the course

These should include:

- Times for breaks
- Lunch
- Starting and ending times

Write a list of norms like respecting others' opinions, active participation, etc.
Ask participants to volunteer for following activities for each day of training

- Get participants back from breaks and lunch on time
- Collect feedback from participants
- Prepare energizers for after lunch
- Conduct the "Where are We" exercise at the beginning of each day
- Conduct the "Reflections" exercise at the end of the day
- Other responsibilities the group suggests

Session 1.2: Setting course expectations and pre-test

GROUP WORK 1.2: Course Expectations
Distribute one red and one green card to each participant
Ask participants to spend 5 minutes thinking about the 5 questions

- Ask each person to state one positive thing (on green cards) that will happen during the course
- Ask each person to also recount one negative (on red card) thing about something they hope CVVwill not happen during the workshop
- Put the "Positive" and "Negative" in separate columns on the flip chart/board

Summarize their expectations according to the objectives of the workshop

Pre- Test

Participants DO and Don'ts

DO

- Do ask a question when you have one
- Do request an example if a point is not clear
- Do search for ways in which you can apply a general principle or idea to your work.
- Do try to evaluate how you are already performing a skill based on new techniques you are learning
- Do think of ways you can pass on ideas to your subordinates and coworkers.
- Be skeptical-don't automatically accept everything you hear.
- Respect the ideas of other participants

DON'T

- Don't close your mind by saying, "This is all fine in theory, but..."
- Don't assume that all topics covered will be equally relevant to your needs
- Don't take extensive notes; the handouts will satisfy most of your needs
- Don't try to show how much you know by monopolizing class time
- Don't engage in side talk
- Don't interrupt others

Session 1.3: Goal and Objectives of the training

Goal: Train the participants on conducting MPDSR at facility and community level

Objectives

By the end of this training, participants will:

1. Understand how MPDSR can reduce maternal and perinatal mortality
2. Know the structure and requirements of Pakistan MPDSR system, including roles and responsibilities
3. Understand the process for conducting facility and community based maternal death review
4. Be able to use MPDSR tools

Session 1.4: Training Package

Interactive Session

- Training should be as interactive as possible and responsive to the needs of the group. To do this, we will review what went well or didn't go well at the end of each day in an exercise called "**Reflections.**" Also, to make sure we are on track, we use an exercise called "**Where are We?**"

"Where are We" exercise

- Each morning one participant will review the highlights from the day before
- The exercise is not a review of the previous day, but is used to identify the highlights and main points of each day's experiences
- The participant conducting the review should use it as an opportunity to share insights, clarify issues, resolve problems, or review important material.
- Problems identified will be resolved before continuing.

Module 2: Maternal and Perinatal Mortality

Module 1	Introduction
Module 2	Maternal and Perinatal Mortality
Module 3	Overview of MPDSR
Module 4	Facility Review
Module 5	Community Review
Module 6	Perinatal Death Review

You are here

Learning Objectives of this Module

By end of this module participants will learn

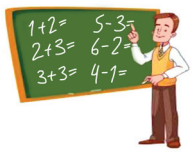
- Causes, situation and determinants of maternal and perinatal mortality
- Definitions of relevant terms
- ICD classification for maternal mortality
- Standards of care in preventing maternal and perinatal mortality

Sessions of Module 2		
Session #	**Session Title**	**Time**
2.1	Overview on maternal and perinatal mortality	30 min
2.2	Causes and determinants of maternal and perinatal death	30 min
2.3	Avoiding maternal and perinatal deaths: Three delays framework Why did Mrs X die	40 min
2.4	Standards of care	20 min
	Total time	**2 hrs**

Session 2.1: Overview on Maternal and Perinatal Mortality

Learning objectives of this session
By end of this session participants will learn
- Situation of maternal and perinatal mortality
- Importance of reporting maternal/ perinatal mortality data

Interactive Session



Ayesha got married a few years ago. She used to be a picture of perfect health. She would run errands in the house, go in the fields to help her husband, look after cattle, cook food for the family and would still be smiling and ever ready to do more. However, after repeated pregnancies with 3 live and 2 still births, she died while giving birth to her sixth still born child. She is no more!

- Why Ayesha and her baby died?
- How many maternal and neonatal deaths occur worldwide and in Pakistan?
- What can be done? How we can adequately use the data to bring change?

Extent of problem

- The most vulnerable period for both mother and newborn is around delivery and postpartum
- Every year 6.6 million children die before their 5th birthday
- 3.0 million newborn babies in the first month of life, > 1 million due to prematurity
- 2.0 million infants aged 1 – 12 months
- 303,000 women die due to complications of pregnancy and childbirth (2015)
- 2.6 million stillbirths
- In South Asia, Pakistan is one of the countries where maternal mortality ratios (MMR) and neonatal mortality rates remain stagnant.
- The Pakistan Demographic and Health Survey (PDHS) 2012-13 reports a perinatal mortality rate of 75 per 1000 pregnancies and neonatal mortality rate of 55 per 1,000 live births.
- The neonatal mortality rate was not substantially different between PDHS 1990-91 and PDHS 2012-13. Over the same period there was a 19% reduction in infant mortality and 24% reduction in under-5 mortality in Pakistan.

How we can prevent these deaths

- Most deaths are preventable if life-saving preventive and therapeutic interventions are provided at the right time.
- To understand how well we are progressing, accurate information on
    - How many women and newborns died?
    - Where they died? and
    - Why they died is essential?
- The Commission on Information and Accountability was created to track progress on resources and results towards the goals of the UN Secretary-General's Global Strategy on Women's and Children's Health.
- It recommended three interconnected processes - **monitoring, reviewing and acting** - aimed at learning and continuous improvement in life-saving interventions.

- Maternal and Perinatal death surveillance and response (MPDSR) builds on the principles of public health surveillance and supports the processes called for by the Commission.
- MPDSR promotes routine identification and timely notification of maternal and perinatal deaths and is a form of continuous surveillance linking health information system and quality improvement processes from local to national level.

Maternal and Perinatal Death Surveillance and Response is a system

- Measures and tracks all maternal deaths in real time
- Helps us understand the underlying factors contributing to the deaths
- Primary goal is to eliminate preventable maternal mortality by obtaining and strategically using information to guide public health actions and monitoring their impact

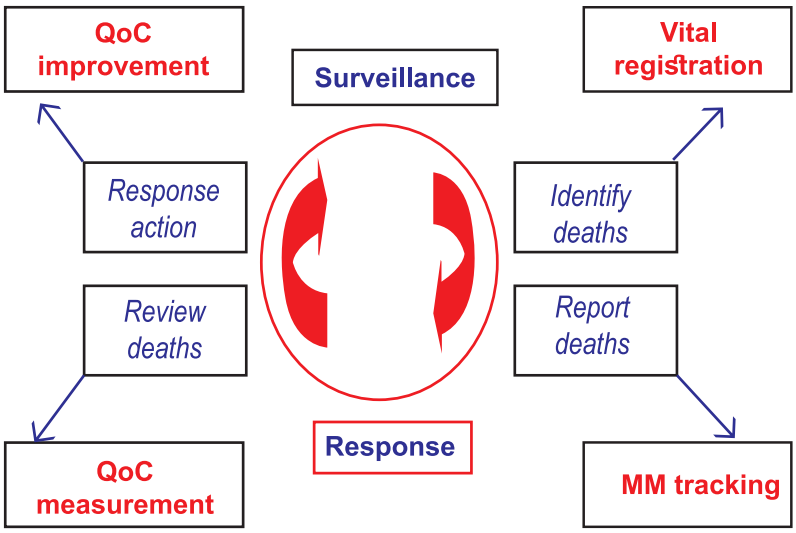


Figure 1: MPDSR System

The MPDSR system involves the identification of all maternal/perinatal deaths, timely reporting/ notification, conducting a review to understand why the woman/newborn died through consideration of both medical as well as social and economic contributing factors. More so to that, the MPDSR process is a response arm for taking actions to prevent similar deaths in the future, figure 1 summarizes the key steps involved in the MDSR cycle.

Session 2.2: Causes and Determinants of Maternal and Perinatal Death

Learning objectives of this session

By end of this session participants will be able to

- Learn relevant definition of maternal and perinatal death
- Recognize common causes of maternal and perianal deaths
- Explain the difference between causes and determinants of maternal and perinatal death

A clear understanding of the related definitions is a critical prerequisite to undertaking MDSR. These definitions facilitate: correct classification of maternal deaths; identification of maternal deaths, decision making on which deaths should be reviewed, and correct identification of the underlying cause of maternal deaths.

Following definitions adapted from the WHO application of the ICD 10 to deaths during pregnancy, childbirth, and the puerperium - (ICD-Maternal Mortality); and the WHO MDSR technical guidelines.

1. **Maternal death is the death of a woman**
   - While pregnant or within 42 days of termination of pregnancy (irrespective of duration and site of pregnancy).
   - From any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.
2. **Pregnancy related deaths**
   - All deaths of women during or within 42 days of the end of pregnancy regardless of cause.
   - This indicator is useful in settings where it is difficult to determine the cause of death.
3. **Maternal near miss**
   - This is "a woman who nearly died but survived a complication during pregnancy, childbirth or within 42 days of end of the pregnancy".
   - "Near miss" occurs when a woman survives life-threatening conditions (i.e. organ dysfunction after severe pre-eclampsia/ eclampsia).
4. **Suspected Maternal Death**
   - Death of any woman while pregnant or within 42 days of termination of pregnancy.
   - Important during Notification of maternal deaths.
5. **Probable maternal deaths**

   These are deaths among pregnant women which are not obviously due to incidental or accidental cause's suspected maternal deaths MINUS those due to incidental and accidental causes).

   This is important for **maternal death review.**
6. **Late maternal deaths**

   Death of a woman from direct or indirect causes more than 42 days but less than one year after termination of pregnancy.
7. **Stillbirth or fetal death:**

   The ICD-10 defines a fetal death as "death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy. The death is indicated by the fact that after such separation the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles".
8. **Neonatal Death** is death of an infant occurring during the first four weeks after Birth.
9. **Early Neonatal Death** is death of an infant within the first seven (7) days of life.
10. **Perinatal Mortality rate (= SBs + ENNDs):** This is the number of dead foetuses weighing at least 500g plus the number of early neonatal deaths, per 1000 total births.

GROUP WORK: 2.2

Divide the participants into groups of 4-5 and give them 10 minutes to complete following exercise using handout 2.2

1. List 3-5 main causes and determinants of maternal deaths during or immediately after childbirth in Pakistan?
2. List 3-5 main causes and determinants of perinatal deaths (still births and neonatal deaths) in Pakistan?

Handout 2.2	Causes	Determinants
Maternal		
Perinatal		

Maternal Death	
Causes	**Determinants**
The immediate clinical or medical reason for the woman's death, classified as a direct or indirect maternal death	The "causes of the causes" or factors that increased the woman's risk of dying from a specific cause
Direct Causes (≈75%) Obstetric causes during pregnancy, childbirth and the post-partum period, such as: • Hemorrhage - Hypertensive disorders - Infection - Obstructed labour - Abortion **Indirect Causes (≈ 25%)** Medical conditions that can be aggravated through pregnancy, such as: - HIV (including TB and pneumonia) - Malaria - Anaemia - Heart conditions	**Community-based factors** Lack of awareness of danger signs of illness - Delay in seeking care due to lack of family agreement - **Geographic isolation** - Lack of transportation or money to pay for it - **Other responsibilities** - Cultural barriers, such as prohibitions on mother leaving house - **Lack of money to pay for care** - Belief in use of traditional remedies - **Belief in fate controlling outcome** - Dislike of or bad experiences with health care system **Health service factors** No health service available or too far away - Sought care but no staff available - **Medicine not available at the hospital and must be provided by the family** - Lack of clinical care guidelines - **Woman was not treated immediately after arriving at the facility** - Health facility lacked needed supplies or equipment - **Staff did not have knowledge/skills to diagnose and treat mother** - Had to wait many hours for qualified staff to see mother - **No transport available to reach referral hospital** - Poor staff attitude
Perinatal Death	
Causes	**Determinants**
The immediate clinical or medical reason for the fetal or neonatal death classified as a Ante partum, Intra partum, post-partum	The "causes of the causes" or factors that increased the fetal or neonatal death risk of dying from a specific cause
Causes of still Birth **Maternal cause** - Obstructed labour - Ruptured Uterus - Preeclampsia/ Eclampsia - APH (Placenta previa or abruption) - Obstetric Sepsis **Fetal causes** - Intrapartum Asphyxia - Cord Accident - Congenital Anomalies and Other **Causes of Neonatal Deaths** - Complications Prematurity - Asphyxia - Sepsis/pneumonia/meningitis - Lethal congenital anomaly	- Lack of skilled birth attendant at birth - Poverty ,no heating - Poor training of Birth attendant - No use of betamethasone

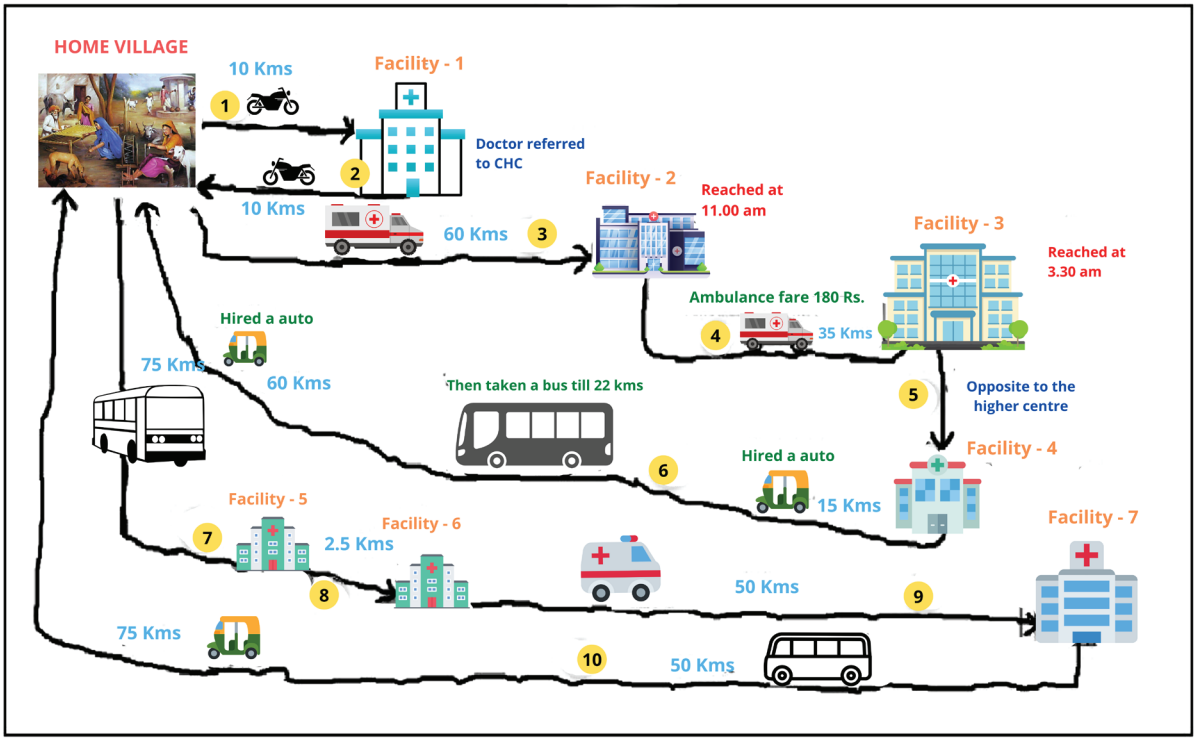
Session 2.3: The Three Delays Model

Learning objectives of this session
By the end of the session the participants will be able to
- Explain the three delays model

The method uses to identify contributing factors is the well-known "Three delays" model

Brainstorm using figure 1 Parveen Bibi's journey

Figure 2: An image to illustrate the different delays[1]. It illustrates the journey of ONE single woman who died.



- Figure traces the complex pathways that led to the death unlike the linear model of the 3 delays framework
- Shows health system issues from the perspective of the woman's lived experience

1. CSO Dead Women talking initiative in India

- **Inter-sectoral issues – migration, livelihoods, roads, transport**

Parveen was a 32-year-old woman from Rajanpur in Punjab. She was a migrant worker in cotton mills and had a past history of tuberculosis. This was her fourth pregnancy in which the only antenatal services she received were tetanus toxoid and ten iron folic acid tablets. When she developed breathlessness in the eighth month, her family first took her to the local BHU on a motor bike. From there, she was referred to the Tehsil hospital. Although the ambulance service was arranged to transport her, she had to be taken 3 km across a river on a bike to reach the ambulance pick-up point. From the tehsil hospital, she was referred further to the district hospital. Here, the doctor told them he would not be available at night, so the family took Parveen bibi to a nearby private hospital. However, she was refused care here and told to go to a higher facility, so the family took Parveen back home to arrange for more money. The journey home was by a cart, a bus and finally a rickshaw. It took 3 days for the family to arrange the money by which time Parveen's condition had worsened. This time, the family decided to take her to a private hospital in another town she was refused care there and in another private hospital where she was taken next. So the family arranged for a private ambulance and took her to the medical college hospital. She was admitted there and investigations were done, but the next morning, the doctor told them that treatment at the medical college would not be possible and that she should be taken to a private hospital. At this point, Parveen's family gave up and decided they could not afford any more care and decided to bring her back home, where she died that night. She had been to seven different facilities over five days with no definitive care given, even in tertiary level public institution.

1. Delay 1: Delay in the decision to seek care?

Rapid recognition of a problem can be critical to saving a mother's life (esp. for excessive bleeding)

Delay 1 measured as length of time from onset of a complication to decision to seek care

Determinants include:

– Inadequate knowledge ,Lack of awareness
– Reliance on family members who are not present
– Lack of familiarity with or trust in services
– Education, socio-economic status and women's autonomy also affect Phase 1 in seeking care

2. Delay 2: Delay in reaching care?

Once decision to seek care is made, there can be delays in reaching it

Determinants include:

– Unavailable or expensive transport
– Long distances to facilities
– Costs related to accompanying woman or paying fees/ expenses related to services
– Inadequate referral systems between facilities
– Inequitable or insufficient distribution of CemOnc services increase type 2 delays

3. Delay 3: Delay in receiving adequate care

Determinants relate to:

– Quality of Care - Shortages of staff, equipment or blood products
– Time lag between arrival and initiation of treatment/ surgery
– Poor technical competence

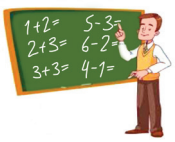
Group Exercise: Why did Mrs. X die - Retold
Make groups and play the video
https://www.youtube.com/watch?v=gS7fCvCIe1k

Ask the groups to see the video with following in mind
1. What was the direct cause of Mrs. X's death?
2. Were there any indirect causes?
3. What evidence did the review committees use to make changes in quality of care at the facility?
4. List 2 actions resulting from the analysis of Mrs. X's death taken at the hospital and nationally)

Discuss with the groups

Session 2.4: Standards of Care

Learning objectives of this session
By end of this session participants will
- Get familiarize with the importance and definition of Quality of Care (QoC)
- Understand the framework of QoC



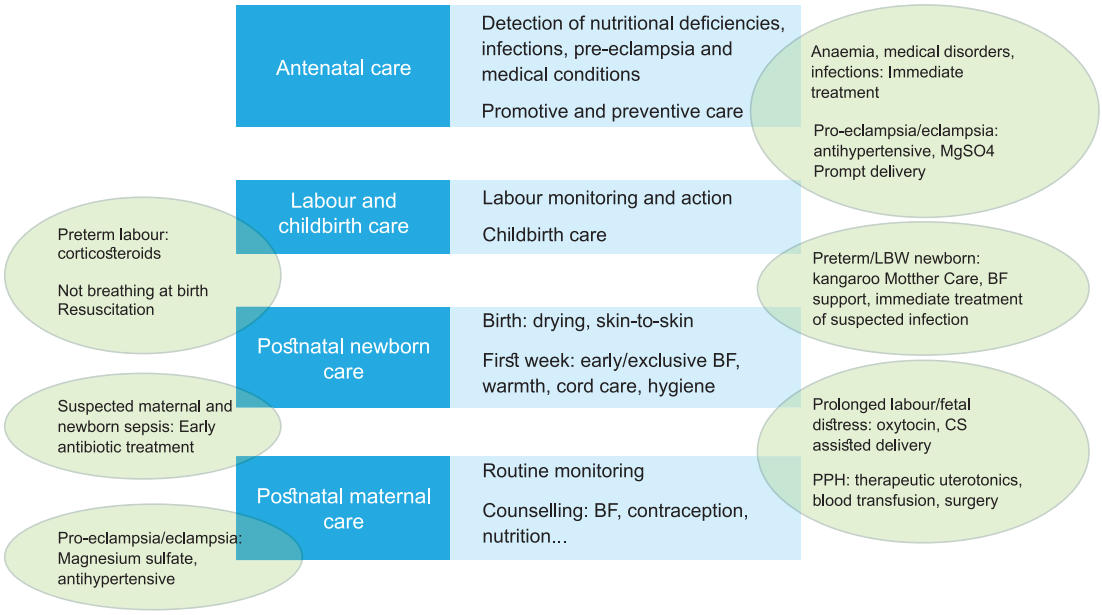
Interactive Session

Quality of care is defined as the extent to which health services provided to individuals and populations improve desired health outcomes. In order to achieve this, health care needs to be safe, effective, timely, efficient, equitable, and people-centered.

Clinical Standards for QoC

- Clinical standards defined as the minimum acceptable level of quality of care
- They reflect "the best way to treat patients" according to scientific evidence, the opinion of experts and with consideration of the local context and resources
- If there are no explicit standards available, the risk is that it may be difficult to reach a consensus on the appropriateness of the care provided, especially if professionals have different ways of practicing due to different training backgrounds.

Priority thematic areas for maternal and newborn health



High priority thematic areas for evidence based practices in routine and emergency care

1. Routine care during childbirth, including monitoring of labour and newborn care at birth and during the first week
2. Management of pre-eclampsia, eclampsia and its complications
3. Management of difficult labour with safe, appropriate medical techniques
4. Management of postpartum hemorrhage
5. Newborn resuscitation
6. Management of preterm labour, birth and appropriate care for preterm and small babies
7. Management of maternal and newborn infections

The framework (Figure 3) conceptualizes QoC for maternal and newborn health by identifying domains of QoC which should be targeted to assess, monitor and improve care within the context of the health system.

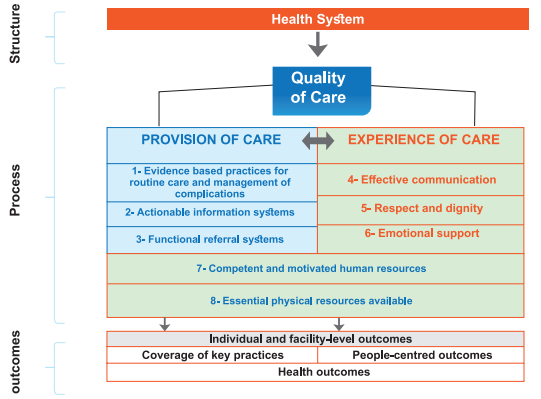


Figure 3: QoC Framework

Indicator of Quality of Care

- Death reviews are an important part of quality assessment and improvement
- Proportions of maternal, perinatal and child deaths that are reviewed in each facility is an indicator of the quality of care

Module Summary Points

Most of maternal and perinatal deaths are preventable

- Social determinants are the "causes of the causes" of maternal and perinatal deaths, and depend on many social levels
- Addressing maternal and perinatal deaths thus requires action at every level, not just medical or health services
- MPDSR identifies determinants related to the 3-delays from individual to the community and to health facility level
- MPDSR is an important part of quality assessment and improvement

MODULE 3: MATERNAL AND PERINATAL DEATH SURVEILLANCE AND RESPONSE

You are here

Module 1	Introduction
Module 2	Maternal and Perinatal Mortality
Module 3	Maternal and Perinatal Death Surveillance and Response (MPDSR)
Module 4	Facility Review
Module 5	Community Review
Module 6	Perinatal Death Review

Learning Points of this Module

By end of this module, participants will learn

- Global experiences and current situation of MPDSR in Pakistan
- Legal and ethical issues involved in MPDSR
- Steps of MPDSR Implementation

Sessions of Module 3		
Session #	**Session Title**	**Time**
3.1	Introduction to MPDSR	60 min
3.2	MPDSR System	60 min
3.3	Policy, legal and ethical requirements for MPDSR	20 min
3.4	Steps for MPDSR implementation	60 min
	Total Time	**2 hrs. 40 min**

Session 3.1: Introduction to MPDSR

Learning objectives of this session

By the end of the session the participants will

- Be familiar with key concepts and definitions of surveillance and MPDSR
- Understand the objectives of MPDSR

What is Public Health Surveillance?

WHO definition of Surveillance[2]

Public health surveillance is the continuous, systematic collection, analysis and interpretation of health-related data needed for planning, implementation, and evaluation of public health practice. Such surveillance can:

- Serve as an early warning system for impending public health emergencies
- Document the impact of an intervention, or track progress towards specified goals; and
- Monitor and clarify the epidemiology of health problems, to allow priorities to be set and to inform public health policy and strategies.

Purpose of Surveillance

- Serves as an early warning system for impending public health emergencies
- Document the impact of an intervention, or track progress towards specified goals; and
- Monitor and clarify the epidemiology of health problems, to allow priorities to be set and to inform public health policy and strategies.

GROUP WORK: 3.1

Ask participants what is Maternal and Perinatal Death Surveillance and Response (MPDSR) and what are its objectives?

Write their responses on flipchart/ board

Ask one of the participant to summarize

Importance of MPDSR

- Responds to maternal and perinatal mortality
- Enables evidence based approach that examines both the health system and social factors of maternal health
- Enables district health team to find its MMR and NMR
- Provides information for action to prevent future maternal and perinatal deaths at district, provincial and national level
- Sensitizes communities and facility health worker
- Improves quality of care
- Establish linkages with other sources of information (CRVS/ DHIS/HMIS)
- Respect the ideas of other participants

Fosters Participation of all Relevant Stakeholders for Identification and Response of Maternal and Perinatal Deaths

2. http://www.who.int/topics/public_health_surveillance/en/

Session 3.2: MPDSR System

Learning objectives of this session

By the end of the session the participants will

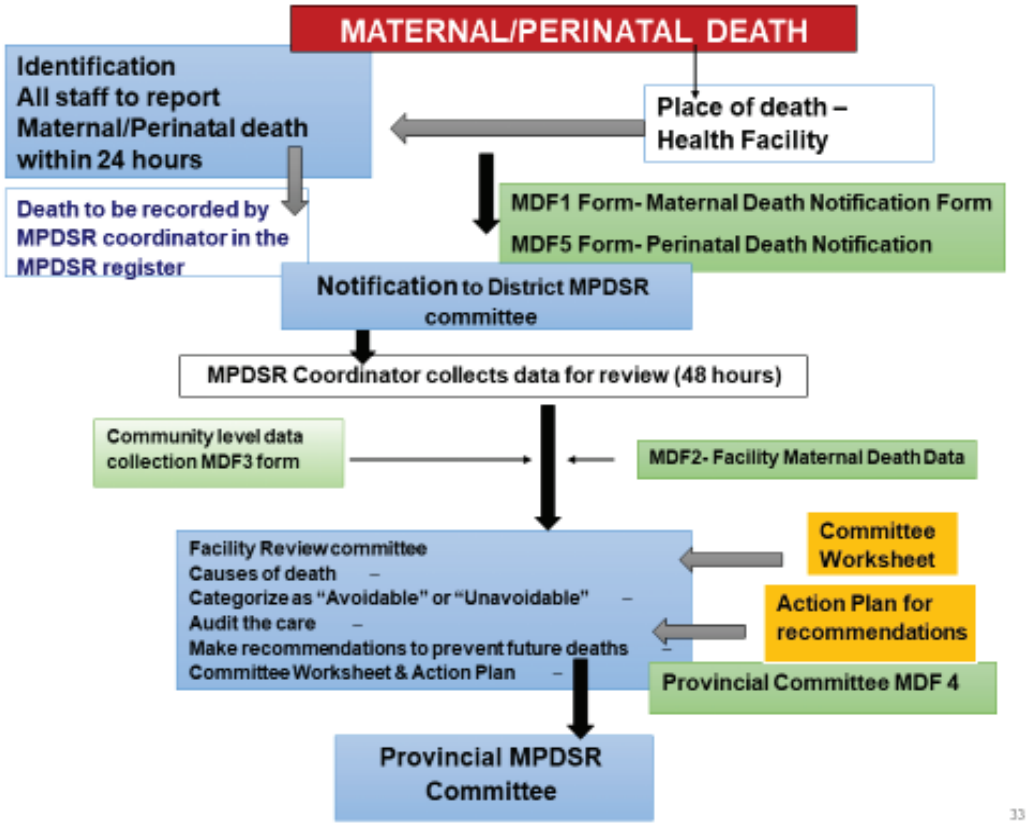
- Get familiar with the components of MPDSR system
- Gain understanding of global experience of MPDSR
- Understand the current state of MPDSR in Pakistan

Brainstorm components of MPDSR system, keeping in view public health surveillance system

The MPDSR system is a continuous-action cycle designed to provide real-time, actionable data on maternal and perinatal mortality levels, causes of death, and contributing factors, with a focus on using the findings to plan appropriate and effective preventive actions. MPDSR is intended to build on established approaches such as Integrated Disease Surveillance and Response (IDSR) and MDR. It aims to identify, notify, and review maternal and perinatal deaths in communities and facilities, thus providing information to develop effective, data-driven interventions that will reduce maternal and perinatal mortality. It is critical to avoid creating a parallel system, but instead integrate within existing mechanisms to the greatest extent possible.

MPDSR has eight components:

1. Identification-ongoing identification of suspected maternal, stillbirths and neonatal deaths in facilities and/or communities.
2. Notification - notification within 24 hours for facility deaths and 48 hours for community deaths to the appropriate authorities.
3. Review by the relevant committee-collection of relevant data by trained personal on the prescribed forms is conducted. Review includes an examination of medical and nonmedical contributing factors that led to the death, assessment of avoidability (substandard care) and development of recommendations for preventing future deaths, and immediate implementation of pertinent recommendations. Reviews must be done by a multidisciplinary committee made up of qualified stakeholders including OB/GYNs, pediatricians, hospital administrative staff, anesthetists, and epidemiologists etc.
4. Analysis and aggregation of data-Reviews are aggregated at the district level and reported to the provincial level and then onward to the national level.
5. Recommendations-recommendations for action can be at facility, district/community, provincial and national levels. National action recommendations are made based on the aggregated data from all the provinces.
6. Response-Implement recommendations made by the review committee and those based on aggregated data analyses. Actions can address problems at the community, facility, or multi-sectoral level.
7. Monitoring and Evaluation of the system
8. Dissemination of results



GROUP WORK: 3.2

Divide participant in group of 4-5 and ask them to read Handout 3.2 on Global Experience on MPDSR, in 15 minutes.

Give flexibility to participants to add, if they have any additional information

HANDOUT 3.2: GLOBAL EXPERIENCE (Reference MPDSR Protocol)

- **Policy and practice gap in maternal death review**
  85% countries have national policy to review all maternal deaths; whereas 46% countries have national maternal death review committee that meet at least biannually.
- **MPDSR evolved from maternal death review**
  Philippines reported a relatively smooth transition to MDSR after 2013, largely due to its established system of maternal death reporting and review (MDRR). A significant change was emphasis on the response element of MDSR
- **Investigating maternal death creates fear**
  Studies from Moldova, Kenya and Malawi, the previously used system of investigating maternal deaths 'instilled fear' in the country's health professionals, who were afraid of being prosecuted for perceived mistakes.
- **No blame game**
  Malaysia suggested that it is essential for the maternal death review process be non-punitive to avoid "naming, blaming or shaming."

- **MDSR and CRVS strengthen each other**
  MDSR can contribute significantly to a country's culture of accountability where civil registration and vital statistics (CRVS) systems are not well established. Scale of the problem was indicated in Kazakhstan and South Africa; where 29% and 49% more maternal deaths were identified.
- In Malawi MDSR system is expected to strengthen CRVS by collecting data using the International Classification of Diseases (ICD-10) standard for maternal mortality (ICD-MM).
- In Nepal, CRVS and MDSR systems will use same verbal autopsy questionnaires to collect information on suspected maternal death.
- **Training in MDSR techniques specifically death review and response**
  In Ethiopia, Federal Ministry of Health instigated an MDSR training programme following the launch of country's system in May 2013. By the end of 2014, the MDSR system had been introduced in 17 zones, covering about 40 million people in an estimated national population of 95 million.
- Tanzania was in the process of rolling out its system of maternal and perinatal deaths surveillance and response following the compilation of national guidelines and tools in 2015.
- **Strong political commitment and participation of a multidisciplinary team**
  Involvement of senior staff members including obstetricians and heads of departments, was associated with greater success in implementation of recommendations for quality improvement in Malawi, Indonesia and Senegal.
- **Various Models of MPDSR**
  Audit and notification of all maternal deaths is mandatory in Uganda. A National Committee on Maternal and Perinatal Death Reviews was established in 2008. An in depth review of a small number of maternal deaths occurring at facilities is conducted and discussed at national level.
- Kenya declared maternal death a notifiable event in 2014 and started reviewing maternal deaths at facility level. Recently it developed comprehensive national MPDSR guidelines. Kenya is taking a phased approach in implementing the "P" in MPDSR.
- **MDSR can generate its own budget line**
  MDSR provides evidence and trends in maternal mortality. This may lead to budget allocation at national and sub national levels.
- **Barrier to acting on recommendations**
  Feedback of MDR recommendations to key stakeholders and health care providers is essential for action to be taken. Most common barriers were lack of involvement from senior staff and heads of department and poor quality of data recorded during the MDR process.
- Other common barriers include shortage of human resources, high turnover of staff, inexperienced staff, lack of standardized guidelines for reviewing maternal deaths.
- **MDSR improves quality of care**
  Quality of care can improve and avoidable mortality can be reduced if recommendations based on MDR findings are implemented.

MPDSR situation in Pakistan

- Currently Pakistan maternal & perinatal Data are estimates
- 2016_UNFPA institutionalized a system for reporting on M&N deaths in Punjab through LHWs
- 2015 WHO hosted national workshop for provincial MNCH managers and Partners to advocate for a unified approach
- WHO,UNICEF,UNFPA joint implementation in 2016, DRAFT – ONE UN Platform
- 2017 consultative meeting by WHO and federal government to build consensus on a National

MDSR guideline for Pakistan

- Ministry of National Health Services, Regulation and Coordination, in collaboration with WHO has developed National Guidelines/Protocols on MPDSR, in May 2017
- These Protocols are expected to serve as a working document and will be revised periodically based on experience.
- They can be adapted at provincial level to suit local contexts.
- All the data collection and reporting tools are included in the Appendices. Again, these can be adapted to fit local needs.

PRINCIPLES

- No name: anonymity
- Confidentiality: cannot be used for litigation
- No blame
- Evidence-based standards of care
- Assigning a cause of death (ICD-MM)

Legal Safeguards

Creating an enabling environment

1. Policy to Notify Maternal Deaths
2. Policy to establish maternal death review committees at all levels
3. Policy to protect those involved in the review process
   Immunity from litigation
   Confidentiality: code of conduct

Challenges with MDSR implementation are several but the most prominent include

- Lack of awareness
- Blame culture
- Staff and training
- Timely data collection
- Quality improvement for sustainability
- Lack of funding

Brainstorm on Challenges and Solutions for Rolling out MPDSR in Pakistan

Session 3.3: Legal and Ethical Issues Requirements During MPDSR

Learning objectives of this session
By end of the session participants will understand

- Policy, legal and ethical requirements of MPDSR

Interactive Session

Introduction:
Ayesha got married a few years ago. She used to be a picture of perfect health. She would run errands in the house, go in the fields to help her husband, look after cattle, cook food for the family and would still be smiling and ever ready to do more. However, after repeated pregnancies with 3 live and 2 still births, she died while giving birth to her sixth still born child. She is no more!

- Maternal deaths are emotional events, and an increased focus on them can potentially have adverse effects, such as the identification and blame of individuals who were involved (including providers and family members.
- Concerns about the legal implications of collecting and reviewing data around maternal deaths are very natural and need to be acknowledged and not dismissed.
- An MPDSR system is more likely to be successful if certain regulations and legal protections are in place. The implementation and sustainability of an MPDSR system are influenced by several legal challenges since laws and customs can either help or hinder access to information, the conduct of the investigation, and the way the findings are used. They can also influence the involvement of health care professionals in MPDSR processes.
- The protection of the MPDSR system from litigation is important if it is to achieve maximum participation and overall success. The national and provincial MPDSR task forces must strongly advocate for legal protection of the information, received from the maternal death review process, from the possibility of it being accessed for litigation purposes.
- In addition, mechanisms must be instituted to ensure the removal of identifiers for the women/ babies who died, as well as health care providers, to minimize possibility of those involved being identified if the information fell in the wrong hands.

Legal Issues

- National laws
- Administrative standards
- Implementing regulations
- Workplace policies
- Judicial decisions related to RMNCH

Legal Considerations

1. **Access to information (hospital records)**

- Legal access is needed to review hospital records
- Do MDSR committee members all have legal access to hospital records?
- Are there legal provision for health workers & MDSR committee members to refuse to disclose findings from MDR / MDSR?

- Permission is required to speak to family members and healthcare providers
- Interview consent form?
- Obtain permission « on tape »?

2. **Protection of people involved (providers, investigators, and family members)**

- Notification of MPDSR
- Laws are needed to protect those reviewing maternal deaths & other people involved from civil and professional liability.
- Confidentiality
- Laws are needed to protect data gathered during maternal death review from disclosure and use in subsequent lawsuits
- Safeguards to protect medical records
- Technical: encryption etc.
- Administrative: masking patient identifiers etc.
- Physical: locked doors and cabinets, destroy files etc.
- Conduct periodic data security audits

3. **Use of the results (litigation)**

- Aim of MPDSR (and MDR) is to understand why women and babies die so that preventive strategies can be developed
- Results should not be used to discipline providers or family members of the deceased
- The identifiers of patients and providers should be kept hidden as much as possible
- Legal backing should be used to prevent the use of information for litigation
- Members of MPDSR committee should decline from giving testimony in court if they were part of the review
- Same person should participate in MDR and take administrative or legal action against persons involved in clinical care or MPDSR process. The two processes should be separate and parallel.

Ethical Considerations

1. **Autonomy or self-determination**

   The right of competent adults to make informed decisions for themselves, about their own medical care & participation in any review process or research

Family and community members should be:

- Fully informed about the review process
- That their participation is voluntary
- Interview can be interrupted at their request

Consent forms should ideally be administered before family members are interviewed.

- Informed consent eliminates any ethical obligations based on autonomy
- Alternatively consent « on tape » is used
- Verbal consent

2. Privacy

- Privacy applies to the person as opposed to confidentiality which applies to data
- Privacy is a person's desire of having control over the extent, timing, and circumstances of sharing oneself (physically, behaviorally, or intellectually) with others.
- Individuals have the right to limit access by others to aspects of their person_hat can include thoughts & personal information.
- Take informed consent from all patients, family & community members before conducting interviews

3. Confidentiality

- Applies to data: It is the obligation to keep personal information private. Data should NOT be divulged to others without permission
- Identities of the deceased, relatives and providers should be kept confidential and known only to those collecting the data.
- Data collection forms, case summaries, review meetings and all reports should not contain personal identifiers.

Documents containing personal identity should:

- Not be shared by email,
- Should be kept in locked office/cabinets (hard copy)
- Password protected files (electronic data).

All notes with identifying information collected for the purpose of MDSR should be destroyed, once MDSR reports are produced.

Confidentiality: A Code of conduct

- Local data collectors and involved health care workers are the only staff who see the names of deceased
- Knowledge maintained within review committees
- All individuals (including committee members) who access identifying data sign a non-disclosure confidentiality agreement (kept on record) Using a "non-disclosure" or confidentiality pledge demonstrates a review committee's commitment to confidentiality.

Draft Disclaimer (Non-disclosure confidentiality agreement)

We, the members of the ---- review committee, agree to maintain anonymity and confidentiality for all the cases discussed at this meeting, held on [DATE]. We pledge not to talk to anyone outside this meeting about details of the events analyzed here, and will not disclose the names of any individuals involved, including family members or health care providers.

LIST OF MEMBERS

	NAME	DESIGNATION	SIGNATURE
1.			
2.			
3.			
4.			

MDR SESSION NO: DATE:

FACILITY/DISTRICT:

4. Anonymity

- Anonymity: personal identity completely unknown
- Names of the deceased should NOT appear in MDSR forms & database
- Mask patient & staff identifiers in patient's folders, records, case summaries, etc.
- Disussions should be anonymous: 'no name, no blame'

Complete anonymity is:

- Easier for Confidential Enquiry into Maternal Deaths
- Difficult to achieve especially in facility-based MDR and verbal autopsy
- In the absence of complete anonymity, consider the signing of confidentiality agreement by those who have access to identifiable information

5. Beneficence: Data should be collected in a way that it can be analysed and used at different levels for the purpose it is collected

- Data should be collected in a way that maximises analysis and response at different levels
- Maximize the use of data collected
- Not using collected data is an ethical issue
- Using data for purposes that could damage the MDSR system (e.g. litigation) is also an ethical issue

Framework for legal and Ethical issues during MDSR

Legal	Ethical
Access to information	Autonomy
Protection of people involved	Privacy
Use of results	Confidentiality
	Anonymity
	Beneficence

GROUP WORK: 3.3

Divide participants in groups of 4.
Assign each group one case study and give 30 minutes
Ask each group to present. Take feedback from participants.
Show presentation with correct responses on each case study

Case Studies

Case study 1	Maternity team performed a Caesarean section (CS) indication for CS was congestive heart failure (CHF) in pregnancy. MDR revealed that CS was contra-indicated in a woman with CHF. • Back home, a member of MDR committee told his wife and the news soon spread and reached the family of the deceased. • The family sued the doctor who performed the CS. • The hospital director who is member of the MDSR committee gave testimony in court **Questions** What are the legal and ethical issues involved? How could the lawsuit have been prevented?

Case study 2	Madame Y, the wife of a parliamentarian, died of eclampsia. MDR revealed that the doctor who attended to her did not prescribe Magnesium Sulphate which was available in the hospital pharmacy. - A team of policemen arrived the hospital and requested to have the deceased hospital records including MDR report. - The Hospital Director humbly handed over the documents to the police - The next day the doctor who attended to the deceased was arrested **Questions** - What are the legal and ethical issues involved? - How could the arrest have been prevented?

Case study 3	Madame Z died of a ruptured uterus after prolonged labour • MDR revealed that when the doctor on duty was called for the emergency, he has been drinking beer with his friends and did not come immediately until a few hours after the patient had died. • The hospital director suspended the doctor from work **Questions** - What are the legal and ethical issues involved? - What will you have done if you were the hospital director?

Case study 4	Madame G died of a postpartum hemorrhage before arrival in a health facility. She was delivered by a Traditional Birth Attendant who referred the patient for postpartum hemorrhage. • A community health conducted verbal autopsy by interviewed the sister of the diseased and TBA without taking informed consent. • After analysis of findings, one verbal autopsy committee informed the village head that the TBA had contributed to the death of the woman and that there was urgent need to stop TBAs in the village from conducting deliveries. • The village head informed the police who arrested the TBA and also got VA form from the district hospital **Questions** - What are the legal and ethical issues involved? - What will you have done if you were the hospital director?

Case study 5	The national MDSR committee produced the MDSR report which was disseminated widely. • The MCH Director in the MoH requested that the MDSR committee chair should send him the MDSR database. The database was sent by email. • The secretary of the MCH Director downloaded the file, went through it and then discovered that the sister of one of her friend died due to medical negligence. • The secretary informed her friend who sued the hospital where the woman died. **Questions** - What are the legal and ethical issues involved? - What will you have done if you were the hospital director?

Session 3.4: Steps for MPDSR Implementation

Learning objectives of this session

By the end of the session the participants will

- Identify the key steps involved in MPDSR implementation
- Identify the review committees and their composition at each level

MPDSR Levels

- MPDSR/ MDR committee should be made at facilities having more than 500 deliveries per year, both in public and private sector
- MPDSR Coordinator should be nominated in smaller hospitals, maternity clinics or health centers (public or private facilities) including all setups that have a labour room to accommodate deliveries
- Depending on capacity of the district and volume of deaths, the district committee may operate within the DHQ hospital

Steps for implementing MPDSR

MPDSR stresses the concept of a maternal death as a notifiable event and the country incorporates maternal deaths into the system of notifiable disease reporting. The system takes concrete steps to ensure timely notification, review/audit, reporting on all maternal deaths and response as indicated in the following 8 steps for MPDSR implementation:

1. **Establish task forces**

- At National and Provincial levels to oversee design and launch of MPDSR
- At district level implementing maternal death review

2. **Setting Up MPDSR Committees**

- Coordinators at community level
- Facility Level
- District Level
- Provincial level
- National Level

MPDSR committee meeting at district /facility level

- Summary of case presented
- Case reviewed: avoidability ascertained
- Recommendations /response plan of action developed
- MDR 4 form filled and sent to provincial MPDSR committee
- Implement recommendation/response plan at relevant level
- Aggregate and analyze the data at provincial level and compile reports to inform policy and programs.
- Provide feedback to facilities and districts and follow up on recommendations

GROUP WORK: 3.4 Committees

Divide participants in in groups of 4.
Ask participants to read Handout 3.4 on Committees

- Ask each group to fill in information on one type of committee in the format given
- Generate discussion on inclusion of workshop participants in any of the committees and their potential role

GROUP WORK 3.4 –Committees format	
Committee	
Roles and Responsibilities	
Members	
Links to MPDSR SYSTEM	
From whom you will receive information	
to whom will you send information	
Frequency of meetings	

Handout 3.4: Committees

MPDSR committees need to be set up at the various levels- facility, district, province, and national. The composition and sample terms of reference of each committee is set out below.

1. Large Facility Committee

The frequency of committee reviews will depend on the number of deaths. In large facilities where maternal deaths are frequent, the committee will ideally meet at least weekly to review, analyze and discuss all deaths that have been reported in the facility. If deaths are less frequent, the committee conducts meeting within 24 hours of every reported death. The recommendations of the committee may require immediate actions to be implemented through adoption of clinical audit and best practices to promptly address the 3rd delay. Lower level PHC facilities may link to existing MPDSR community structures or liaise with tertiary facilities in their catchment areas.

Sample Committee Composition: Chaired by the Facility Director, the committee includes M/S, facility-in-charge, gynecologist/pediatrician/neonatologist, blood bank manager, anesthetist, pharmacist etc. The committee composition can be adapted according to mode of governance in each province and level of facility. The MPDSR coordinator assigned in the facility is responsible for confirming a maternal death, filling MDF1 to notify to the district coordinator, and filling out MDR2 tool for data collection, organizing the meetings, and presenting the case to a secretary who will fill out the MDF4 for onward transmission and follow the response plan of action.

Sample TORs:

- Convene meetings to review all maternal deaths reported in the facility;
- Assign a cause of death, using ICD –MM;
- Discuss identified service delivery gaps and propose remedial actions within the facility;
- Identify facility deaths that require further investigation at community level through data collection tool MDF3 (visit to household of the deceased);
- Record keeping, monitoring and feedback to facilities;
- Develop facility action plans to address identified gaps;
- Mobilize internal and external resources to ensure implementation of recommended actions;
- Share reported death (including zero reporting) and recommendations to district/ provincial committee and follow up implementation as require

2. District Committee

The frequency of committee reviews will depend on the number of deaths. The District MPDSR committee meets in a timely manner to analyze and discuss all deaths that have been reported in the district, by both the facilities and communities.

Sample Composition: Chaired by the Executive District officer, the Committee includes DHO, DC MNCH, LHW coordinator, HMIS coordinator, gynecologist, pediatrician/neonatologist, LHS/LHV, and representation of the private sector and/or NGO run maternity facilities. Other relevant program representatives, as well as in-charge of DHQs, nazims/naib nazims can been included as deemed appropriate. The DC MNCH acts as secretariat to the committee and is responsible for organizing the monthly meetings.

Sample TORs:

- Convene meetings to review all maternal and perinatal deaths reported in the district, and analyze trends;

- Discuss identified service delivery gaps and propose remedial actions;
- Record keeping, monitoring and feedback to facilities;
- Develop district level action plans to address identified gaps;
- Mobilize district level resources to ensure implementation of recommended actions;
- Share reported death (including zero reporting) and recommendations to provincial committee and follow up implementation as required.

3. Provincial Committee

The Provincial MPDSR Committee meets at least on a quarterly basis to review, analyze and discuss all deaths that have been reported in the entire province.

Sample Composition: Chaired by the Provincial Director General Health Services, the Committee includes a larger representation of all concerned stakeholders at provincial level- MNCH Program; DHO, LHW, HMIS, DC MNCH from all districts, obstetricians/gynecologists and pediatricians/ neonatologists from implementing facilities including private sector. The MNCH/IRMNCH director at provincial level acts as secretariat to the committee and is responsible for organizing the quarterly meetings.

Sample TORs:

- Convene quarterly meetings to review all maternal and perinatal neonatal deaths reported in the province and analyze trends;
- Discuss identified service delivery gaps, propose remedial actions and follow up implementation as required;
- Record keeping, monitoring and feedback to districts;
- Develop provincial level action plans to address identified gaps;
- Mobilize provincial level resources to ensure implementation of recommended actions;
- Share reported death (including zero reporting) and recommendations to national committee and follow up implementation as required;
- Publish annual provincial report of deaths, recommendations & responses;
- Disseminates to relevant stakeholders and provides feedback to concerned partners.

4. National Committee

The National MPDSR Committee meets at least bi-annually to review, analyze and discuss all deaths that have been reported in the entire country. MPDSR reporting can be added as a regular agenda point in the meetings of the National RMNCH Task force. In addition the national level is responsible for developing the Standards of Care and ensuring that MPDR is included into the basic training of health professionals.

Sample Composition: Chaired by the National Director General Health, the Committee includes a larger representation of all concerned stakeholders at provincial level- Provincial DGs, MNCH/ IRMNCH director; representatives of associations (obstetricians/ gynecologists and pediatricians/ neonatologists), partners, academia, relevant national programs, related sectors (Planning, Population Welfare, Education, Nutrition & Food security, Information, Roads & infra-structure etc.) including private sector epidemiologist . The MNCH director at national level acts as secretariat to the committee and is responsible for organizing the bi-annual meetings.

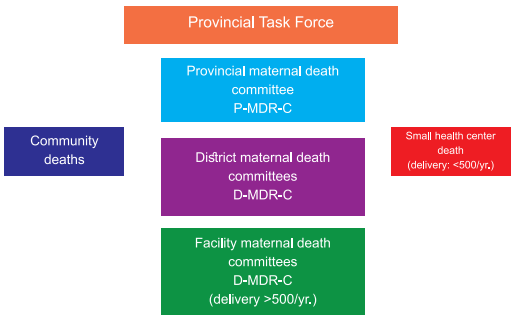
Sample TORs:

- Convene bi-annual meetings to review all maternal and neonatal deaths reported in the country and analyze trends;
- Record keeping, monitoring and feedback to provinces;
- Discuss identified service delivery gaps, propose policy level remedial actions and follow up implementation as required
- Develop national level action plans to address identified gaps;
- Mobilize national and global resources to ensure implementation of recommended actions;
- Publish annual national report of deaths, recommendations & responses;
- Disseminates to relevant stakeholders and provides feedback to concerned partners.

Key activities at four levels (Figure 4)

1. **Provincial Level**

- Policy issuances
- Clarification of guidelines as necessary
- Funding as necessary
- Representations to local government units as necessary
- Task force to oversee design and implementation,
  - Standards of care
  - Referral
- Legal Aspect
  - Notification
  - Protection of care givers
  - Setting up Provincial MDR committee
  - Notifying MDR in hospitals, districts etc.
  - Training for data collection, notification
  - Surveillance
  - Response



2. **District Level**

- Receive report of a suspected maternal death
- Confirm probable maternal death; MDF1
- Forward notification within 24 hours to provincial committee
- Data collection team to fill out MDF3 (Verbal Autopsy)
  - Review each death D-MDR-C
  - Recommend/ action response plan
- Fill out MDF4 and send to P-MDR-C
- Zero notification
- Training as required

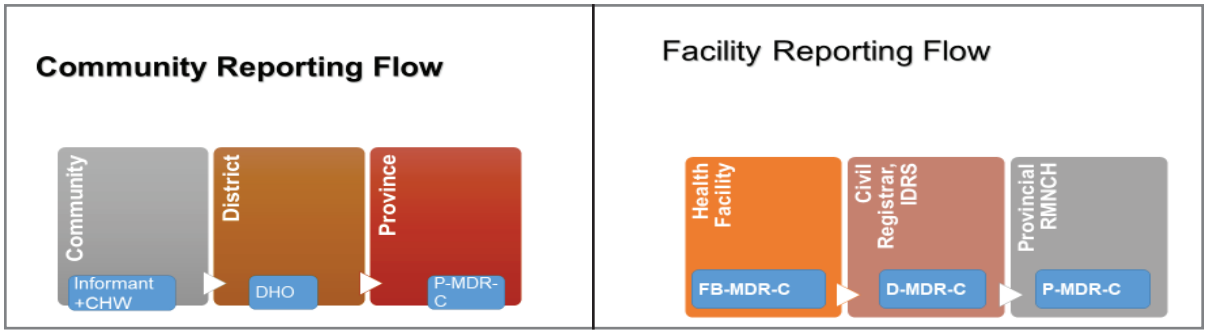
3. **Facilities (deliveries : >500 annually)**

- Notify MD to D-MDR-C (MDF1)
- Set up MDR committees
- Data collection from all units (MDF2)
- Standards of care in place

- Avoidability (action plan
- Response at local level
- Analyzing data, forwarding to P-MDR-C (MDF4)
- Death certification & birth certification
- Instituting ICD-MM

4. Community

- Identifying maternal deaths
- Notify to D-MDR-C
- Data collection Verbal autopsy
- Training
- Awareness



Prerequisites to implementation

- Intensive and inclusive planning
- Development of system-wide linkages and processes that foster communication and collaboration at all levels,
- Agreement on the scale of coverage and design of the system,
- Assessment of the current situation including
  - Mapping existing resources
  - Identification of gaps
  - Identification of regulations and legal protections in place
- Identification of opportunities for cost-saving and achieving wider benefits

MPDSR Implementation Recommendations

- Maternal death should be made a notifiable event
- Committees should be notified at all level
- Coordinator should be identified at community level
- All personal should be trained
- National tools should be developed which allow consistent information to be extracted and acted upon at various levels
- Death review is a difficult process and therefore needs to be well covered in training programmes
- At district level, a database manager should be responsible for checking the completeness of data collection, identifying inconsistencies and entering data into a summary form
- A communications plan should be prepared at the start that includes how results will be communicated

Phased approach to MPDSR implementation

In Pakistan vital registration systems are lacking and basic MDR has not been widely implemented. Therefore, it is advised to begin implementation of MPDSR in phased approach, to keep it manageable and building over established processes. Facility-based deaths are usually easier to capture as compared to community- based deaths. Facility based deaths can serve as entry point for initiating MPDSR process. Establishing systems and implementing notification and review of facility based maternal deaths and a sample of perinatal deaths that happen concurrently with the maternal death will ensure that the process is properly operational. This approach will automatically address a large percentage of perinatal deaths In next phase, more difficult and labour intensive task of notifying and investigating community based deaths and all perinatal deaths should be undertaken.

The process can be initiated in urban areas in the facilities that are already collecting some data on maternal deaths. Once it is established, the process can be expanded to all health units including private hospitals. Later entire districts can be involved. Once facility based interventions are consolidated, communities should be covered.

An example of phased approach (Figure 3) that has been successfully utilized in several countries. It shows a typical progression when scaling up a national system. Horizontal arrow shows expansion of places where deaths are identified: from only government or other selected facilities to all facilities, and finally to complete coverage. The vertical arrow shows progression in geographic coverage, and the diagonal arrow shows progression in depth of review.

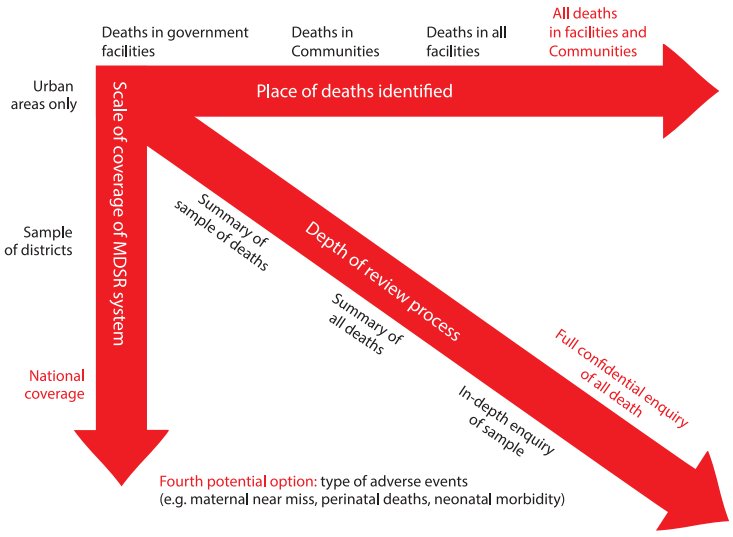


Figure 5: Phased approach

Summary Points of Module 3

- MPDSR system captures maternal and perinatal deaths in communities and facilities
- MPDSR surveillance involves community, district, provincial and national levels
- Ultimate aim of MPDSR is to identify feasible action to prevent avoidable maternal and perinatal deaths
- MPDSR findings should not be used to penalize service providers or for litigations

MODULE 4: FACILITY REVIEW

	Module 1	Introduction
	Module 2	Maternal and Perinatal Mortality
	Module 3	Overview of MPDSR
You are here	**Module 4**	Facility Review
	Module 5	Community Review
	Module 6	Perinatal Death Review

Learning Points of this Module

By end of this module participant will learn to conduct facility review for maternal death

Sessions of Module 3		
Session #	**Session Title**	**Time**
4.1	Preparing Maternal Death Review ICD - Classification	2 hrs. 40 min
4.2	Conducting the Review	1.5 hrs.
4.3	Response – Action Plan	1.5 hrs.
4.4	Dissemination	20 min
4.5	Android Application	45 min
	Total Time	**6 hrs. 45 min**

Session 4.1: Preparing for Maternal Death Review

Learning objectives of this session

By the end of the session the participants will

- Learn Key steps involved in preparing for Maternal Death Review
- Identify Key members for an MDR committee
- Learn ICD classification for maternal death
- Become familiar with facility notification form MDF1
- Be able to fill data collection form MDF2

RECAP

Maternal Death Review

Public health surveillance is the continuous, systematic collection, analysis and interpretation of health-related data needed for planning, implementation, and evaluation of public health practice. Such surveillance can:

- Maternal/perinatal death review is qualitative, in-depth investigation of causes and circumstances surrounding these deaths. Main objective of maternal death review is to find out why the death occurred and what can be done to prevent future deaths.
- Pakistan's Guidelines for MPDSR uses the term 'review' and not audit. Audit is systematic process of improving quality through reviewing the care provided against evidence-based criteria. These may include national or local clinical standards and guidelines; such protocols are still not implemented in Pakistan.
- Reviews are carried out against what is considered acceptable in specific circumstances, by local experts.

Preparing an MDR session

Step 1: Identifying and selecting MDR committee participants
Step 2: Developing TORs for MDR committee
Step 3: Identifying maternal deaths /Notification
Step 4: Assigning a cause of death using ICD-MM
Step 5: Filling MDF 2

Step 1: Identifying and Selecting MDR Committee Members

- Health professionals
- Administration and management personnel
- Staff from peripheral health facilities/ referring patients
- Community members

An MDR committee should include between 6 and 10 people (maximum 12)

Members should have

- A basic understanding of the maternal death review process (one barrier to successful auditing highlighted in the literature is the lack of training in audit skills)
- An understanding of and commitment to the plans and objectives of the audit process

- An understanding of what is expected of the committee
- An interest in and commitment to investigating maternal deaths, and the ability to devote sufficient time

Responsibility of MDR Committee

- Committee's main responsibility is
  - Organizing the reviews
  - Disseminating the results
  - Monitoring the implementation of recommendations
- Members with experience and authority should be selected to take overall responsibility for coordination
- Statutes and internal regulations of the committee should be established

Sample Hospital Committee Membership

- Medical Superintendent / Head of Facility
- Obstetrician & Gynecologist
- Anesthesiologist /Anesthetist
- Neonatologist/ pediatrician
- Blood Bank In charge
- Pharmacy unit head
- Senior Nurse/ Midwife/ LHV
- Medico legal Officers/ Medical Officers/ Resident Medical officers
- Head of departments
  - Collectively, the members of the review committee need to have the expertise to identify both the nonmedical and medical problems that contributed to the deaths.
  - In addition, having the right mix of expertise in the MDR committee is critical when it is time to act on the review findings and help develop and implement the recommendations. a designated coordinator with an in-depth understanding of the data collection process, instruments, and flow of data should be in place.
  - The review process requires cooperation by those who provided care to the woman who died, and their willingness to report accurately on the management of the case.
  - The success of data collection may depend on how issues of confidentiality and impartiality are handled.
  - Staff involved need to be certain that the review process does not involve apportioning blame for anything that happened.
  - They need to know that all findings will be recorded and reported completely anonymously, in accordance with the "no name, no blame" principle.
  - Asking all MDR committee members to sign a statement attached below (Handout 4.2-draft disclaimer form) at the beginning of a review meeting makes it clear to all that the committee takes the principles of no blame seriously.

Handout 4.1: Draft Disclaimer form

All individuals (including committee members) who access identifying data sign a non-disclosure confidentiality agreement

Draft Disclaimer (Non-disclosure confidentiality agreement)

We, the members of the ---- review committee, agree to maintain anonymity and confidentiality for all the cases discussed at this meeting, held on [DATE]. We pledge not to talk to anyone outside this meeting about details of the events analyzed here, and will not disclose the names of any individuals involved, including family members or health care providers.

LIST OF MEMBERS

Sr.	NAME	DESIGNATION	SIGNATURE
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			

MDR SESSION NO: DATE:

FACILITY/DISTRICT:

Selecting the three main facilitators for the MDR session

1. **Vice Chair/coordinator is responsible for**

- Identifying maternal deaths, notifying probable deaths to the D-MDR-C
- Gathering all information concerning cases,
- Arranging a FB-MDR_C Meeting
- Summarizing and presenting clinical cases during the MDR session

2. **Chairperson chairs the session and stimulates discussion**

- To put participants at ease, to encourage open discussions and to treat all participants fairly and with equity.
- Making decisions such as stopping the case review because of problems for example in the group.

3. **Secretary summarizes the case analysis and produces a report of the session for the Facility and fills MDF 4 sending it to P-MRD-C**

Step 2: Developing Terms of Reference

It is important for all Review Committees to have clear TORs so that everyone knows

- WHO is a member?
- WHAT the committee will do?
- HOW often it will meet?
- HOW it will report?
- TO WHOM it will report?

GROUP WORK: 4.1.1 Facility MDR Committee

Divide participants in groups. All participants from same facility should be in one group

- Draft TOR for your Review Committee
- **Refer to group work 3.4 and complete exercise in Handout 4.1.1**

Handout 4.1.1: Terms of Reference for Hospital MPDSR Committee	
Chair	
Vice Chair/Coordinator	
Secretary	
Members	
Links to MPDSR SYSTEM	
From whom you will receive information	
to whom will you send information	
Frequency of meetings	

Five Decisions of Committee

1. Cause of death: ICD-MM
2. Death classification Direct/indirect/incidental
3. Relevant delays
4. Preventability/avoidability
5. Action/response

Step 3: Identifying Maternal Deaths/Notification

- All maternal deaths should be identified
- When conducting a facility-based MDR for the first time, it may be necessary to incorporate deaths dating from some time back
- No definitive advice can be given about how far back to go, but if there are few deaths it will be necessary to go back far enough to identify a minimum of 2 or 3 cases

Identification of Maternal Deaths at Facility level

- The records of all deaths in women of reproductive age admitted and/or managed in all hospital departments should be reviewed for evidence of pregnancy status. This includes ALL WRA irrespective of presumed cause of death
- All those noted as having been pregnant, in labour or in the puerperium at the time of death should be selected and classified as suspected maternal deaths
- ALL Suspected maternal deaths should be notified to the coordinator of the Hospital
- A routine pregnancy test? Ultrasonography
- Every woman is pregnant until proved otherwise!!

Notification of Maternal Deaths

1. **Vice Chair/coordinator is responsible for**

- The Provincial MDSR Implementation Plan must be specific about who does the notification at which level and the flow of information
- Once maternal deaths are notified, the facility coordinator will go through the maternal death records and identify the probable maternal deaths
- All Probable maternal deaths plus all deaths not clearly incidental or accidental should be subjected to maternal death review

PREPARING AN MDR SESSION

MDF1: Notification **form**

To be filled out for ALL deaths to women of reproductive age (15-49)

(To be filled in duplicate; one copy kept at facility and one sent to the district MDR Coordinator)

1. Notification

a. Name of diseased…… CNIC……. Case ID number: _____
b. Name of Husband……... CNIC Number
c. Address
d. Date of death
e. Who informed the death of the woman?
   i. CMO
   ii. Staff nurse from ward
   iii. registrar
   iv. Others
f. Date of notification……...
g. Name of the health worker……...
h. Telephone no…….
i. Signature……

2. Screening (to be filled by health center staff)

a. Age of the woman……
b. Did she die while pregnant? 1. Yes 2. No
c. Did she die within 42 days of termination of pregnancy? 1. Yes 2. No
d. Did she miss a period before she died 1. Yes 2. No
e. Place of death:
   i. Home
   ii. On the way
   iii. Hospital
   iv. Managed at facility

If answer to ANY of questions b-d is yes than the case is a suspected maternal death and requires a verbal autopsy to be conducted.

f. Suspected maternal death……...
g. Name of health care worker…….
h. Date…….
i. Signature……

Step 4: Assigning a cause of death using ICD-MM

Additional reference of WHO to be provided
http://apps.who.int/iris/bitstream/handle/10665/70929/9789241548458_eng.pdf;jsessionid=82CCE6832DDFC76F2E40710560AC5189?sequence=1

ICD MM (2012) is a WHO guide on how to assign a cause to maternal death using the ICD 10 It is intended to facilitate

- Consistent collection of reports of clinical conditions
- Analysis on cause of maternal deaths (direct and indirect)
- Interpretation of information on maternal deaths.
- Allocation of resources and programmes intended to address maternal deaths.

Its principles should be applied during the process of categorizing all data relating to deaths, which may be collected through:

- Civil registration,
- Surveys,
- Hospital information systems,
- Verbal autopsies,
- Confidential enquiries and other special studies.

Classification of maternal deaths: ICD MM
Causes of death are classified as
(1) Underlying and (2) contributory causes.

There is one & only one underlying cause.
An underlying cause can be direct or indirect

There can be multiple contributory causes.
Contributory causes include

(1) All known direct/indirect causes of maternal deaths, PLUS
(2) Other conditions unlikely to cause death, but may contribute to death.

There can be multiple contributory causes.
Contributory causes include
(1) All known direct/indirect causes of maternal deaths, PLUS
(2) Other conditions unlikely to cause death, but may contribute to death.

The underlying cause is assigned an ICD code.

- In multiple cause coding, all contributory causes on the death certificate are also assigned ICD codes.
- All contributory conditions have ICD codes, but these conditions should only be assigned ICD codes in countries with multiple coding systems

Underlying (initial, primary) cause

Disease or condition that initiated the morbid chain of events leading to death or the circumstances of the accident or violence that produced a fatal injury. The single identified cause of death should be as specific as possible.

Example: A woman has anemia in pregnancy develops uterine atony after childbirth develops hemorrhage leading to hypovolemic shock.

Underlying cause of death: Uterine Atony (condition that initiated the chain of events)

Type of underlying causes of all deaths

1. **Direct**
2. **Indirect**
3. **Unknown:** Maternal death from unspecified cause occurring during pregnancy, labour and delivery or the puerperium
4. **Coincidental:** These are not maternal deaths by definition. These deaths occur in pregnancy, childbirth, or the puerperium but are not by definition are considered maternal deaths. E.g. motor vehicle accident, assault, rape, herbal medication.

Table : Direct Underlying causes categories

Groups	Direct Underlying Causes ICD-MM categories
Group 1	**Pregnancy with abortive outcomes** Ectopic pregnancy, abortion/miscarriage, hydatiform mole, failed attempted abortion etc.
Group 2	**Hypertensive disorders** Eclampsia, Preeclampsia, etc.
Group 3	**Obstetric haemorrhage** Placenta Previa, abruptio placenta, uterine atony, uterine rupture, cervical & high vaginal tears, antepartum haemorrhage etc.
Group 4	**Pregnancy-related infections** Chorioamnionitis, puerperal sepsis, genitourinary tract infections, etc.
Group 5	**Other obstetric complications** Hyperemesis gravidarum, retained placenta, obstetric embolism, uterine inversion, suicide (intentional self-harm & intentional self-poisoning), etc.
Group 6	**Unanticipated complications of treatment** Anaesthetic, drug-related, surgical, diagnostic/therapeutic procedures, nosocomial infection etc.
Group 7	**Non-obstetric complications -Indirect underlying causes of death** - Neoplasm: cancers – breast, cervix, ovary, leukemia, etc. - Hematological: anemia, sickle cell, etc. - Endocrine: diabetes, thyroid etc. - Mental: psychosis (excl. postnatal depression, postpartum psychosis) etc. - Cardiovascular: rheumatic heart disease, infarction, CVA, cardiomyopathy, heart failure, congenital, endocarditis, etc. - Nervous: epilepsy etc. - Digestive: appendicitis, pancreatitis, etc. - Respiratory: Asthma, etc. - Musculoskeletal & connective tissue: systemic lupus erythematosus, etc. - Genito-urinary: genital, urinary, etc. - Infectious: pneumonia, tuberculosis, HIV, meningitis, malaria, etc.

Group 8	**Unknown /undetermined: Obstetric death of unspecified cause**
Group 9	**Coincidental: These deaths occur in pregnancy, childbirth, or the puerperium but are not by definition are considered maternal deaths**

Contributory conditions that should NOT be selected as underlying cause of death if any condition in Groups 1 to 9 is present

- Prolonged labour, obstructed labour
- Malnutrition in pregnancy
- Maternal distress
- Polyhydramnios & Oligohydramnios
- Premature rupture of membranes
- Preterm delivery & post-term pregnancy
- Failed induction of labour
- Precipitate labour, inadequate contractions & hypertonic contractions.
- Fetal complications: fetal distress, cord complications, malpresentation, multiple gestation, fetal malformation etc.
- Perineal laceration during delivery
- Assisted delivery, Caesarean section, previous caesarean section

Contributory (secondary) conditions or causes

Conditions that may exist prior to development of the underlying cause of death OR develop during the chain of events leading to death and which, by its nature, contributed to the death.

Example 1:
A woman who has anaemia in pregnancy then develops uterine atony after childbirth which gives rise to haemorrhage and finally leads to hypovolemic shock, the contributory causes are:

(1) anaemia (pre-existing condition)
(2) hypovolemic shock (condition that develops after the underlying cause & which contributed to death).

EXAMPLE 1

A woman who had anaemia during pregnancy and after delivery had a postpartum haemorrhage due to uterine atony, and died as a result of hypovolaemic shock.

Medical certificate of cause of death

Cause of death *the disease or condition thought to be the underlying cause should appear in the lowest completed line of Part I*		Approximate interval between onset and death
1. Disease or condition leading directly to death	(a) hypovolaemic shock	10 minutes
	A contributory cause indicated in Part 1. This is assigned a code when multiple cause coding is undertaken	
Antecedent causes: Due to or as a consequence of	(b) postpartum haemorrhage	30 minutes
Due to or as a consequence of	(c) uterine atony	45 minutes
	The underlying cause. This is the last condition noted in Part 1 and is a condition found in Annex B1	
Due to or as a consequence of	(d)	
2. Other significant conditions Contributing to death but not related to the disease or condition causing it	Anaemia	pre-existing
The woman was: ☒ pregnant at the time of death ☐ not pregnant at the time of death (but pregnant within 42 days) ☐ pregnant within the past year		

If deceased was a woman, was she pregnant when she died or within 42 days before she died ? Yes

(Part I shaded for purposes of the example)

Table 1		
Groups of underlying causes of death during pregnancy, childbirth and the puerperium in mutually exclusive, totally inclusive group3		
Type	**Group name/number**	**EXAMPLE of potential causes of death**
Maternal death: direct	"1. Pregnancies with abortive outcome"	"Abortion, miscarriage, ectopic pregnancy and other conditions leading to maternal death and a pregnancy with abortive outcome"
Maternal death: direct	"2. Hypertensive disorders in pregnancy, childbirth, and the puerperium "	"Oedema, proeinuria and hypertensive disorders in pregnancy, childbirth and the puerperium"
Maternal death: direct	3. Obstetric haemorrhage	"obstetric diseases or conditions directly associated with haeemorrhage"
Maternal death: direct	4. Pregnancy-related infection	"Pregnancy-related infection-based diseases or conditions"
Maternal death: direct	5. Other obstetric complications	"All other direct obstetric conditions not included in groups to 1-4"
Maternal death: direct	"6. Unanticipated complications of management"	"Severe adverse effects and other unanticipated complications of medical and surgical care during pregnancy, childbirth or the puerperium"
Maternal death: indirect	7. Non-obstetric complications	"Non-obstetric conditions • Cardiac disease (including pre-existing hyper tension) • Endocrine conditions • Gastrointestinal tract conditions • Central nervous system conditions • Respiratory conditions • Genitourinary conditions • Autoimmune disorders • Skeletal diseases • Psychiatric disorders • Neoplasms • Infections that are not a direct result of pregnancy"
Maternal death: unspecified	8. Unknown/undetermined	"Maternal death during pregnancy, childbirth and the puerperium where the underlying cause is unknown or was not determined"
"Death during pregnancy, childbirth and the puerperium"	9. Coincidential causes	"Death during pregnancy, childbirth and the puerperium"

Table 1		
Groups of underlying causes of death during pregnancy, childbirth and the puerperium in mutually exclusive, totally inclusive groups 3		
Type	Group name/number	EXAMPLES of potential causes of death
Maternal death: direct	1. Pregnancies with abortive outcome	Abortion, miscarriage, ectopic pregnancy and other conditions leading to maternal death and a pregnancy with abortive outcome
Maternal death: direct	2. Hypertensive disorders in pregnancy, childbirth, and the puerperium	Oedema, proteinuria and hypertensive disorders in pregnancy, childbirth and the puerperium
Maternal death: direct	3. Obstetric haemorrhage	Obstetric diseases or conditions directly associated with haemorrhage
Maternal death: direct	4. Pregnancy-related infection	Pregnancy-related, infection-based diseases or conditions
Maternal death: direct	5. Other obstetric complications	All other direct obstetric conditions not included in groups to 1–4
Maternal death: direct	6. Unanticipated complications of management	Severe adverse effects and other unanticipated complications of medical and surgical care during pregnancy, childbirth or the puerperium
Maternal death: indirect	7. Non-obstetric complications	Non-obstetric conditions • Cardiac disease (including pre-existing hypertension) • Endocrine conditions • Gastrointestinal tract conditions • Central nervous system conditions • Respiratory conditions • Genitourinary conditions • Autoimmune disorders • Skeletal diseases • Psychiatric disorders • Neoplasms • Infections that are not a direct result of pregnancy
Maternal death: unspecified	8.Unknown/undetermined	Maternal death during pregnancy, childbirth and the puerperium where the underlying cause is unknown or was not determined
Death during pregnancy, childbirth and the puerperium	9. Coincidental causes	Death during pregnancy, childbirth and the puerperium due to external causes

Example 2:
A woman infected with HIV has a spontaneous miscarriage and becomes infected, and dies due to septic shock and renal failure.

- What is the underlying cause of death?
- What is (are) the contributory cause(s) of death?

EXAMPLE 2

A woman infected with HIV who has a spontaneous abortion that becomes infected, and dies due to septic shock and renal failure.

Medical certificate of cause of death

Cause of death *the disease or condition thought to be the underlying cause should appear in the lowest completed line of Part I*		Approximate interval between onset and death
1. Disease or condition leading directly to death	(a) renal failure	2 hours
Antecedent causes: Due to or as a consequence of	(b) septic shock	24 hours
Due to or as a consequence of	(c) septic miscarriage	36 hours
Due to or as a consequence of	(d)	
2 . Other significant conditions Contributing to death but not related to the disease or condition causing it	HIV	pre-existing

A contributory condition, indicated in Part 1

The underlying cause. This is the last condition noted in Part 1 and is a condition found in Annex B

A contributory condition, indicated in Part IIB

The woman was:
☒ pregnant at the time of death
☐ not pregnant at the time of death (but pregnant within 42 days)
☐ pregnant within the past year

If deceased was a woman, was she pregnant when she died or within 42 days before she died ? Yes

(Part I shaded for purposes of the example)

Medical certificate of cause of death

Cause of death *the disease or condition thought to be the underlying cause should appear in the lowest completed line of Part I*		Approximate interval between onset and death
1. Disease or condition leading directly to death	(a) postpartum haemorrhage	3 hours
Antecedent causes: Due to or as a consequence of	(b)	
Due to or as a consequence of	(c)	
Due to or as a consequence of	(d)	
2. Other significant conditions Contributing to death but not related to the disease or condition causing it	Lack of access to medical care to prevent or treat haemorrhage following normal vaginal delivery	

The underlying cause. This is the last condition noted in Part 1 and is a condition found in Annex B

A contributory condition, indicated in Part II. No code is assigned because only single cause coding of deaths

The woman was:
- ☒ pregnant at the time of death
- ☐ not pregnant at the time of death (but pregnant within 42 days)
- ☐ pregnant within the past year

If deceased was a woman, was she pregnant when she died or within 42 days before she died ? Yes

(Part I shaded for purposes of the example)

Case Studies ICD-MM Classification

GROUP WORK: 4.1.2

Divide participant in group of 4-5 and ask them to read case studies and solve in 30 minutes.

Once completed discuss the answers with the participants one by one using presentation

1. A pregnant woman has malaria in pregnancy. History revealed that she had taken an overdose of malaria medicines (to treat malaria) bought from a local drug shop. Further lab tests revealed she had hypoglycemia and electrolyte disorders. She died 6 hours after admission.
   - What is the underlying cause of death?
   - What is (are) the contributory cause(s) of death?

2. A woman had precipitate labour, gave birth & developed postpartum hemorrhage. On examination she was found to have a cervical tear. The tear was repaired, but her condition remains unstable and she developed coagulation defects with afibrinogenaemia and died 12 hours later.
   - What is the underlying cause of death?
   - What is (are) the contributory cause(s) of death?

3. A 15 yrs. Old teenager got pregnant and went to a local herbalist who introduced a sharp weapon in her vagina to induce abortion. When she reached hospital, she had fever, signs of pelvic infection and foul-smelling vaginal discharge. She had multiple injuries in her bladder, vagina and bowels. She was stunted and looked malnourished. Ultrasound revealed a 12 weeks pregnancy and a pelvic collection. Lab tests showed she was HIV positive and had severe electrolyte imbalance. She died 12 hrs. later.
   - What is the underlying cause of death?
   - What is (are) the contributory cause(s) of death?

4. A 15 year old teenager got pregnant and her father threatened to kill her. She escaped from home and went to a friend who gave her an overdose of chloroquine to induce abortion. Two hours after taking the overdose, she became unconscious. She was taken to the hospital and found to have severe hypoglycaemia on laboratory tests. She died 1 hr after admission.
   - Is this a maternal death?
   - What is the underlying cause of death?
   - What is (are) the contributory cause(s) of death?

5. A pregnant woman with 2 previous girl children, got severely depressed after giving birth to the 3rd girl child because of pressure from her husband and relatives to have a boy. She got fever 2 weeks after birth and her husband took her to the hospital. The doctor gave her some antibiotics for endometritis, but at home she refused to take her medication without letting her husband know she was not taking the medicines. A week later her situation worsened and she died on admission to the hospital.
   - Is this a maternal death?
   - What is the underlying cause of death?
   - What is (are) the contributory cause(s) of death?

6. A pregnant woman got knocked down by a car while going to the health centre for antenatal care. She died instantly with three other pedestrians.
   - Is this a maternal death?
   - What is the underlying cause of death?
   - What is (are) the contributory cause(s) of death?

7. A pregnant woman at term was diagnosed with severe pre-eclampsia. Laboratory analysis revealed HELLP syndrome (haemolysis, elavated liver enzymes & low platelet count). She died before delivery. History revealed that she was known to be hypertensive before pregnancy!
   - What is the underlying cause of death?
   - What is (are) the contributory cause(s) of death?

8. A pregnant woman has malaria in pregnancy. History revealed that she had taken an overdose of malaria medicines (to treat malaria) bought from a local drug shop. Further lab tests revealed she had hypoglycemia and electrolyte disorders. She died 6 hours after admission.
   - What is the underlying cause of death?
   - What is (are) the contributory cause(s) of death?

9. A pregnant woman went to take meningitis vaccine during a meningitis outbreak. The health worker told her she cannot take the vaccine because she was pregnant. A month later, she got meningitis and died.
   - Is this a maternal death?
   - What is the underlying cause of death?
   - What is (are) the contributory cause(s) of death?

10. An obese pregnant woman had Caesearean section for prolonged pregnancy after failed induction of labour. After surgery, she had internal bleeding with a haematoma of the broad ligament. She was re-operated to control the bleeding. After the 2rd surgery, she developed postpartum infection. She went into septic shock and died.
   - What is the underlying cause of death?
   - What is (are) the contributory cause(s) of death?

CAUSES OF MATERNAL MORTALITY???		
S No.	**Total Maternal Deaths**	**40**
1	Haemorrhage ??	**10**
2	Eclampsia	**4**
3	Susptected Pulmonary Embolism	**6**
4	DIC??	**5**
5	Cardio-pulmonary Arrest ??	**6**
6	Hepatic Enencephalopathy	**3**
7	Amniotic Fluic Embolism	**2**
8	Hypoglycemia Coma	**1**
9	Septecemia ???	**2**
10	Drug Reaction	**1**

Importance of ICD Classification

- The WHO Application of ICD-10 to deaths during pregnancy, childbirth and the puerperium builds upon the ICD-10 to create a useful framework for programme officers, health-care workers certifying deaths, and statistical offices and researchers
- Quality of data derived from all sources of information on the cause of maternal death
- Decrease errors in coding and improve cause of maternal death attribution
- Enhance usability and comparability of maternal mortality statistics generated from ICD data

INDIVIDUAL TASK: 4.1.3
Consider the case studies described in your hand out 4.1.2 and for each, determine the following:

if it is a maternal death;
if so, which type of maternal death
and whether it should be reported

HANDOUT 4.1.3: Case studies session

Case study 1
A 24 year old woman delivered a large healthy baby at home. Two hours after delivery she was bleeding heavily with a fast pulse and low blood pressure. She died four hours after delivery.

- Q1. Is this a maternal death? Yes / No / don't know
- Q2. If yes, can it be classified as Direct / Indirect?
- Q3 Should it be reported to the MDSR committee? Yes / No

Case study 2
A 36 year old woman is known to be about 6 months pregnant with her 5th pregnancy. She experiences dizziness and night sweats, shortness of breath and has been coughing blood stained sputum. The Doctor diagnosed tuberculosis and found she was Hep-B positive. She died at 7 months pregnancy of pneumonia.

- Q1. Is this a maternal death? Yes / No / don't know
- Q2. If yes, can it be classified as Direct / Indirect?
- Q3 Should it be reported to the MDSR committee? Yes / No

Case study 3
A 31 year old woman is 38 weeks pregnant with her 4th child. She is on her way to the local town walking along the main road with her children when a bus knocks her down. She is unconscious and dies 4 hours after the accident.

- Q1. Is this a maternal death? Yes / No / don't know
- Q2. If yes, can it be classified as Direct / Indirect?
- Q3 Should it be reported to the MDSR committee? Yes / No

Case study 4
A woman dies very soon after arriving at a health facility. The person accompanying her to the facility reported that she delivered two hours ago and has been bleeding since then, but could provide no further details

- Q1. Is this a maternal death? Yes / No / don't know
- Q2. If yes, can it be classified as Direct / Indirect
- Q3 Should it be reported to the MDSR committee? Yes / No

Case study 5

A teenage girl is raped and worries she may be pregnant. Two days after the rape she tells her mother, who gets her some herbal medicine. Four hours after swallowing it she collapses and dies

- Q1. Is this a maternal death? Yes / No / don't know
- Q2. If yes, can it be classified as Direct / Indirect?
- Q3 Should it be reported to the MDSR committee? Yes / No

Case study 6

A para 7 has unprotected sex and misses her next period. A Dai gives her some herbal medicine to cause an abortion. Two days later she starts to bleed and five days after taking the medication she becomes feverish and has a very offensive-smelling vaginal discharge. After another two days she collapses and dies.

- Q1. Is this a maternal death? Yes / No / don't know
- Q2. If yes, can it be classified as Direct / Indirect?
- Q3 Should it be reported to the MDSR committee? Yes / No

5. Step 5: Filling MDF 2

- Include all sources of information if women received care at multiple sites
  - Registers (maternity ward, surgery, internal medicine)
  - Antenatal cards records
  - Medical care records
- Every effort should be made to include information from accompanying family members
- Summary of the chain of events that led to the maternal death, using corroborated information from facility records and family interviews

GROUP WORK: 4.1.4
Filling MDF 2
From the clinical case brought by the participants ask each group to

- Transfer raw data from clinical notes to MDF2 – handout 4.1.4
- Using the clinical cases provided complete as much of the form as possible
- Discuss how to fill MDF 2
- Once participants have filled MDF 2 discuss key points

HANDOUT 4.1.4 MDF 2 Facility based Maternal Death Data Collection Form
CONFIDENTIAL

A. Administrative

Case number: _____ underlying cause of death (ICD- MM): _____
District where death occurred: _____
Hospital where death occurred: _____ Contributory/Antecedent causes of death (ICD-MM):
Date received: _____ 1: _____
2: _____
3: _____
Preventable death: Yes ☐ No ☐

Form Filled by: _____ Designation _____

B. Identification/ Back ground information

No.	Question	Response
1	Medical Record Number of the deceased	
2	Age of deceased	
3	Ethnicity	
4	When did the death occur?	1. In transit 2. While waiting for treatment 3. Following start of treatment

5	Place of usual residence	City_____ Village_____ Tehsil_____ District_____ House number_____
6	Educational status of the deceased	1.Illiterate 2. No formal education, but can read and write 3. Grade completed _____ 4. Don't know
7	Marital status of the deceased	1. Single 3. Divorced 2. Married 4. Widowed
8	Attendant/Husband Telephone #	
9	Attendant/Husband CNIC #	
10	Level of education of the husband	1.Illiterate 2. No formal education, but can read and write 3. Grade completed _____ 4. Don't know
11	Occupation of the deceased	1. Farmer 5. Unemployed 2. Merchant/tradesperson 6. Public employee 3. House wife 7. Others (specify) _____ 4. Daily labourer
12	Occupation of the husband	1. Farmer 4. Daily labourer 2. Merchant/tradesperson 5. Public employee 3. Unemployed 6. Others _____
13	Monthly income, if possible	_____Rupees
C. Death and admission information		
1	Date of admission	
2	Date of delivery	
3	Date of death	
4	Day of death	1. Monday 5. Friday 2. Tuesday 6. Saturday 3. Wednesday 7. Sunday 4. Thursday
5	Did death occur on a holiday?	
6	Status of pregnancy on admission	1. Antepartum undelivered 4. Post abortion 2. Intra-partum 5. Ectopic 3. Postpartum
7	Condition on admission	1.Stable 3. Critical 2.Serious 4. Dead on arrival
8	Other condition specify	
9	Status of pregnancy at death	1. Antepartum undelivered 4. Post abortion 2. Intra-partum 5. Ectopic

10	Gestation at death or at delivery (weeks) if died after delivery	
11	Days since pregnancy ended (either by delivery, miscarriage, ectopic)	
12	Reasons for admission	
13	If admission due to abortion complications fill in next section	
14	POG	
15	Who provided care	
16	Method used	1. Misoprostol 3. Foleys 2. Oxytocin 4. D&C others
D. Referral		
1	Is it a referred case? If "No" go to next section.	☐ Yes ☐ No
2	Referred from (type of health facility)	☐ BHU ☐ RHC ☐ THQ ☐ DHQ ☐ Tertiary hospital ☐ Private hospital ☐ CMW Home ☐ Clinic ☐ Other (specify) _____
3	Who provided care? (Tick ALL that apply)	☐ Dai/TBA ☐ CMW ☐ LHV ☐ Nurse ☐ Doctor ☐ Don't know
4	Reason for referral	
5	Comment on referral	• Accompanied by health worker • Appropriate management
6	Summary of management at referring hospital	
E. Antenatal Care		
1	Attended ANC? If "NO "go to next section	☐ Yes ☐ No ☐ Not known
2	If yes, gestational age in months at the first visit	
3	If yes type of facility?	☐ BHU ☐ RHC ☐ THQ ☐ DHQ ☐ Tertiary hospital ☐ Private hospital ☐ CMW Home ☐ Clinic ☐ Other (specify) _____
4	Number of visits	

5	who provided care (Tick ALL that apply)	☐ Dai/TBA ☐ CMW ☐ LHV ☐ Nurse ☐ Doctor ☐ Don't know
6	Basic package of services provided in ANC (Tick ALL that apply)	☐ Hep B,C ☐ BP measurement during the follow up ☐ Hgb ☐ Iron, folic acid supplementation ☐ Blood group, ☐ TT immunization ☐ HIV status, ☐ Other (Specify) _____ ☐ Urine analysis ☐
F. Relevant history of the deceased woman		
1	Gravidity	
2	Parity	
3	Outcome of previous pregnancies	• No. of living children:_____ • No. of live births: _____ • No. of ectopics:_____ • No.of still births:_____ • No of abortions: - Induced:_____ - Spontaneous:_____
4	Antenatal risk factors	☐ Pre-eclampsia / eclampsia ☐ Anemia ☐ Placenta praevia ☐ Malaria ☐ Previous Caesarean Section ☐ UTI/pyelonephritis ☐ Multiple gestation ☐ Unintended pregnancy ☐ Abnormal lie/presentation ☐ PPROM ☐ Pre-term labour ☐ Other (specify)
5	Pre-existing medical conditions	☐ Hypertension ☐ Tuberculosis ☐ Diabetes ☐ Anemia ☐ Hepatitis ☐ Heart Problem ☐ Others _____
G. Physical examination on admission		
1	Vital signs/General physical examination	1. Height _____ 2. Weight_____ 3. Blood Pressure_____ 4. Respiration rate_____ 5. Jaundice_____ 6. Cyanosis_____ 7. Anaemia _____ 8. Temperature 9. Pulse_____ 10. Odema_____
2	Systemic examination (any abnormality)	

H. Abdominal examination		
1	Fundal height	
2	Fundal height to gestational age discrepancies	
3	Presentation	
4	Fetal heart	
5	Other abdominal findings	
I. Laboratory work		
1	Blood group	
2	RH	
3	Haemoglobin	
4	Haematocrit	
5	WBC count	
6	Platelets	
7	CRP	
8	RBS	
9	Other blood chemistry	
10	Urine analysis	
11	Liver Function Tests	ALT:_____ ALP:_____ Bil:_____
12	Renal Function Tests	Creatinine:_____ Urea:_____
13	Coagulation Profile	PT:_____ APTT:_____ INR:_____
14	Hep B	1. Positive 2. Negative 3. Not done
15	Hep C	1. Positive 2. Negative 3. Not done
16	HIV	1. Positive 2. Negative 3. Not done
17	Rubella	1. Positive 2. Negative 3. Not done
J. Delivery perpurium and neonatal information		
1	Date of delivery	Yes No Not known
2	Place of delivery	1 Home 2. On transit 3. H/post 4. H/center 5. Hospital 6. Clinic

3	If delivered, what is the outcome?	1. Live birth 2. Stillbirth
4	If yes, duration of labour	
5	Was a partogram used?	☐ Yes ☐ No ☐ Not applicable
6	Length of ruptured membranes	
7	Estimated gestational age at delivery	
8	Was active management of the third stage of labour done?	☐ Yes ☐ No
9	If she has delivered, what was the mode of delivery?	1. Spontaneous vaginal delivery, 2. Operative vaginal delivery (vacuum or forceps) 3. Destructive vaginal delivery for dead fetal outcome 4. Operative Abdominal delivery (caesarean section or Hysterectomy)
10	Intrapartum events (Tick ALL that apply)	☐ Intrapartum hemorrhage ☐ Intrapartum infection ☐ Pre-eclapmsia/ Eclampsia ☐ Obstructed labour
11	Comments on labour and delivery	
12	Postpartum events (Tick ALL that apply)	☐ Retained Placenta ☐ Postpartum hemorrhage ☐ Postpartum infection ☐ Pre-eclapmsia/ Eclampsia
13	Comments on perpureum	
K. Neonate		
1	Gestational age	_____ weeks
2	Attendant at the time of delivery	1. Midwife 2. Nurse 3. House officer 4. Medical officer 5. Consultant
3	Did the paediatrician receive the baby?	☐ Yes ☐ No
4	Choose the applicable option.	1. Singleton 2. Twins 3. Higher multiples
5	Sex of baby	1. Male 2. Female 3. Ambigious
6	Outcome of birth	1. Alive 2. Still birth a. Fresh b. Maserated

7	Birth weight	
8	Apgar at one minute	
9	Apgar at five minutes	
10	Was vaccination received by the new-born?	1. Polio 2. Bcg 3. No 4. Don't know
11	Did baby receive vitamin K injection?	☐ Yes ☐ No ☐ Don't know
12	Was breastfeeding initiated?	☐ Yes ☐ No ☐ Don't know
13	Was baby resuscitated?	☐ Yes ☐ No Don't know
L. Interventions		
1	Early pregnancy (Tick ALL that apply)	☐ Evacuation ☐ Laprotomy ☐ Hysterotomy Transfusion
2	Anterpartum (Tick ALL that apply)	☐ Transfusion ☐ Version ☐ Labour induction oxytocin, misoprostol ,prostaglandin ☐ Magnesium Sulphate ☐ Antibiotics
3	Intrapartum (Tick ALL that apply)	☐ Instrumental delivery ☐ Symphysiotomy ☐ Cesarean ☐ Hysterectomy ☐ Transfusion ☐ Magnesium Sulphate ☐ Antiobitics
4	Postpartum (Tick ALL that apply)	☐ Evacuation ☐ Laprotomy ☐ Hysteretomy ☐ Hysterectomy ☐ Transfusion ☐ Magnisium Sulphate ☐ Antibiotics ☐ Oxytocin ☐ Misoprostol
5	Other Interventions	☐ General Anesthesia ☐ Epidural ☐ Spinal ☐ Local ☐ ICU Ventilation ☐ Invasive mentoring
6	Other interventions:	

M. Cause of death		
1	Case Summary (supply a short summary of the events surrounding the death):	
N. Barriers to Care and Remedial Factors		
1	Did women or family recognize there was a problem?	☐ Yes ☐ No
2	Did the health provider recognize there was a problem?	☐ Yes ☐ No
3	Was there a delay by the women seeking care?	☐ Yes ☐ No
4	If delay, why? Include personal, family oriented, and community oriented problems including social and financial:	
5	Was there a delay in transport care or between health facilities?	☐ Yes ☐ No
6	If the delay why? Include communication, access, transport to facility and between facility problems:	
7	Was there a problem in the medical care received at the facility?	☐ Yes ☐ No
8	If yes, was the problem antenatal?	☐ Yes ☐ No
9	If yes, was the problem intrapartum?	Yes No
10	If yes, was the problem postpartum?	☐ Yes ☐ No
11	If yes, was the problem resuscitation?	☐ Yes ☐ No
12	If yes, was the problem anesthesia?	☐ Yes ☐ No
13	If yes, was the problem unprofessional conduct?	☐ Yes ☐ No
14	Comments on potential avoidable factors, missed opportunities and substandard care:	
O. Action items		
1	Preventable death	☐ Yes ☐ No
2	What have you and your facility learned from this case?	
	Was there a delay by the women seeking care?	
3	How will what you learned change your practice?	
4	What recommendations and actions will you take in the future?	

Key information to collect, particularly for a facility-based review

- Condition of the mother on admission or the onset of labour (antepartum or intrapartum death)
- Events that occurred during her stay at the facility (including time and date)
- Date and time of delivery and death

Community reviews explore

- Family's awareness of medical complications prior to death, attitudes towards health care, health-seeking behaviours, and barriers to care or referral
- For both the facility and the community reviews, information on pregnancy-related care – antenatal care, skilled birth attendance, availability at birth of basic or comprehensive emergency obstetric and neonatal care (EmOC), and postnatal care – should always be collected
- Including information on the availability and use of these services can help assess the presence or absence of optimal care as a key modifiable factor that can be addressed in developing future interventions

Session 4.2: Conducting MDR

Learning objectives Session 4.2
By the end of the session the participants will

- Learn the process for conducting MDR
- Get familiar with the GRID for clinical review

TOOLS INVOLVED IN CONDUCTING MDR

1. Disclaimer form
2. Medical grid for facility review (Handout 4.2.1)
3. Committee worksheet for community review (Handout 4.2.2)
   - Response
   - Identifying response
   - Prioritizing response
   - Action plan tool
   - MDF4 ⟶ Provincial MDR committee
   - Session report ⟶ Hospital records

STEPS: Conducting MDR

1. Reviewing the case (MDR)
   1.1 Systematic case analysis
   1.2 Assigning a cause of death
   1.3 Case analysis summary
   1.4 Avoidability
2. Recommendations/prioritization
3. Response and action plan
4. Developing an MDR session report

STEP 1: REVIEWING THE CASE (MDR)

- As recommended by WHO, each case of maternal death has to be reviewed by the review committees at the facility, district, and upper levels .
- After receiving the mortality summary report, the committee at the facility/district level conducts the preliminary review to:
- Check the completeness and accuracy of the report and request additional information if needed
- Determine causes of death, identify preventable conditions and associated factors, and suggest interventions

Step 1.1 systematic case analysis

- The purpose of the MDR session is to fully understand the chain of events related to the case,
- Identify the main problems in the management of the case from the time before admission to death and come up with solutions to correct them.
- In addition, the MDR will help to clarify the most likely medical cause(s) of death and the circumstances/ factors that might have adversely affected care (e.g.: shortage of drugs).

Rather than merely describing events, participants are invited to explain and make the case for why a procedure or an act should be considered to be adequate or inadequate, by referring as far as possible to the established standards of good practice.

Step 1.2: Identifying Cause

- The distinction between a problem or dysfunction and its cause may not always be obvious.
- The dysfunction is the "fact" or "the care that is not adequate" and the cause is "the reason for the problem to happen".
- For example: "the delay in starting treatment" is the dysfunction, and "out of stock drugs" is the cause

For a better-structured and more systematic discussion which addresses all the points and stages in the case management, it is advisable to use an analysis grid for medical audits.
A tool handout 4.2.1 can facilitate a systematic analysis of the case ("MDRs: Grid Analysis of Clinical case management")

Group Work 4.2.1

Hospital facility MDSR Committee Simulation
Use the case for which you have already filled the MDF2 form

1. Divide into groups to simulate a hospital MDSR Committee meeting
2. Allocate following roles to group members: Gynaecologist, Lead Midwife, CEO, Medical Director, coordinator, Quality Officer, Anaesthetist.
3. Medical Director should review roles and responsibilities in the guidelines
4. Coordinator should present case to the rest of committee, which should be followed by committee discussion
5. Ask the participants to fill **Disclaimer Form Handout 4.2**
6. As a group, clarify outstanding issues by using the GRID (Handout 4.2.1) and complete it
7. Ask each group to present and generate discussion

Handout 4.2.1: Maternal Death Review: Grid analysis of clinical case management

Date of MDR MDR session N	YES	NO	DK
In the chain of events described below, make note of the points at which dysfunction occurred and explain why they are dysfunctions (by comparison to standards of good practice) **I. ITENRARY BEFORE ADMISSION** A. If referred patient:			
1. Conditions of transfer were appropriate(consider mode of transport (ambulance)			
2. Qualified escort			
3. First treatment (e.g. I/V line in place)			
4. Time required to reach hospital			
5. Was there a referral letter?			
6. Legible			
7. Useful			
8. Clinical standards of best practice applied			
B. If not referred but complication occurred before admission			
C. Decision to seek hospital care was taken on time			
D. It was possible for the patient to make the journey to hospital in adequate condition: consider mode of transport and time to reach hospital			
In any case, consider the influence of the woman's socioeconomic status on the care received			
II. ADMISSION Reception			
a. The admission was carried out appropriately: first aid provided was correct			
b. Provided at the right time in relation to patients condition and status (e.g. if necessary rapid call for qualified assistance ,supportive first Aid			
III. DIAGNOSIS **A. If already experiencing a complication at the time of admission**			
1. Staff reaction and first assessment were appropriate in relation to standards of care			
2. Diagnosis at admission was appropriate on the bases of available information			
3. Time to diagnosis was acceptable in relation to standards			
4. Management at admission was correct in relation to diagnosis and standards of care			
B. If the complication occurred during the stay in hospital			
1. Time to diagnosis was acceptable in relation to standards			
2. Management was correct in relation to patient condition and standards of care			
3. Management was correct in relation to patient condition and the timing between diagnosis and treatment.			
C. In both cases			
1. Investigations necessary for diagnosis was requested and carried out (all, or name some of them) in relation to standards of care			

2. The time which passed before investigations were made was acceptable in relation to patient condition			
3. If applicable results from investigations were acted upon			
4. Unnecessary investigations were not made			
III. TREATMENT			
1. Appropriate treatment for the complication was given based on diagnosis & in relation to standards of care			
2. If applicable time between diagnosis and surgery acceptable in relation to standards			
3. Medical treatment was given without delay once the diagnosis was made			
4. Clear instructions were provided and documented on how and when the treatment should be given			
IV. PATIENT MONITORING			
1. Clear instructions on monitoring vital signs and other clinical features were given and documented			
2. If applicable instructions given were appropriate in relation to standards(what to be monitored frequency and duration)			
3. Monitoring of vital signs and other clinical features was documented according to instructions given or in relation to standards of care			
V. INFORMATION IN PATIENT RECORD All information necessary to access adherence to standards of care was documented in the patients record.			
VI. Causes of Dysfunction For every dysfunction reported in the management of the case/ or in the procedures carried out try to identify or clarify the causes			
1. Staff(qualification, skills, availability, attitude, communication)			
2. Drugs (Availability, accessibility)			
3. Equipment (availability, accessibility, functionality)			
4. Standards of good practice (existence ,availability, transmission, Use)			
5. Management, care organization (coordination, communication)			
6. Patient & her Family (care accessibility, understanding, commitment, beliefs)			
VII. DEATH • On the bases of the analysis the medical cause of death is the same as documented in the patients file			
VIII. ACTION ITEMS- Preventable deaths 1. What lessons have you learned from this case?			
2. What actions will you take to prevent maternal deaths in your facility?			

Step 1.3: Case Analysis Summary

- Based on the discussion, the chairperson summarizes the main points by presenting to the participants
- Medical cause of death and contributing factors
- Main problems identified in the case management
- Positive aspects of the case management
- Main causes of identified dysfunctions
- Chairperson must be careful when analyzing causes related to staff behavior (delay in the arrival of the doctor on call, lack of competence, etc.)
- Staff involved will normally be uncomfortable discussing these issues
- This is normal, especially in the beginning when confidence is not yet well-established within the group

Step 1.4: Avoidability

- Reviewed deaths can be classified into three categories:
  - Not Avoidable
  - Potentially avoidable
  - Undetermined

A maternal death can be classified as avoidable if it might have been avoided by a change in patient behavior, provider/institutional practices, or health-care system policies

STEP 2: RECOMMENDATIONS

- Based on information obtained from the investigation, the committee makes recommendations to prevent future deaths.
- This link to action is one of the weak points in many MDRs.
- Every case review must include recommendations for preventing future deaths
- Facility reviews will usually focus their recommendations on both the facility and, at some level, the community
- As cases accumulate and patterns emerge, especially at the regional and national levels, interventions can be prioritized according to which will have the greatest impact

Session 4.3: Moving to Action Response

Learning objectives Session 4.2
Session 4.3

By the end of the session the participants will be able to

- Understand various categories and levels of response
- Identify actions
- Prioritize actions
- Fill the action tool

Response

- Implementation of recommendations drawn from review process is called Response. This is main outcome of entire MPDSR process. Responding to review findings leads to improvement in quality of care and reduction in maternal/ perinatal mortality. It applies for both health facilities and communities.
- Active involvement and commitment of authorities at facility, district, provincial and national levels are required to implement RESPONSE generated through MPDSR.

Response plan of action should be developed for review of each maternal/perinatal death. It will facilitate implementation of actions that can be taken immediately. It will also identify recommendation for periodic and longer-term responses.

1. Immediate Response
   Review findings of nearly every death suggest immediate actions to prevent similar deaths by identifying gaps that can be addressed quickly in both health facilities and communities. Deaths in health facilities often indicate improvements in quality of care.

2. Periodic Response
   These reviews are conducted on monthly, quarterly, or semiannually, depending on numbers of aggregated findings. These reviews should take place at district level. These reviews may show specific patterns of problems or highlight geographical areas with higher volumes of deaths. Such findings should lead to more comprehensive response to address common problems across multiple facilities or communities.

3. Long-term Response
   At national or provincial level a longer-term strategic plan should be developed focusing on key priorities identified in the districts or geographical areas where more deaths are occurring.

Guiding Principles for Response

- Start with avoidable factors identified during the review process
- Use evidence-based approaches
- Prioritize response based on prevalence, feasibility, costs, resources, health-system readiness, and impact
- Establish a timeline
- Decide how to monitor progress, effectiveness, and impact

- Integrate recommendations within annual health plans
- Monitor to ensure implementation of recommendations

Response Levels
Facility Level: interventions related to health facilities such as redefining roles of staff and adjusting patient flow within the facility should be addressed on immediate basis.

District Level: district authorities are engaged for interventions such as redistribution of health care workers to facilities.

National or Provincial level: requirements such as major policy change, reallocation of government resources or drug registration are addressed at these levels.

Prioritization: When there are many options, how do you pick from among them?
Not all problems can be tackled simultaneously

- Prevalence: How common is the problem?
- Feasibility
- Are extra staff available?
- Is it technologically Possible?
- Is it financially possible?
- Impact: What is the potential impact of the action

If successfully implemented how many women would be reached and how many lives saved?

Individual Task 4.3.1 Case work using following case

A 25-year old had her 3rd baby at home. Her first baby died after a difficult delivery. Her second baby was premature and survived. During this pregnancy, she attended antenatal care at the local RHC. She went into labour at term and delivered at home. She started bleeding 1 hour after delivery of a healthy baby. The local LHV came within 1 hour. She found the woman very pale and collapsed and gave her oxytocin and then misoprostol. The LHV suggested moving the woman to the DHQ hospital, an hour away, as the bleeding continued. The husband did not agree and the woman died.

Possible actions

1. Ensure iron is available for pregnant women in that Health Centre
2. Increase the number of SBAs in that area
3. Punish the husband
4. Make sure blood transfusion is accessible in that community
5. Commend the SBA for her actions
6. Ensure family planning is available in that community
7. Make sure National guidelines re ANC are available in that health centre
8. Check local EMONC training has been delivered and repeat if necessary
9. Increase community awareness of need for SBA at delivery by supporting delivery of an educational campaign

Exercise 1. Possible Actions

- Work on your own
- Consider the 9 possible actions
- List the 3 possible actions you think would be most effective in this case
- Prepare for discussion

Exercise 2:
Once you have identified the actions prioritize them

- Complete the grid (Prioritization)
- Use + to indicate your score for each criteria
- Minimum +
- Maximum +++++
- For each possible action, put a score against the criteria. Be prepared to justify your scores!

HANDOUT 4.3.1 Conducting MDR
Appropriate actions: Identifying responses

Possible actions

1. Ensure iron is available for pregnant women in that Health Centre
2. Increase the number of SBAs in that area
3. Punish the husband
4. Make sure blood transfusion is accessible in that community
5. Commend the SBA for her actions
6. Ensure family planning is available in that community
7. Make sure National guidelines re ANC are available in that health centre
8. Check local EMONC training has been delivered and repeat if necessary
9. Increase community awareness of need for SBA at delivery by supporting delivery of an educational campaign

List top three actions

1.

2.

3

Handout 4.3.1: Conducting MDR
PRIORITIZATION

Considering case of 4.3.1

- Complete the grid
- Use + to indicate your score for each criteria
- Minimum +
- Maximum +++++
- For each possible action, put a score against the criteria. Be prepared to justify your scores!

List the top 3 actions you would take according to your personal scoring.

Action	Prevalence	Feasibility	Potential impact	Total Score

Q.1 Which actions address the most prevalent problems?

Q.2 Which actions are most feasible?

Q 3. Which actions will deliver the most impact?

Remember prioritization is subjective and best done in multidisciplinary teams including lay members!

Group Work 4.3.2 - Case work

Continue in same groups

A 35-year-old p8 is admitted in a tertiary level hospital. She is full term pregnant and experiencing labour pains for 6 hours. She has received no antenatal care in any of her pregnancies including the current one. On admission at 6am, she was received by the house officer who performed a pelvic examination and thinks the cervix is fully dilated. She asks the nurse to set up an I/V infusion and moves to see another patient. The nurse while setting up the I/V line sends out basic Lab tests. Two hours later the resident TMO takes over the labour ward and on examining the woman diagnosed obstructed labour. A C-section is performed by the TMO, an alive male baby is delivered. Post operatively the patient recovers from anaesthesia but the pulse remains feeble an hour later she is re-examined by the S/R in a routine morning round. She suspects internal bleeding and shifts the patient to the Theatre. She performs a subtotal hysterectomy and requests four units of packed cells. The patient receives one unit of blood and dies 4 hours later. Results of the Investigations sent by the Nurse are received after the death of the patient. All are within normal limits but she is HEP. B positive and her hemoglobin is 7.5

Complete the Action tool 4.3.2

Action Plan Template Following a Facility Committee Meeting

Case ID

Date of meeting

Date of Death

Death Avoidable **YES** **NO**

What actions will you take as a result of this death?

Avoidable factor	Action to be taken	Responsible person	Timeline	Date action completed	Remark

MDSR Recommendations

- Recommendations should be specific and linked with avoidable factors
- More useful recommendations will focus on
  - type of response: e.g. PPH prevention protocol or blood bank
  - implementation of the response: e.g. setting up a community-based fund to support transportation in case of emergency
  - how to improve the review process: e.g. legal framework
- A person should be designated as responsible for each recommendation along with a time frame and a measurable outcome
- Recommendations that suggest improvements to the response and the review cycle can be implemented by MDSR committee
- Debriefing and staff support.
- Anonymous reports

Timing of MDSR response

- Immediate response: No need to wait for aggregated data to begin implementing actions
- Periodic response: Findings from periodic reviews (e.g. quarterly) should result in more comprehensive approach to addressing key issues across multiple facilities or communities
- Annual response: recommendations to be included in annual health plans, based on their potential impact

	Immediate	Periodic	Long Term
Provincial	Notification	Review refferal mechanism Focus on silent areas	Improved transport actions
District	Checking availability of ambulance		Updated guidelines
Heath facility	Shifts in staff allocation Improved supply Emergency procedure training	Updated guidelines Multi-disciplinary, emergency team	Obstetric ICU,
Community	Debrief SBAs Birth plan	Health education campaigns birth preparedness	
National	Notification	Employing more staff	Investment in FP training more midwives

1. **Immediate Actions**
   - Almost every maternal death can lead to immediate actions to prevent similar deaths from occurring (particularly at health facilities)
   - Reviewing a maternal death can identify gaps that should be addressed quickly in both facilities and communities
   - Common examples include:
     - Increasing availability of emergency services by skilled providers
     - Changing the system for access to the drug cupboard
     - Training in management of obstetric emergencies
     - Moving the area for critically ill patients
     - at community level: transportation issues that should and can be addressed quickly

Example

- At a hospital 2 women died within a few weeks following surgery for a ruptured uterus.
- Both women died within a few hours of surgery.
- Review of the recovery area showed staff shortages and lack of guidelines.
- Actions
  - Recovery area placed close to nurses' desk
  - New guidelines and care plans put in place
  - Staffing prioritised for the new recovery area
  - All carried out within 5 days of the second dea

2. **Periodic Actions**
   - Periodic reviews may show patterns of problems or "hot spots" with excess maternal deaths
   - Findings should lead to addressing problems comprehensively across multiple facilities or communities.
   - In areas at higher risk, discussion with local communities are crucial to identify solutions.

Example:

- A referral hospital was noted to have a high proportion of deaths from ruptured uterus.
- An audit of all cases of ruptured uterus was started including those where the woman survived (near miss).
- Two districts were found to be 'hot spots'.
- Actions e.g.
  - Discussions with districts, which found poor transport and identified lack of electricity
  - Transport in these districts and midwifery staffing prioritised for improvement

Periodic response at different levels

- Community
- Public education
- Health promotion activities
- Changes in community health provision
- Training and support to SBAs, LHW
- Improvement in transport

1. **Periodic Facility level response**

- Change in clinical practice
- Reorganization of health facilities
- Development of clinical guidelines and care plans
- Training and support to staff

2. **Long Term (Provincial & National)**

- Analysis of aggregated data and recommendations from maternal death reviews
- All regions incorporated in an annual report contributing to a national maternal health plan
- At national level, a longer-term strategic plan (3–5 years) is developed to focus on
  - Key priorities identified across many districts
  - Key geographic areas where more women are dying or the risk of dying is greater
  - Required changes or updates to national policies, laws or guidelines

3. **Long Term Response: Facility**

- Every hospital and HC should summarize maternal mortality & near miss findings annually.
- In larger facilities, findings should contribute to continuous quality improvement plans.
- Setting up Obstetric ICUs
- Multi-disciplinary team to manage the critically ill pregnant/postnatal mother

Example

- Facility: e.g. annual plan with focus on quality of care for maternal and newborn health.
- District level: e.g. Actions to address equity issues (under-served populations; regions).
- National level: e.g. updating policies, guidelines, laws, resource allocation.

Following the publication of a hospital's annual report it was found that the majority of maternal deaths followed PPH

- Actions
  - Introduction of mandatory annual training on management of PPH for all doctors and midwives, including team training.
  - System for ordering oxytocic drugs /Magnesium sulphate changed to ensure availability at all times

Group Work 4.3.3

Continue in the same groups

- Ask Coordinator to write case summary on flipcharts
- Ask Secretary to fill/ use all tools pertaining to MDR including Disclaimer Form, Medical Grid, Action Template, MDF 4 (Handout 4.3.3) and Session Report (Handout 4.3.4)
- Ask each group to present and generate discussion

Remind

- MDF4 is submitted to provincial MDR committee
- Session Report is for hospital record
- One session report is written for each case

Handout 4.3.3			
MDF 4 Maternal Death Reporting Form **This form must be filled for every maternal death and sent to the provincial MDR Committee.** **FB-MDR committee to P-MDR C**			
1. Hospital Name			
2. Type of health facility	a. Private clinic b. Health center c. Provincial/regional/state hospital d. Teaching hospital		
3. Authority running hospital	a. Government b. Faith based c. Private for profit d. NGO e. Other		
4. Case information	a. Patient age		
	b. Date and time of arrival		
	c. Date and time of death		
5. Death	a. Before delivery b. During delivery c. Postpartum period: No of days' after d. Abortion related		
6. Referred	a. Yes b. No c. If yes How far (distance)		
7. Referred from			
8. Residence	Rural Urban		
9. Occupation			
10. Marital status			
11. Occupation of husband/partner			
12. Gravida	13. Para	14. Live children	15. Abortions
16. ANC No. of visit			
17. Main attendant at delivery	a. Obstetrician b. MO c. Nurse d. TBA e. Other		
18. Gestation in weeks/months on presentation to health facility (if applicable)			
19. Gestation in weeks/months at time of delivery or death if un delivered			

20. Outcome of pregnancy	a. Live birth b. Still birth c. Miscarriage d. Induced abortion e. Ectopic pregnancy f. Died before delivery
21. Cause of death	a. Government b. Faith based c. Private for profit d. NGO e. Other
22. Contributing factors	
23. The death	a. Could have been prevented b. Could not have been prevented c. Could probably have been prevented d. Information not available
24. How could it have been prevented and how could this have happened before or after admission	a. Yes b. No c. If yes How far (distance)

Handout 4.3.4			
MATERNAL DEATH REVIEW **SESSION REPORT FORM**			
Date of MDR	MDR SESSION No:		
Duration of the session	Start time:	Closing time:	Duration:
Case synthesis			
Positive aspects of case management			
Dysfunction of case management			
Main causes of identified problems			
Main problems prioritized			
What can be learned from this case			

MDR Committee meeting

- Chairperson reviews previous case session report and action plan
- Draft disclaimer signatures reminds participants of no name no blame
- Coordinator reads summary
- Participants analyze using medical grid
- Chairperson fills committee worksheet
- Fills action plan
- Secretary fills MDF4 for provincial MDR committee (Handout 4.3.3)
- Secretary fills session report for hospital record (Handout 4.3.4)

SUMMARY POINTS

- Although the MDSR is a national system, it needs to work as a whole, with close links between each level. Every province, district,tehsil, hospital, health centre and community play an important part in the overall success of MDSR in addressing maternal deaths.
- Although MDSR should improve availability of data, its main purpose is identifying follow-up actions and implementing change. Better data alone will not reduce maternal deaths

Session 4.4: Dissemination of MPDSR Results

By the end of this session participants will learn
- Factors affecting MDR
- How to disseminate findings of MPDSR
- Format of MPDSR Report

FACTORS INFLUENCING REVIEWS

Facilitating Factors
- Availability of sufficient resources, equipment and staff to ensure a minimum level of quality of care in the facility.
- Commitment and support of authorities, management and administration in order to assist the team and mobilize resources
- Willingness and commitment of the gynae units. All staff should feel motivated to improve the quality of the care they provide. They should be prepared to call their own practice into question, but they should also be involved in decision making
- Supportive and non-threatening environment where constructive criticism is possible
- Provision of support and training opportunities for hospital staff, enabling them to acquire the knowledge and skills necessary to conduct audits

OBSTACLES
- Personal beliefs and a priori suspicions, doubts, fear of criticism and lack of confidentiality.
- These can be exacerbated by a threatening or repressive environment.
- Poor leadership in conducting the MDR
- Failure to involve the authorities and management (those who have the power to make decisions which can improve the work environment)
- Expectation of financial incentives
- Lack of didactic support (e.g. teaching material and manuals)
- Lack of financial resources to support the audit
- Poor quality of records and insufficient documentation
- Too many participants.

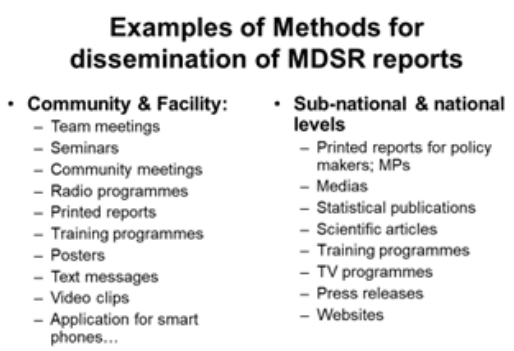
RISKS
- Discouraging health personnel if the proposed changes do not take place (disillusionment)
- Generating false or inaccurate information if the audit is perceived as threatening (lack of trust and disclosure)
- Damaging relationships between staff (especially if the basic audit session rules are not respected).

Dissemination of MPDSR Results, Recommendations & Response
- Government accountability for maternal health requires the periodic and transparent dissemination of key results, particularly maternal mortality, and its discussion with stakeholders including civil society
- MDSR: critical approach for tracking SDG targets (2016-2030)

- There are two main types of reports from the MDSR system: annual reports on maternal deaths and a report on the M&E of the system.
- Principles: (i) Feedback to facilities & communities; (ii) aggregated & de-identified; (iii) Focus on ways to improve the system; (iv) Findings not to be used in litigation. Whom to inform? Methods of dissemination?

Advocacy

- Successful advocacy takes rigorous, in-depth research, careful planning, and clearly-defined practical goals.
- Influencing change through advocacy requires clear purpose, well-framed arguments and sound communication with audiences.
- Simply exposing the size of an issue; demonstrating causes, patterns and trends; Exposing education and training needs;
- Exposing bottlenecks to influence change – e.g. access to drugs; blood products; identifying gaps in terms of protocol or policies.



Success Factors

- Intensive and inclusive planning
- Legal environment / code of conduct
- Confidentiality - No name, no blame
- Systems solutions - Achieve wider benefits
- Collective learning
- Continuous quality improvement
- Political will; Support from management and hierarchy

Dissemination

MPDSR reports summarize results, recommendations, and response actions. MPDSR reports are critical for improvements at national, provincial, district, and sub-district levels. There are two types of MPDSR reports

(1) Annual report on maternal and perinatal deaths. These are primary reports
(2) Monitoring and evaluation report of MPDSR system

Objectives of disseminating reports

Main objective is to get relevant information to the stakeholders who can implement the recommendations. Reports should therefore be tailored for specific audience. It is not to apportion blame nor for media coverage.

Report Outline

The reports should mainly focus on ways to improve the system rather than highlighting particular errors. Report contents should be carefully reviewed to avoid breaches in confidentiality which may lead to misuse of information.

Suggested outline for Annual MPDSR report is as follows:

1. Background of geographical area covered by review
2. Characteristics of women of reproductive age in the area
3. Characteristics of births in the area (number, live or stillborn), birth weight, gestational age
4. Maternal and perinatal deaths by area of residence, mother's age, place of death, ethnicity.
5. Proportion of maternal and perinatal deaths by medical cause of death
6. Case fatality rate (for facility deaths)
7. Contributing factors (quality of care and nonmedical) and their frequencies
8. Assessment of avoidability
9. Recommendations for preventing future deaths
10. Review of recommendations from previous years/reports and lessons learned (including implementation challenges)

Summary of MPDSR			
S. No	Steps	Process	Tools to be used/ products developed
1.	Preparing for MDR	1. Identifying and selecting MDR committee members	- ToRs development for the committee - Disclaimer form to be signed by committee members
		3. Notification	MDF1
		4. Data collection	MDF2
2	Conducting MDR	Facility Committee	Grid Analysis MDF4 Session Report
3	Response	Identifying and prioritization followed by action plan	Identifying Prioritization Action tool
4	Way forward	- Secretary fills MDF4 for Provincial MDR committee - Secretary fills session report for Hospital record	MDF4 (Handout 4.4.1) Session report (Handout 4.4.2)
5	Dissemination	Provincial and district	MPDSR Report

Summary Points Module 4

- MPDSR is a national system, it needs to work as a whole, with close links between each level
- Every province, district, tehsil, hospital, health centre and community play an important part in the overall success of MDSR in addressing maternal deaths
- MDSR should improve availability of data, its main purpose is identifying follow-up actions and implementing change
- Better data alone will not reduce maternal deaths

Session 4.5: Android Application for Data Collection

Modules: Mobile apps for Android (Android devices) and iOS (Apple) + Web dashboard for admin (Website)

To use MPDSR Tool available on mobile use following steps

1. **Installation**

- Go to App store and Play store on iOS and android respectively.
- Search for "MPDSR Tool" and select the app with the following logo.
- Click on the app and install on your phone.
- Once downloaded run the app.

2. **Registration (Internet Required)**

- If you already have an account skip this step.
- Once application start running, you will be shown the login screen (Fig 8)
- Click on "Register here!" to start registration process
- Provide your details and click on "Register" button to complete registration.
- The registration process completes when Admin verifies user
- On successful registration process, you will be asked to login to application with the newly created credentials.
- If you already have an account, click on "Login here" to go back to login screen.

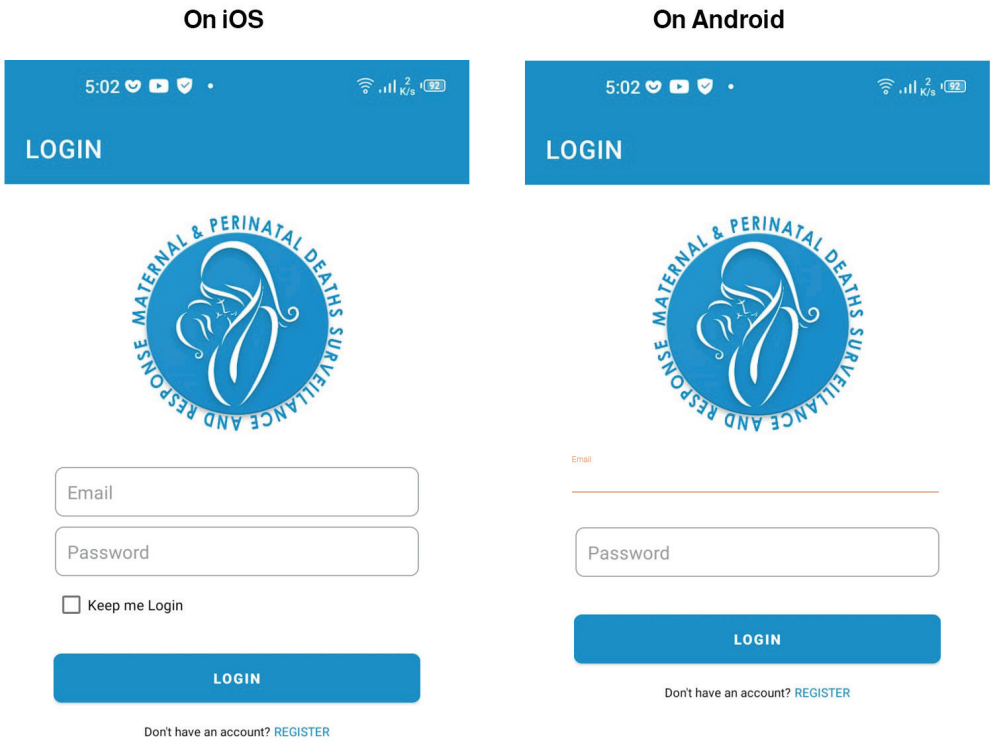


Figure 7: Registration screen view

3. **Login**
   - To login to app provide your valid credentials in following screen and click on "Login" button

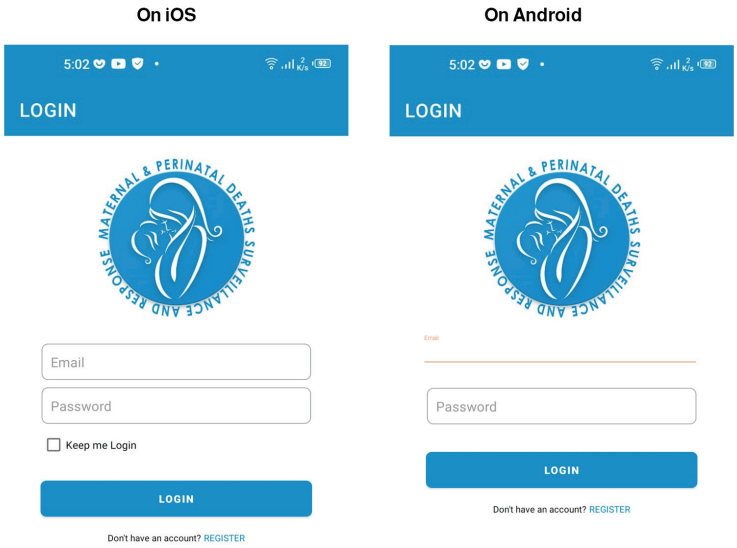


Figure 7: Registration screen view

4. **Filling Maternal Death Forms**
   - To fill maternal death forms, click on the respective form to fill
   - MDF1, MDF4, Action Plan and Committee Worksheet are single page forms, for those forms provide details asked in form and then click on "Submit" button to submit your response.
   - MDF2 and MDF3 are multi pages forms, for those forms provide details in respective section and click on "Next" button to go to next section.
   - To go back to previous section, click on "Previous" button at the end of each section.
   - Once all details are provided in each section, click on "Finish" to submit your response.
   - Once data is submitted online following message will be shown

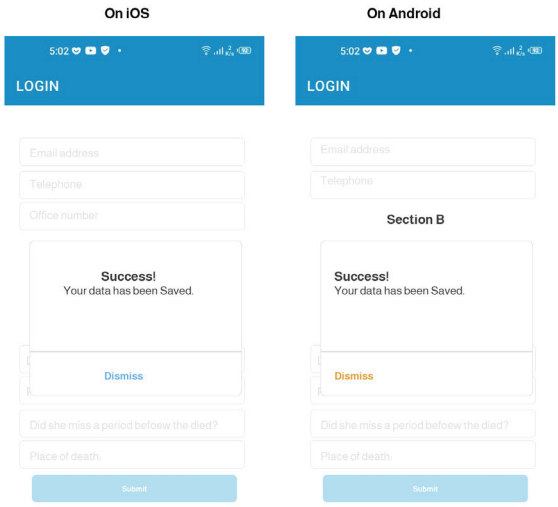


Figure 7: Registration screen view

If no internet is available, the data will be saved offline and when internet is available application will automatically send offline data to online server.

5. **Pending forms count**
   - To view the number of pending forms saved offline and are not synced to online server, click on "Menu" button on upper right corner of main screen
   - A slide in menu will appear, from slide in menu click on "Pending Forms".
   - By clicking on "Pending Forms" following screen will appear which will show count of each form

Figure 10: Screen view for pending forms

Advocacy

6. **Change Password**
   - To change current password, click on "Menu" button on upper right corner of main screen.
   - Provide details and click on "Update password" to change password.
7. **View Profile**
   - To view user profile, click on "Menu" button on upper right corner of main screen
   - A slide in menu will appear, from slide in menu click on "Profile".
   - By clicking on "Profile" following screen will appear which will show details of user profile

8. **Logout**
   - To logout from application, click on "Menu" button on upper right corner of main screen.
   - By clicking on "Menu" button a slide in menu will appear, from slide in menu click on
   - By clicking on "Logout" following screen will appear which will confirm user action

- By clicking on "Dismiss", logout action will be cancelled and by clicking on "Yes" button user will be logged out and application will show login screen. (Fig12)

Figure 7: Registration screen view

9. Call Us

- To call us click on "Call us for help" button from slide in menu.
- The application will redirect user to Phone Dialler with WHO number already entered.

10. Visit WHO Website

- To visit WHO website click on "Visit Website" button from slide in menu.
- The application will open WHO website in default internet browser.

11. Exit

- To exit from application, click on "Menu" button on upper right corner of main screen
- A slide in menu will appear, from slide in menu click on "Exit".
- By clicking on "Exit" following screen will appear which will confirm user action
- By clicking on "Dismiss", logout action will be cancelled and by clicking on "Quit" button user will exit from application

MODULE 5: COMMUNITY REVIEW

	Module 1	Introduction
	Module 2	Maternal and Perinatal Mortality
	Module 3	Overview of MPDSR
	Module 4	Facility Review
You are here	**Module 5**	Community Review
	Module 6	Perinatal Death Review

Learning Objectives of this Module

By end of this module participants will learn how to conduct community review for maternal death

Sessions of Module 3		
Session #	**Session Title**	**Time**
5.1	Community Based Maternal and Perinatal Death Review	2 hrs.

Session 5.1: Community Based Maternal and Perinatal Death Review

Learning objectives of this session

By the end of the session the participants will

- Understand how to conduct community bases maternal and perinatal death review

Community based review for maternal and perinatal death

Brainstorming Exercise: 5.1
What do you understand by community based review for maternal and perinatal death
Recap steps of facility based review of maternal death and share that community based review follows same process

Definition
Community-based maternal and perinatal death reviews are also called verbal autopsies. It is a method of determining causes of death that occur outside health facility. It includes identifying two sets of causes that has led to death.
These are:

(i) Medical causes
(ii) Contributing factors

In Pakistan, home based deliveries are conducted in large numbers; resulting in substantial number of maternal/perinatal death at home. It is therefore important to standardize community based review process.

Steps of Community Based Review

Step 1: Identification
First step in identifying maternal deaths in community is to assess all deaths among women of reproductive age. It requires interviewing families and other community informants. At community level, any informant can identify and report maternal or perinatal death. It can be lady health worker, community health workers, community midwives, traditional birth attendants, community leaders, religious leaders, secretary union councils, vaccinators or a lay persons. Death report of woman in reproductive age should include:

- Name of the woman
- Age of woman
- Place of residence of woman
- Place of death of woman
- Date and time of death of woman
- Name of person making the report

Step 2: Notification and Registration

Once a maternal or perinatal death is identified, notification is sent to district MPDSR coordinator; ideally within 48 hours of death. Death is notified through MDF 1 form. MDF1 includes screening questions to establish whether the family was aware that:

(i) Woman was pregnant at the time of death
(ii) Woman had delivered in past 6 weeks

The district coordinator may receive completed MDF1 or may fill it out him/herself. District coordinator should capture all maternal deaths. In case date and time of death cannot be ascertained, s/he should include all deaths that have occurred up to two to three months after termination of pregnancy.

Registration of deaths can be undertaken by LHS (Jaiza Karkardagi report) and Assistant District Coordinator (ADC) for LHW program.

Step 3: Reviewing Death

The district MPDSR committee assesses probable maternal death and collects data on community data collection tool, MDF 3. Reviewing causes of death require special expertise. Therefore, MDF 3 is filled by district MPDSR committee. MDF3 cannot be filled by lady health workers, community midwives and other community based workers, even if they are trained in collecting data on MDF3. District committee reviews information to determine the causes of death and categorize the death as "Avoidable" or "Unavoidable

Community Data Collection

Objective:

Main aim of data collection from community is to find out respondent's personal opinion on the major factors contributing to the death which could have been avoided. Community data is useful in completing MDF 3.

Data Collection Team:

Trained persons should collect data from community. They should be:

- Aware of both medical and non-medical causes of death
- Able to exercise extreme care and diplomacy in discussing maternal or perinatal deaths in the community, especially with close relatives

Timings for data collection:

Community data is collected two weeks after the death, but no later than six weeks. Waiting at least two weeks gives mourning time for the bereaved family. Delay of more than six weeks has the possibility of recall bias.

Any medical information that can be located such as antenatal care cards and records of hospitalization prior to death should also be collected to complement information collected through MDF 3.

Barriers to community data collection

The community data collection team members may encounter a number of barriers during the community interviews:

- Relatives may consider the death as "God's will' and be reluctant to talk about it
- There could be an unwillingness to talk about abortion-related deaths, especially if abortion is illegal or prohibited for religious reason
- Some respondents may feel responsible for the tragedy, such as TBA who may have delayed referring the woman, or the husband who could not afford to pay for transport. They may be hesitant to provide information out of guilt or fear of blame. Efforts must be made by data collectors to reassure them that the intention of collecting the data is NOT to blame or punish them

Step 4: Analysis and aggregation of Data
Data pertaining to all cases are analyzed. Committee worksheet (Handout No-5.1.2) is used for analyzing each case. Analyzed data is aggregated in summary form in MDF 4. District MPDSR committee submits MDF 4 to provincial MPDSR committee.

Step 5: Recommendations
The district committee uses Action Plan Template (Handout No: ----------) to record recommendations. Recommendations can be at various levels, including family, community, facility, provincial and national.

Step 6: Response
This is most important step and is outcome of MPDSR exercise. It entails discussion on suggested recommendations and its implementation, to reduce maternal and perinatal mortality

Step 7: Monitoring and Evaluation of MPDSR
The entire process is regularly monitored and evaluated for:
- Continuously observing and improving MPDSR process
- Implementing recommendations for improving quality of care and reducing maternal/ perinatal mortality
- Improving family and community practices and reducing factors contributing to maternal/ perinatal mortality

Step 8: Dissemination of Results
Results of community review are disseminated through annual MPDSR reports and M&E reports of MPDSR process.

Communication Plan
Clearly defined communication plan should be in place, including:
- List of community workers and service providers should be prepared, updated and distributed to the public, who should be informed of maternal/ perinatal death
- All informants should be connected to the district MPDSR committee coordinator

GROUP WORK: 5.1
Community Review using MDF 3
Divide participants in groups of 4-5
- Give them case studies or ask them to bring in their own case studies of community based deaths
- Ask them to fill in MDF 3 (Handout 5.1.1) and committee worksheet (Handout 5.1.2)

جائزہ فارم برائے اموات زچہ

سیکشن اے: فارم بھرنے والے کی معلومات

تاریخ

فارم بھرنے والے کا نام: _____ فارم بھرنے والے کا عہدہ: _____

گاؤں/محلہ: _____ یو سی۔ تحصیل۔ ضلع: _____

کیس نمبر: _____ کیا زچہ کی وفات کی اطلاع صحیح تھی؟ ہاں نہیں

معلومات فراہم کرنے والے کا نام: _____ معلومات فراہم کرنے والے کا مرحومہ سے رشتہ: _____

معلومات فراہم کرنے والے کا شناختی کارڈ نمبر: _____ رابطہ نمبر: _____

سیکشن بی: زچہ کی ذاتی معلومات:

زچہ کا نام: _____ عمر: _____ سال (مکمل شدہ) _____ مرحومہ کی تعلیم: _____ سال (مکمل شدہ): _____

شوہر کا نام: _____ شناختی کارڈ نمبر: _____ خاندان کی ماہانہ آمدنی: _____

زچہ کی وفات کی تاریخ: دن: _____ مہینہ _____ سال: _____

سیکشن سی: زچگی کی معلومات:

مرحومہ کی شادی کی تاریخ: دن مہینہ _____ سال _____ شادی کے وقت مرحومہ کی عمر _____ سال _____

کیا یہ مرحومہ کا پہلا حمل تھا؟ ☐ ہاں ☐ نہیں

اگر نہیں تو حمل کی تعداد: _____ کل زندہ پیدائش _____ کل مردہ پیدائش _____ ضائع ہوئے _____

مرحومہ کے کل زندہ بچوں کی تعداد: لڑکے _____ لڑکیاں _____

مرحومہ کے متعلقہ حمل اور اس سے پچھلے حمل کے درمیان کتنا وقفہ تھا: سال _____ ماہ _____

کیا اس حمل سے پہلے کوئی بڑا آپریشن ہوا تھا: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

اس سے پچھلے کسی بھی حمل کے دوران کوئی پیچیدگی ہوئی: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

آخری حمل کے دوران کس سے معائنہ کروایا: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

آخری حمل کے کتنی دفعہ معائنہ کروایا: ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ معلوم نہیں

آخری حمل کے دوران معائنہ کروایا: ☐ دائی ☐ CMW ☐ LHV ☐ نرس ☐ ڈاکٹر ☐ دیگر ☐ معلوم نہیں

آخری حمل کے دوران LHW/CMW نے وزٹ کیا: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

کیا مرحومہ کو حمل کے دوران ANC میں خون کی کمی کا شکار بتایا گیا تھا: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

مرحومہ کو حاملہ ہونے سے پہلے کیا ان میں سے کوئی بیماری تھی: ☐ بلڈ پریشر ☐ دل کی بیماری ☐ کینسر ☐ کوئی ذہنی بیماری ☐ معلوم نہیں

مرحومہ کو ANC کے دوران ان میں سے کوئی پیچیدگی تشخیص ہوئی تھی: ☐ ہائی بلڈ پریشر ☐ گلے پر سوجن ☐ جھٹکے لگنا/دورے پڑنا ☐ بخار/انفیکشن ☐ معلوم نہیں

کیا LHW نے مرحومہ کو زچگی کے لیے ہسپتال/ کلینک کیا ☐ ہاں ☐ نہیں ☐ معلوم نہیں

کیا حاملہ ہسپتال کلینک میں treatment ملی تھی ☐ ہاں ☐ نہیں ☐ معلوم نہیں

زچگی کس نے کروائی: ☐ دائی ☐ CMW ☐ LHV ☐ نرس ☐ ڈاکٹر ☐ دیگر ☐ معلوم نہیں

زچگی کا طریقہ: ☐ Normal ☐ Assisted Delivery ☐ (چھوٹا آپریشن) ☐ (بڑا آپریشن)

اگر Assisted Delivery ہوئی تو کیا Forrceep (آلات) استعمال ہوئے ☐ ہاں ☐ نہیں ☐ معلوم نہیں

زچگی کی جگہ : ☐ گھر ☐ BHU ☐ RHC ☐ THQ ☐ DHQ ☐ دیگر سرکاری ہسپتال ☐ پرائیویٹ ہسپتال/ کلینک ☐ دیگر

فوتگی کی جگہ : ☐ گھر ☐ BHU ☐ RHC ☐ THQ ☐ DHQ ☐ دیگر سرکاری ہسپتال ☐ پرائیویٹ ہسپتال/ کلینک ☐ دوران سفر ☐ دیگر

اگر فوتگی دوران سفر ہوئی تو کیا ☐ گھر سے ہسپتال/ کلینک لے جاتے ہوئے ☐ دیگر

آخری حمل کا نتیجہ: ☐ زندہ بچہ ☐ مردہ بچہ ☐ حمل ضائع ہو گیا ☐ زچگی نہیں ہوئی

آخری حمل کا دورانیہ: _____ مکمل (شدہ ماہ) _____ ☐ معلوم نہیں

فوتگی کے وقت عورت: ☐ کا حمل ضائع ہو چکا تھا ☐ فوتگی زچگی سے پہلے ہوئی ☐ فوتگی زچگی کے دوران ہوئی ☐ فوتگی زچگی کے 24 گھنٹے کے اندر ہوئی ☐ فوتگی زچگی کے 42 دن کے اندر ہوئی

سیکشن ڈی: زچہ کی وفات کی وجہ

کیا مرحومہ کا فوتگی سے پہلے خون بہا:	☐ ہاں	☐ نہیں	☐ معلوم نہیں	اگر ہاں: ☐ زچگی سے پہلے	☐ زچگی کے بعد
کیا خون معمول سے زیادہ بہا:	☐ ہاں	☐ نہیں	☐ معلوم نہیں		
کیا زچگی میں معمول سے زیادہ تاخیر ہوئی:	☐ ہاں	☐ نہیں	☐ معلوم نہیں		
کیا بد بو دار مواد کا اخراج ہوا:	☐ ہاں	☐ نہیں	☐ معلوم نہیں		
کیا پیٹ میں شدید درد ہوا:	☐ ہاں	☐ نہیں	☐ معلوم نہیں		

سیکشن ای:

فوتگی سے پہلے مرحومہ کو سرکاری ہسپتال لے جایا گیا تو درج ذیل سوالات کے جوابات دیں:

ہسپتال کا نام: _____ 2. DHIS CODE : _____

کیا ہسپتال پہنچنے میں تاخیر ہوئی تھی ؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

اگر ہاں تو تاخیر کس وجہ سے ہوئی؟

☐ ہسپتال جانے کا فیصلہ کرنے میں تاخیر ☐ ایمبولینس ملنے میں تاخیر ☐ ہسپتال کافی دور تھا ☐ دیگر (وضاحت) _____

کیا ہسپتال میں عملہ موجود تھا؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

اگر ہاں تو کیا عملے نے تعاون کیا؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

اگر نہیں تو؟

☐ عملہ بدسلوکی سے پیش آیا ☐ عملے نے treatment دینے میں بے جا وقت لیا ☐ دیگر (وضاحت) _____

کیا ہسپتال میں ڈاکٹر موجود تھا؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

اگر ہاں تو آپ کو treatment ملا؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

اگر نہیں تو؟

☐ ہسپتال میں ادویات کی عدم موجودگی تھی ☐ میڈیکل ٹیسٹ کی سہولت میسر نہیں تھی ☐ ہسپتال میں آلات موجود نہیں / کام نہیں کر رہے تھے

☐ عملے کی قابلیت اطمینان بخش نہیں تھی ☐ دیگر (وضاحت) _____

سیکشن ایف:

آپ کے خیال میں کس وجہ سے فوتگی واقع ہوئی:

☐ میڈیکل معاونت حاصل کرنے کا فیصلہ لینے میں تاخیر (Delay 1) ☐ کیا ہسپتال پہنچنے میں تاخیر (Delay 2)

☐ ہسپتال میں treatment کی عدم دستیابی (Delay 3) ☐ کوئی تاخیر نہیں (No Delay)

کیا Death Certificate موجود ہے ☐ ہاں ☐ نہیں ☐ معلوم نہیں

اگر ہاں، کیا میں دیکھ سکتی ہوں ☐ ہاں ☐ نہیں

اگر ہاں Certificate پر موجود وجہ فوتگی : _____

سیکشن جی:

to be field by the Gynecologist

Medical Cause of Death

Probable Cause of Death: _____

Date: _____ Signature: _____

Handout 5.1.2: Committee worksheet

Case number

……

CASE SUMMARY

1. Age……
2. Gravidity parity pregnancy outcome gestational age

……..…… ……..…… ……. …….

3. Date of admission ……..
4. Date of death …….
5. Summary of events leading to death.

QUESTIONS TO CONSIDER

Prior to pregnancy

1. Did the mother have a serious pre-existing condition?

2. Was the pregnancy planned?

3. Was she using birth control? ……. If not, why not?

……..……

During pregnancy

4. Did the mother receive appropriate & timely antenatal care?

5. If she had problems were they appropriately treated?

6. Did she comply with medical advice? …….. If not, why not?

Intrapartum

7. Was the mother's labour monitored? Prolonged?

8. If she had any problems in labour or delivery did she receive correct care in a timely fashion?

9. Did she deliver with a skilled birth attendant? At a facility? ……..

10. Did she need to be transferred before labour? During labour? After labour?

Postnatal

11. Was the mother appropriately resuscitated? ……..

12. Was she appropriately cared for in the post-natal period?

13. Did she need to be transferred to appropriate level of care?

14. If yes was she transferred? …….

15. When she became ill was she taken given care in a timely fashion?

16. Was she treated? ……..

COMMITTEE OPINION Action items

17. PRINCIPLE MEDICAL CAUSE OF DEATH

18. Was the death avoidable?
19. What factors could have been changed to decrease the risk of death from occurring?
20. Recommendations to reduce deaths from similar causes or circumstances

MODULE 6: PERINATAL DEATH REVIEW

	Module 1	Introduction
	Module 2	Maternal and Perinatal Mortality
	Module 3	Overview of MPDSR
	Module 4	Facility Review
	Module 5	Community Review
You are here	**Module 6**	Perinatal Death Review

Learning Objectives of this Module

By end of this module participants will learn how to conduct perinatal death review

Sessions of Module 3		
Session #	**Session Title**	**Time**
6.1	Perinatal Death Review	1 hr. 15 min

Interactive session

Perinatal Death Review

It is a process of collectively reviewing all available information about a stillbirth or a neonatal death and includes trying to arrive at the cause of deaths and analyze the information as to other non-medical factors which could have contributed to the death and if addressed may prevent deaths in the future. Also identify assign and schedule actions to address modifiable factors.

This process is supposed to take place among several different staff categories, both for analysis and also for designing the proper actions. It should be in a blame free environment assuring no punitive actions. All this will contribute to providing better data, increased awareness and eventually a decrease in stillbirths and neonatal deaths will be seen.

Definitions

1. **Stillbirths (WHO):**

- Gestational age of 28 weeks or greater (LMP)
- Birth weight of 1,000 grams or more*
- Body length of 35 cm or more

2. **Surrogate measures (programmatic)**

- Antepartum deaths (sometimes called macerated stillbirths)
- Intrapartum deaths (sometimes called fresh stillbirths)*

Stillbirth rate (SBR) is measured as a rate per 1000 total births

3. **Neonatal death**

The neonatal period refresh to the first 28 days of life and neonatal deaths can be divided into early and late neonatal days, with early neonatal deaths comprising 75% of all neonatal deaths. And different from the stillbirth rate the denominator is per 1,000 live birth instead of total births. It is important to find all neonatal deaths in facilities why one should look in all wards were possible neonatal deaths can occur.

Classification

Classified as ICD-PM. One of the main difficulties around stillbirths and perinatal death is that there is not a universal or globally recognised classification of stillbirths. There have been different approaches which makes it difficult for comparison across settings. It is vital to know the causes of death to be able to do something about it. The challenge is to have a system which can be used across different settings.

ICD-10 classify perinatal deaths and consists of a three step process.

- Timing of death
- Perinatal cause of death
- Maternal condition at the time of death

Classification

Classified as ICD-PM. One of the main difficulties around stillbirths and perinatal death is that there is not a universal or globally recognised classification of stillbirths. There have been different approaches which makes it difficult for comparison across settings. It is vital to know the causes of death to be able to do something about it. The challenge is to have a system which can be used across different settings.

ICD-10 classify perinatal deaths and consists of a three step process.

- Timing of death
- Perinatal cause of death
- Maternal condition at the time of death

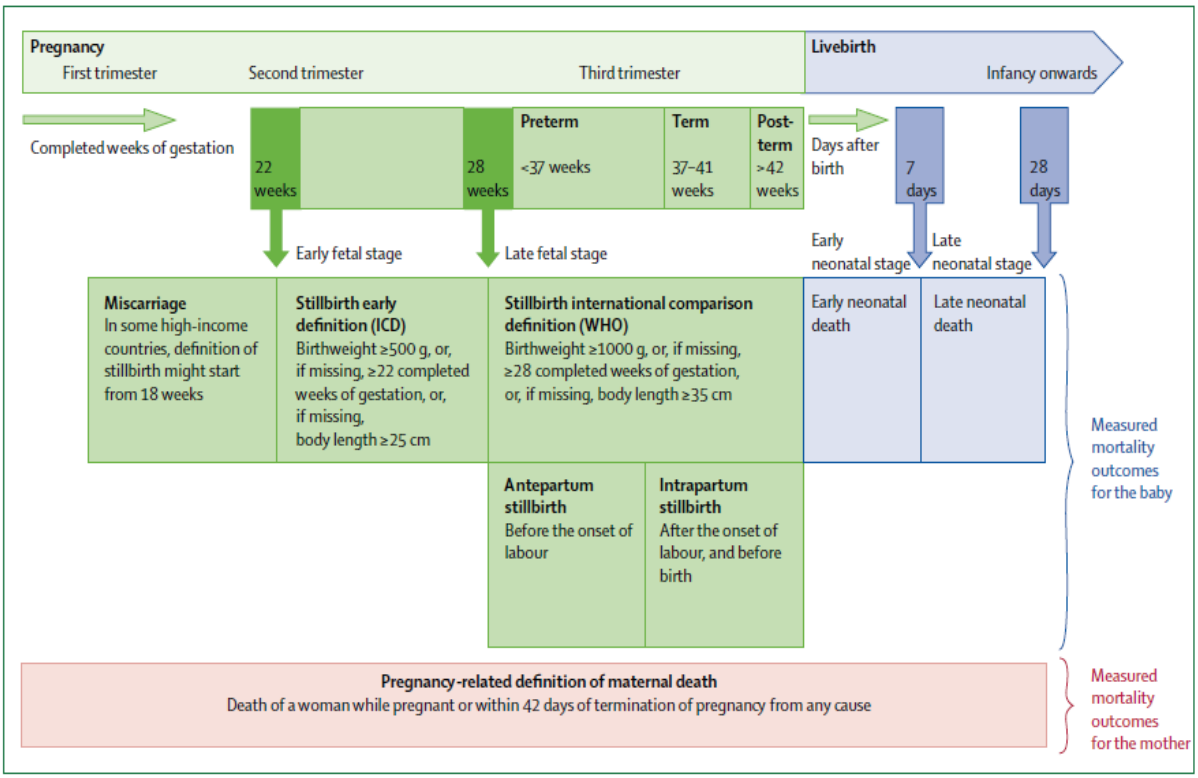
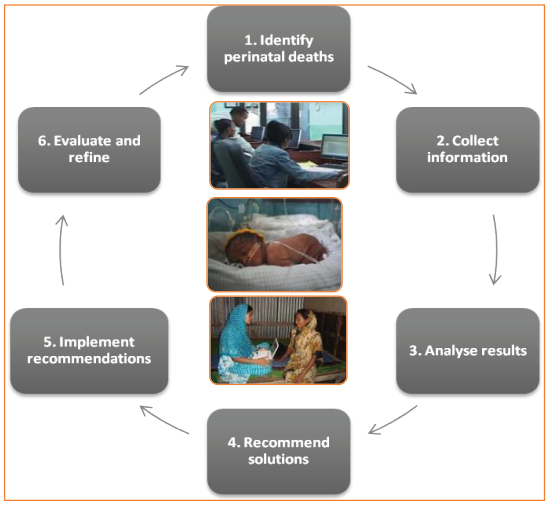


Figure 7: Registration screen view

Timing of death	Main disease or condition for stillbirth or neonatal death	Maternal
1. Antepartum	1. Congenital	M1 Maternal complications of pregnancy
2. Intrapartum	2. Antepartum complications	M2 Complications of placenta, cord and membranes
3. Stillbirth (unknown timing)	3. Intrapartum complications	M3 Other complications of labour and delivery
4. Neonatal death	4. Complications of prematurity	M4 Maternal medical and surgical conditions
	5. Infection (tetanus, sepsis, pneumonia, syphilis, diarrhoea)	M5 no maternal conditions identified (healthy mother)
	6. Other cause of death	
	7. Unknown/unspecified	

The specific maternal conditions are based on the ICD-MM guidance. The maternal condition should be considered to be reasonable integrated in the pathway leading to perinatal death (i.e. hypertensive disorders and intrauterine growth restrictions OR urinary tract infection in preterm birth)



Perinatal death review steps

1. Identifying cases
2. Collecting information
3. Analyzing information
4. Recommending solutions
5. Implementing solutions
6. Evaluating and refining

Step 1: Identification

- Identify sources for information:
  - o Hospital registers (delivery ward, postnatal wards, neonatal unit, postnatal ward,
  - o perating theatre, paediatric ward for late neonatal deaths)
  - o CRVS systems
- Create a list of all stillbirths and neonatal deaths in a facility to improve capturing perinatal deaths for review
- Coding using the date of birth and which unit the deaths was recorded
- The number of deaths relates to the number of births at a facility
- Even in low mortality setting reviewing one case can yield valuable information and improvements of quality of care
- Calculations of the expected number of deaths can help ensuring that all deaths are being captured
- Expected number = (mortality rate) x (number of deliveries per year)/1000

Step 2: Collecting Information

- Ideally, review within a week of the event
- Paper forms or computerized data entry programs
- Only necessary data to be used for analysis
- A phased approach of data complexity may be considered
- Data verification before
- All additional information can create a richer understanding of delays and modifiable factors

Step 3: Analyzing Information

- Minimum indicators to follow over time:
  - Number of vaginal deliveries, maternal deaths, antepartum and intrapartum stillbirths, in-facility stillbirth and neonatal mortality rates
- Quantitative and qualitative information
- Geographical mapping
- Analyses at different levels: Facility or individual cases
- Modifiable factors (delays model, level model, root cause analysis)

Step 4: Recommending Solutions

- Solutions should target actionable problems, factors, causes and subcauses
- Solutions should always be SMART:
  - Specific
  - Measurable
  - Appropriate
  - Relevant
  - Time-bound
- Possible actions include interventions in the facility, community, linked health services or the public sector
- Dissemination of audit findings is key
- Key message to those who can implement change
  - Ministry of health
  - Local and regional planners
  - Professional organizations
  - Academic institutions
  - Professional organizations
- Periodic report in a simple language with findings and solutions

Step 5: Implementing Solutions

- Actions with different time frames
- Assign actions to team members of the committee
  - Who?
  - What?
  - When?
- Leadership is important

Step 6: Evaluating and Refining

- How efficient is the system in identifying and reviewing deaths?
- How effective is the system in institutionalizing beneficial practices?
- Document changes over time, through annual review meeting or report helps identify gaps and areas of success.

- Periodic evaluation of the system improving or not
- Periodic evaluation of the inequality of the information captured

GROUP WORK: 6.1
Perinatal Review using perinatal death review form

Divide participants in groups of 4-5

- Give them case studies or ask them to bring in their own case studies of facility and community based perinatal deaths
- Ask them to fill in the form Handout 6.1.1 PDF 1(Notification form) and 6.2.2 PDF 2 (Perinatal Death Revie form facility based) and 6.1.3 PDF 3 (Neonatal Death Data collection form in community)

HANDOUT 6.1.1: PDF1

PDF1: Perinatal Death Notification form

To be filled out for ALL Perinatal deaths
(To be filled in duplicate; one copy kept at facility and one sent to the district MDR Coordinator)

1. **Notification**
   a. Name of Mother……CNIC…….
   b. Name of Father……. CNIC Number
   c. Address
   d. Date of death
   e. Who informed the death
      i. CMO
      ii. Staff nurse from ward
      iii. registrar
      iv. Others
f. Date of notification……..
g. Name of the health worker…….
h. Telephone no…….
   i. Signature……

2. **Screening (to be filled by health center staff)**
   a. Age of the baby (in days/weeks) ……
   b. Type of death
      i. Early neonatal death
      ii. Neonatal death
      iii. Still birth
   c. Place of death
      i. Home
      ii. On the way
      iii. Hospital
      iv. Managed at facility

   d. Suspected Perinatal death……..
   e. Name of health care worker…….

Date…….

Signature……

HANDOUT 6.1.2: PDF2

FACILITY DEATH REVIEW FORM - PERINATAL
CONFIDENTIAL For official use only

Form filled by (Name) _____ Designation

Section A: General Information

Name of health facility _____
DHIS code _____
District _____
Tehsil_____
UC _____
Date of death _____
Time of death _____

Section B: Details of Infant		
1	Name of baby	
2	Medical record number	
3	Name of mother	CNIC:
4	Name of father	CNIC:
5	Complete Address	
6	Date of birth	
7	Time of birth	
8	Age of baby	Days: _____Hours: _____ Minutes:
9	Gender	Please tick the correct response Male Female Undetermined
10	Weight at birth	Please tick the correct response <2.5 kg 2.5- 4 kg >4 kg Don't Know

11	Gestational age	Please tick the correct response Preterm Term Post term Don't Know
12	Place of Birth	Please tick the correct response Home MCH Center BHU RHC THQ DHQ Tertiary hospital Private hospital In-transit Other:
13	Place of Death	Please tick the correct response Home MCH Center BHU RHC THQ DHQ Tertiary hospital Private hospital In-transit Other: _____
14	Verified as neonatal death (death within 28 days after birth)	Please tick the correct response Yes No Don't know
Section C: Parents Information		
Mother		
15	Is the mother formally educated	Please tick the correct response Yes No Don't know If YES: Primary Middle Matric Higher
Father		
16	Is the father formally educated	Please tick the correct response Yes No Don't know If YES: Primary Middle Matric Higher

Section D: Details of admission at reporting health facility		
17	Time of Admission	Hours (Use 24 hours clock time)

18	Was baby referred from another health facility	Please tick the correct response Yes No Don't know Was baby referred from another health facility F YES, tick the type of facility from where referred: MCH Center BHU RHC THQ DHQ Tertiary hospital Private hospital Other: _____
19	Reason for admission/diagnosis at admission	Please tick the correct response Feeding problem Loose stools Vomiting Dehydration Fast breathing Cyanosis Abdominal distension Anuria Cough mall baby Excessive crying Jaundice Fever Fits Lethargy Malformation Physical injury Skin rashes Skin pustules Any other medical condition: None of abovd bilical cord infection
20	Condition at Admission	Please tick the correct response Stable sick Critical
21	Spontaneous cry at birth	Please tick the correct response Yes No Don't know If YES, when did the baby cry after birth? Immediately Delayed Don't know

22	Early breast feeding started (Within one hour of birth)	Please tick the correct response Yes No Don't know
23	Anything given to baby to drink other than breast milk	Please tick the correct response Yes No Don't know
24	Congenital deformity at birth	Please tick the correct response Yes No Don't know
25	Number of babies delivered in current delivery	Please tick the correct response Single Twin Multiple Don't Know
Section E: Pregnancy and delivery details		
26	Antenatal care received during current pregnancy	Please tick the correct response Yes No Don't know If YES, who provided ANC: Dai CMW LHW LHV Nurse Doctor
27	Number of times the mother received antenatal care during the pregnancy	Please tick the correct response 1 2 3 4

28	Risk factors identified during ANC	Please tick the correct response Yes No Don't know If YES, tick the risk factors identified: Multiple pregnancy Previous C-section Large baby Small baby Pre-term labor Abnormal presentation Anemia Diabetes Mental illness Tuberculosis Heart disease Any other medical condition:
29	Reasons if ANC not received	Please tick all the appropriate choices Lack of awareness Lack of accessibility Lack of funds Family problems Others: Not applicable
30	How long was the labor?	----------hrs
31	Nature of delivery	Please tick the correct response Normal vaginal delivery Assisted vaginal delivery Episiotomy performed C-section

Probable cause of death: _____

Name of HCP who attended patient with designation: _____

Date: _____

Comments by specialist:

Name of specialist and designation: _____

Date: _____

HANDOUT 6.1.3: PDF3 Neonatal Death Data Collection form in Community

تصدیق/ وجوہات فارم برائے اموات بچہ

(نوزائیدہ)

SECTION A

1a. فارم بھرنے والے کا نام: _____ 1b. فارم بھرنے والے کا عہدہ: _____

1c. فارم بھرنے کی تاریخ: _____ 1d. BHU - U/C _____

1f. گاؤں /محلہ _____ 1g. ضلع: _____

2. کیس نمبر#: _____

3. کیا فوتگی کی اطلاع صحیح تھی؟ ☐ ہاں ☐ نہیں

4a. معلومات فراہم کنندہ کا مرحوم بچے سے رشتہ (ترجیحاًوہ شخص جو موت کے وقت موجود ہو) _____ 4b. فون نمبر: _____

SECTION B

1a. بچہ کا نام (اگر دیا گیا ہے): _____ 1b. جنس: ☐ لڑکا ☐ لڑکی

1c. مرحوم بچے کی تاریخ پیدائش: دن _____ مہینہ _____ سال _____ 1d. عمر: _____ دن _____ گھنٹے _____ منٹ _____

2. فوتگی کی تاریخ: دن _____ مہینہ _____ سال _____

3a. ماں کا نام: 3b. ماں زندہ ہے؟ ☐ ہاں ☐ نہیں

SECTION C

1a. کیا یہ ماں کا پہلا حمل تھا؟ ☐ ہاں ☐ نہیں

1b.اگر نہیں تو نتیجہ حمل: کل زندہ پیدائش _____ کل مردہ پیدائش _____ ضائع ہوئے _____

1c. کل زندہ بچوں کی تعداد: _____ لڑکے _____ لڑکیاں _____

1d.ماں کے موجودہ حمل اور اس سے پچھلے حمل کے درمیان کتنا وقفہ تھا: _____ سال _____ ماہ ☐ معلوم نہیں

1e. کیا ماں کا حمل سے پہلے کوئی بڑا آپریشن ہوا تھا: ☐ ہاں ☐ نہیں

1f. کیا ماں کےاس سے پچھلے کسی بھی حمل کے دوران کوئی پیچیدگی ہوئی: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

1g.مرحوم بچے کی وفات سے پہلے کتنے بچے ایک سال سے کم عمر میں وفات پائے: _____

2a. اس حمل کے دوران ماں نے معائنہ(ANC) کروایا تھا: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

2b. اگر ہاں،تو اس حمل کے دوران کتنی دفعہ معائنہ کروایا: ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ >4 ☐ معلوم نہیں

2c. آخری حمل کے دوران کس سےمعائنہ کروایا : ☐ دائی ☐ CMW ☐ LHV ☐ نرس ☐ ڈاکٹر ☐ معلوم نہیں

2d. کیا ماں نے اس حمل میں ٹی ٹی کے انجکشن لگوائے تھے : ☐ ہاں ☐ نہیں ☐ معلوم نہیں

2e. اگر ہاں، تو کتنے خفاظتی ٹیکے لگوائے تھے : ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ >4 ☐ معلوم نہیں

4. متعلقہ حمل کا دورانیہ : ☐ 37 ہفتے سے کم ☐ 37 ہفتے سے زیادہ

4a. متعلقہ زچگی کی جگہ: ☐ گھر ☐ BHU ☐ RHC ☐ THQ ☐ DHQ ☐ Tertiary Care

☐ پرائیویٹ ہسپتال/ کلینک ☐ دیگر ☐ CMW Home

4b. متعلقہ زچگی کس سے کروائی: ☐ دائی ☐ CMW ☐ LHV ☐ نرس ☐ ڈاکٹر ☐ دیگر ☐ معلوم نہیں

4c. متعلقہ زچگی کا دورانیہ:

4ci. Primi Gravida ☐ 12 گھنٹے سے کم ☐ 12 گھنٹے سے زیادہ

4cii. Multi Gravida ☐ 8 گھنٹے سے کم ☐ 8 گھنٹے سے زیادہ

5a. پیدائش کے وقت بچے کی پوزیشن نارمل تھی: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

5b. پیدائش کا طریقہ: ☐ Normal ☐ Assisted Delivery ☐ Episiotomy (چھوٹا آپریشن) ☐ C-Section (بڑا آپریشن)

6a. کیا ہسپتال میں جانے کی وجہ پانی پڑنا تھی ؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں 7b. اگر ہاں،تو پانی سے بدبو آ رہی تھی: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

SECTION D

1a. پیدائش کے وقت بچے کا وزن: ☐ 2.5 کلو گرام سے کم ☐ 2.5/2.5 کلو گرام سے زیادہ ☐ وزن نہیں کیا/ معلوم نہیں

1b. کیا (مرحوم)بچہ پیدائش کے فوراً بعد رویا تھا: ☐ ہاں ☐ نہیں ☐ معلوم نہیں 1c. اگر ہاں، تو کتنی دیر کے بعد: _____ منٹ

1c. مرحوم بچے میں پیدائشی نقائص کی موجودگی: ☐ ہاں ☐ نہیں ☐ معلوم نہیں 1c. کیا ناڑو گردن کے گردا ایک سے زیادہ بار لپٹا ہوا تھا: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

2a. پیدائش کے وقت (مرحوم) بچے کی جلد کی رنگت: ☐ نارمل ☐ نیلا ☐ پیلا ☐ معلوم نہیں

2b. پیدائش کے وقت بچے کے کسی عضو سے خون تو نہیں بہہ رہا تھا: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

2c. اگر ہاں، تو کوئی چوٹ تو نہیں لگی: ☐ ہاں ☐ نہیں ☐ معلوم نہیں

3a. کیا CMW نے پیدائش کے بعد (مرحوم) بچے کا معائنہ کیا تھا ؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

3b. اگر ہاں تو کتنے دن میں: ☐ 24 گھنٹے ☐ 48 - 24 گھنٹے ☐ 3 سے 7 دن ☐ 7 دن سے زیادہ ☐ معلوم نہیں

3c. کیا ماں بچے کی پیدائش کے بعد PNC کیلئے مرکز صحت آئی تھی ؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

3d. اگر ہاں ،تو کیا بچے کو ساتھ لائی تھی ؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

3e. بچے کا معائنہ کس نے کیا ؟ ☐ CMW ☐ LHV ☐ نرس ☐ ڈاکٹر ☐ دیگر ☐ معلوم نہیں

3f. کیا (مرحوم) بچے کو مندرجہ ذیل پولیو/حفاظتی ٹیکے لگے تھے ؟ (a) بی سی جی ☐ ہاں ☐ نہیں ☐ معلوم نہیں

(b) پولیو قطرے ☐ ہاں ☐ نہیں ☐ معلوم نہیں

کیا ماں نے بچے کو پیدائش کے فوراً بعد اپنا دودھ شروع کروایا تھا ؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

SECTION E فوتگی کی وجوہات (تفصیلی وضاحت)

کیا فوتگی سے پہلے بچے کو ان میں سے کوئی بیماری لاحق تھی: ☐ پیدائشی یرقان ☐ دورے جھٹکے (تشنج) ☐ ناڑو کی سوزش / انفیکشن ☐ سانس کی بیماری

☐ اسہال ☐ تیز بخار ☐ غذا کی کمی ☐ کوئی نہیں ☐ دیگر (وضاحت) _____

فوتگی کی جگہ: ☐ گھر ☐ BHU ☐ RHC ☐ THQ ☐ DHQ ☐ سرکاری ہسپتال ☐ پرائیویٹ ہسپتال/ کلینک ☐ دوران سفر ☐ دیگر

3. ماں کو حاملہ ہونے سے پہلے کون سی بیماریاں تھیں ؟ ☐ بلڈ پریشر ☐ Diabetes ☐ دل کی بیماری ☐ کینسر ☐ خون کی کمی ☐ دیگر

4. حمل کے دوران ماں کو خون کی کمی کا شکار بتایا گیا ؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

SECTION F فوتگی سے پہلے مرحوم بچے کو سرکاری ہسپتال لے جایا گیا تو درج ذیل سوالات کے جوابات دیں۔

1. ہسپتال کا نام: _____ DHIS CODE : _____

3. کیا ہسپتال پہنچنے میں تاخیر ہوئی تھی؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

3a. اگر ہاں تو تاخیر کس وجہ سے ہوئی ؟

☐ ہسپتال جانے کا فیصلہ کرنے میں تاخیر ☐ ایمبولینس ملنے میں تاخیر ☐ ہسپتال کافی دور تھا ☐ دیگر (وضاحت) _____

3b. کیا ہسپتال میں عملہ موجود تھا؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

3c. اگر ہاں تو کیا عملے نے تعاون کیا؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

3c. اگر نہیں تو؟

☐ عملہ بدسلوکی سے پیش آیا ☐ عملے نے Treatment دینے میں بے جا وقت لیا ☐ دیگر (وضاحت) _____

3c. کیا ہسپتال میں ڈاکٹر موجود تھا؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

اگر ہاں تو کیا آپ کو Treatment ملا؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

اگر نہیں تو کیا ؟

☐ ہسپتال میں ادویات کی عدم موجودگی تھی ☐ میڈیکل ٹیسٹ کی سہولت میسر نہیں تھی ☐ ہسپتال میں آلات موجود نہیں تھے / کام نہیں کر رہے تھے

☐ عملے کی قابلیت اطمینان بخش نہیں تھی ☐ دیگر (وضاحت) _____

SECTION G

1. آپ کے خیال میں کس وجہ سے فوتگی واقع ہوئی _____

2a. کیا Death Certificate موجود ہے؟ ☐ ہاں ☐ نہیں ☐ معلوم نہیں

2b. اگر ہاں، کیا میں دیکھ سکتی ہوں ☐ ہاں ☐ نہیں

2c. اگر ہاں تو Certificate پر موجودہ وجہ فوتگی: _____

SECTION E

To be filed by the pediatrician

Medical Cause of Death

a) Obvious Cause of Death _____ b) Underlying Cause of Death, if any: _____

☐ Can't be determined

Was the death caused by gaps in services delivery at the hospital Yes ☐ No ☐

Date: _____ Signature: _____

**Ministry of National Health Services,
Regulations & Coordination**

Kohsar Block, Pak Secretariat, Islamabad.
Tel: 051-9245576
Website: www.nhrsc.gov.pk