Ethiopia MPDSR Training Manual

November, 2017
Addis Ababa, Ethiopia
# Table of Contents

Introduction ................................................................................................................................................ 2

Overall Goal of the Training Package ...................................................................................................... 4

Target Audience & Objectives................................................................................................................. 4

Preparation for the training .................................................................................................................... 5

Pre and Post test ......................................................................................................................................... 6

Sample MPDSR training agenda................................................................................................................ 11

Module 1: Overview of MPDSR and PHEM ............................................................................................. 13

  Introduction to PHEM: .......................................................................................................................... 13

  Practical 1: WHY Did Mrs X die? ....................................................................................................... 19

  Ethiopia MPDSR overview: .................................................................................................................... 21

Module 2: Understanding determinants and causes of maternal and perinatal death ......................... 28

  Practical 2: Brainstorming causes and determinants ........................................................................ 28

Module 3: Identification and Notification ................................................................................................. 35

  Practical 3: Assigning ID codes .......................................................................................................... 38

  Practical 4: Identification Exercise .................................................................................................... 40

  Practice on Using the Identification & Notification Forms ................................................................... 45

  Practical 5: Notifications ................................................................................................................... 45

Module 4: Maternal and perinatal death investigation ............................................................................ 46

  Practical 6: Community level investigation using Verbal Autopsy ..................................................... 54

  Practical 7: Facility level investigation using the Facility Based Abstraction Form ............................ 55

Module 5: Maternal and perinatal death review ...................................................................................... 57

  Practical 8: Using the Case Based Reporting Form ............................................................................ 64

Module 6: Data aggregation, analysis and interpretation and reporting ................................................... 67

  Practical 9: Interpreting data ............................................................................................................ 71

Module 7: Response ................................................................................................................................. 74

  Identifying responses ............................................................................................................................ 85

  Practical 10: SMART responses .......................................................................................................... 85

  Action plan template ............................................................................................................................ 88

Module 8 MPDSR Role and Responsibility ............................................................................................. 89

Module 9: MPDSR Monitoring and Evaluation ........................................................................................ 91
Introduction
Ethiopia has made remarkable achievements in reducing maternal and child mortality by more than two thirds from its baseline during the MDG era. Despite significant progress, the magnitude of maternal and perinatal mortality in Ethiopia remains high and these high numbers serve as a call to action for the elimination of preventable maternal and perinatal deaths. This is one of the top priorities of the health sector transformation plan (2016-2020) and the national reproductive health and national newborn and child survival strategies for the same period.

Maternal and Perinatal Death Surveillance and Response (MPDSR) is one of the strategies to address the avoidable causes of maternal and perinatal deaths at multiple levels of the health service. A functioning MPDSR system should ensure accurate identification and timely reporting of maternal and perinatal deaths, systematic review of contributing factors, and implementation of evidence-based responses to prevent future deaths. MPDSR requires action at all levels of the health system from community and facility to regional and national levels. MPDSR should form an integral part of broader quality improvement processes and accountability mechanisms.

MPDSR is a system that tracks and measures all maternal and perinatal deaths in real time. This enables understanding of underlying causes and contributing factors of the deaths, and can stimulate further action to prevent similar deaths in future. Furthermore, it provides information on the number of deaths, their place and timing, and whether or not they were preventable.

In 2017, the Ethiopian Federal Ministry of Health (FMoH) is integrating perinatal death surveillance and response (PDSR) in the national MDSR program, which has been implemented since 2013. Following the development of the MPDSR Technical Guidance this training material was developed to improve the competencies of health care providers and program managers working in the maternal and neonatal health sector. This document contains training materials to prepare trainees to implement fully integrated maternal and perinatal death surveillance and response (MPDSR).
The training manual provides an overview of the system’s structure, and introduces the newly published National MPDSR Technical Guidance, including its data collection and reporting tools. Training will be conducted by a multi-sectoral team drawn from the National MPDSR technical working group.

In the first instance, a national MPDSR Training of Trainers (ToT) will take place, followed by regional cascading to relevant participants in all Regional Health Bureau (RHB) and city administrations in the country. This MPDSR training is estimated to take 3 days.

This manual is designed to help trainers work through the presentations and participatory group activities that make up the training workshop. It is accompanied by the following materials:

- Sample pre- and post-tests
- Power point presentations
- Sample agenda of the training
- 1 video in mp4 format (also freely available in the following link.
  http://www.who.int/maternal_child_adolescent/multimedia/en/ or
  http://mdsr-action.net/other-resources/whydidmrssdie/

The training package is designed to be interactive, with the inclusion of practice-based individual and group activities to familiarize participants with the tools and processes of the Ethiopian MPDSR system. Participants will be actively engaged to consider how the MPDSR will build on their existing expertise and knowledge. The emphasis throughout the training should be on the use of MPDSR as a basis for action.

The importance of multi-professional team collaboration will be emphasized throughout the training, as this has been shown to benefit the MPDSR system by strengthening communication between multi-professional groups (surveillance officers, clinicians, midwives, data managers, community representatives, etc.). Where possible, training at each level should be delivered by a multi-professional training team, following the model of the national workshop.
Overall Goal of the Training Package
To deliver a practical introduction to the Ethiopia MPDSR and support establishment of a functional, effective and action-oriented MPDSR system across Ethiopia

Specific Aims
1. Introduce MPDSR concepts and rationale, with presentation of international evidence for its effectiveness and best practice
2. Provide a detailed overview of the Ethiopia MPDSR model and vision for how it will operate at each level of the national health system
3. Ensure staff are equipped with the requisite knowledge and competence-based skills for each component of the MPDSR process
4. Provide an opportunity for participants to become familiar with the use of the National MPDSR Guidance and tools for data collection and reporting.
5. Ensure the health system is responding to each maternal and perinatal death and accountability is established.

Target Audience & Objectives
Nine training modules have been developed. Some may be more relevant to different audiences/ groups of trainees. Depending on the level of the health system that participants come from, there may need to be a slightly different emphasis to ensure the following objectives of the training:

- National and Regional leads: Building political commitment, orientation
- Referral/District Hospitals: Conducting facility based data collection
- Zones and Woreda: Managing data flow, identifying actions & reporting upwards
- Health centers: Collecting, reporting & reviewing community and health center deaths

By the end of each training workshop, participants should:
- Understand how MPDSR can reduce maternal and perinatal mortality
- Know the structure of the Ethiopian MPDSR, including roles and responsibilities
- Be familiar with the contents of the National MPDSR Technical Guidance
- Recognize and know how to use the national tools
- Demonstrate ability to recommend appropriate actions
• Appreciate the importance of MPDSR processes, particularly the need for smooth bi-directional flow of information between different levels of the system
• Understand the role of monitoring actions to ensure the “response cycle” is completed

**Preparation for the training**
Good preparation is required for all training to ensure everything runs smoothly. Below are a few tips for maximizing successful implementation of the MPDSR training package.

• **Number of Participants:** Given the participatory nature of this training package, it is likely to work best for groups of 25-35. A larger group is more difficult to manage, particularly during the small group work and discussion sessions.

• **Number of Trainers:** Although presentations can be delivered by a single trainer, it is useful to have 3-4 facilitators or training assistants to help during the practical exercises. Facilitators can rotate among groups to answer questions or help lead them in the right direction. Roughly 1 facilitator/training assistant per 8-10 participants is best. For example, a group of 30 trainees is ideally facilitated by 3 experts, including the trainers.

To provide diversity of experience, perspectives, and training styles, the workshops should draw on several trainers to lead the modules, based on expertise. A multi-professional team will ensure that the views of different health disciplines are incorporated in the training.

• **Venue:** The training requires a room large enough for all participants to fit in comfortably, with an unobstructed view of the power point projector (particularly during the video). Enough space is also required for small groups to sit together during the activities, ideally around a table, although chairs can be moved into circles throughout the room. Alternatively, separate spaces can be made available for groups to work in.

• **Materials:** Prior to starting the training, it is important to ensure there are enough copies of the National MPDSR Technical Guidance, the pre (and post) test, the Workbook, the Answer book, and anonymous clinical cases (to be returned after the training). Note that Answer books should not be distributed until the end.
of the training! Flipcharts and marker pens should also be available for group discussions and noting down responses/issues from the activities.

- **Equipment**: A power point projector, screen and computer are critical for showing the presentations. A microphone is useful in large venues and is required for the video shown during the training (unless computer speakers are separately available).

- **Timing**: The sample workshop agenda provided in this manual suggests a 3 day training, which should provide enough time for the presentation of scheduled content and completion of practical exercises. Some adaptation may be made depending on the target audience for the training, to reflect priority areas. For example, additional time may need to be allocated for specific modules, such as Community Based Data Capture (for health centers which will manage the Verbal Autopsy process) or Facility Level Reviews (for hospital and health center staff).

**Pre and Post test**
The pre- and post-test is provided below (the second version has answers to help trainers score the tests. Answers are also provided in the answer book). Tests should be scored out of 100% as indicated. The test reflects specific MPDSR system roles and responsibilities at each level of the health system and is aligned to the learning objectives suited to participants at each of these.

The tests are also available as separate documents as part of this training package (without the scores marked on the questions). This exercise should be completed by participants prior to the start of the training to set a “benchmark” of current understanding of the principles of MDSR and how the system will be implemented. The test can be administered again after training to help participants identify their progress and to alert the trainer(s) to any remaining gaps in knowledge.
MPDSR Training Pre and Post Test

For each question, please circle the correct answer:

1. MPDSR stands for...?
   A. Maternal and Perinatal Death System and Response
   B. Maternal and Perinatal Death Surveillance and Review
   C. Maternal and Perinatal Death Surveillance and Response
   D. Maternal and Perinatal Death Systematic Register

2. What is the most important part of the MPDSR process in order to reduce maternal and perinatal mortality?
   A. Identification
   B. The review of the case
   C. The analysis of the case
   D. The actions

3. Notification. Which of the following deaths should be reported by HEW and surveillance staff? (2 pts for each correct answer)
   A. 14-year-old girl who died giving birth   true/ false
   B. Baby delivered dead at home after 6 months of pregnancy true/ false
   C. 3-week old baby who died of pneumonia true/ false
   D. 52-year-old woman who died in an accident true/ false
   E. 21-year-old woman who died after a vaginal hemorrhage true/ false

4. Screening. Which of these might be a maternal death? (2 pts for each correct answer)
   A. 45-year-old woman collapsed and died suddenly. She had missed two periods.   true/ false
   B. A woman with a 35-day old baby had a fever for 3 days before she died. true/ false
   C. A 16-year-old girl took some medicine two days after her first sexual intercourse because she thought she might be pregnant. true/false
   D. A woman, known to be HIV positive, died of pneumonia. Her family did not know the date of her last period. true/ false
   E. A married 26-year old woman miscarriage her pregnancy after 4 months. A week later she developed a fever and was sick in bed for about 5 weeks and died in her sleep. true/ false

5. Reporting maternal or perinatal deaths. (2 pts for each correct answer)
   A. Community members can inform HEW about the death of any woman of reproductive age true/ false
   B. A stillbirth at a health center should be reported on the weekly surveillance form true/ false
   C. Only deaths that occur in the labor ward need to be reported by the hospital as part of MPDSR true/ false
   D. The verbal autopsy should be carried out by a doctor true/ false
E. All maternal deaths, regardless of where they occur, should have a verbal autopsy completed in the community true/ false

6. Reviewing deaths (2 pts for each correct answer)
   A. MPDSR review should be conducted by existing Rapid Response Teams (RRT) at every level, with the addition of MNCH experts true/ false
   B. The case based reporting form is completed during the review process in order to summarize causes and determinants of the death true/ false
   C. All action plans will be developed at Regional level and disseminated downwards true/ false
   D. Determining preventability of a death is one of the review’s aims. true/ false
   E. Only clinicians should attend MPDSR review meetings true/ false

7. Community level factors affecting maternal and perinatal deaths (5 pts for each correct answer)
   A. High fertility rates contribute to complications for both pregnant women and their babies true/ false
   B. If community members correctly recognize danger signs, they can urge the family to seek medical attention quickly true/ false

8. Quality of Care factors affecting maternal and perinatal deaths. (5 points each)
   A. Oxytocic drugs are not essential to provide quality care in the third stage of labor true/ false
   B. The quality of referral systems, admission procedures, and care during recovery should all be considered during MPDSR data analysis true /false

9. Reporting and Data Flow in an MDSR: (5 points each)
   A. Community deaths will be reviewed by a Health Centre RRT committee and data will be summarized and sent to EPHI and the woreda and regional health offices: true /false
   B. It is not necessary for a review committee to meet or submit a report during a month when NO maternal and perinatal deaths have occurred: true / false

10. Which of the following are appropriate actions that might be taken by a Health center review committee? (2 pts. each)
    A. Request BEmONC training for untrained staff true / false
    B. Work with Community leaders and woreda administrator to get electricity supply true/false
    C. Punish the SBA who was on duty during the last death true / false
    D. Ensure iron is available for all antenatal patients true / false
    E. Change the staffing schedules to ensure midwives available at all time True/false
ANSWERS to Training Pre and Post Test

For each question, please circle the correct answer:

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    D. Ensure iron is available for all antenatal patients   true/false
    E. Change the staffing schedules to ensure midwives available at all time   true/false
## Sample MPDSR training agenda

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Session title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st day</td>
<td>8:30 - 9:00 am</td>
<td>Registration of participants</td>
</tr>
<tr>
<td></td>
<td>9:00 - 9:15 am</td>
<td>Opening Remark</td>
</tr>
<tr>
<td></td>
<td>9:15 - 9:30 am</td>
<td>Participants Introduction</td>
</tr>
<tr>
<td></td>
<td>9:30 - 10:00 am</td>
<td>Pre-test</td>
</tr>
<tr>
<td></td>
<td>10:00 - 10:30 am</td>
<td>Module 1: Introduction to PHEM and Definitions of Maternal Perinatal deaths</td>
</tr>
<tr>
<td></td>
<td>10:30 - 10:45 am</td>
<td>Tea Break</td>
</tr>
<tr>
<td></td>
<td>10:45 - 12:00 pm</td>
<td>Module 1: Why did Mrs. X die? + exercise</td>
</tr>
<tr>
<td></td>
<td>12:00 - 1:00 pm</td>
<td>Module 1: Overview of MPDSR</td>
</tr>
<tr>
<td></td>
<td>1:00 - 2:00 pm</td>
<td>Lunch</td>
</tr>
<tr>
<td></td>
<td>2:00 - 4:30 pm</td>
<td>Module 3: Identification and Notification of maternal and perinatal death</td>
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<tr>
<td></td>
<td></td>
<td>including practical exercises for both maternal and perinatal,</td>
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<td>Identification exercise</td>
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<td></td>
<td></td>
<td>Notification exercise</td>
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<td></td>
<td>4:30 - 4:45</td>
<td>Tea Break</td>
</tr>
<tr>
<td></td>
<td>4:45 - 5:30 pm</td>
<td>Module 4: Investigation and verification of maternal and perinatal death</td>
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<tr>
<td></td>
<td></td>
<td>Exercise on Coding of maternal and perinatal deaths</td>
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<tr>
<td>2nd day</td>
<td>8:30 - 9:00 am</td>
<td>Day 1 Recap</td>
</tr>
<tr>
<td></td>
<td>9:00 - 10:30 am</td>
<td>Module 4: Investigation and verification of maternal and perinatal death</td>
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<tr>
<td></td>
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<td>Community investigation with verbal autopsy including role play</td>
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<tr>
<td>Time</td>
<td>Activity</td>
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<tr>
<td>10:30-10:45 am</td>
<td>Tea Break</td>
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<tr>
<td>10:45-12:30</td>
<td>Module 4: Investigation and verification of maternal and perinatal death Including practical exercise of Facility based abstraction</td>
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<tr>
<td>12:30-1:30 pm</td>
<td>Lunch Break</td>
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<tr>
<td>1:30-3:30 pm</td>
<td>Module 5: Maternal and perinatal death review including practical exercise with MDRF and PDRF</td>
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<tr>
<td>3:30-3:45 pm</td>
<td>Tea Break</td>
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<tr>
<td>3:45-5:30 pm</td>
<td>Module 6: Data Analysis and aggregation including practical exercise with data aggregation</td>
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<td></td>
<td><strong>3rd day</strong></td>
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<tr>
<td>8:30-3:00 am</td>
<td>Day 2 Recap</td>
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<tr>
<td>9:00-10:30 am</td>
<td>Module 7: Maternal and perinatal death response at ALL level including practical exercise</td>
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<tr>
<td>10:30-10:45 am</td>
<td>Tea Break</td>
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<tr>
<td>10:45-11:15 pm</td>
<td>Module 8: Roles and responsibilities for MPDSR</td>
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<tr>
<td>11:15-12:00 pm</td>
<td>Module 9: Monitoring and evaluation for MPDSR</td>
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<tr>
<td>12:00-12:30</td>
<td>Post test</td>
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<tr>
<td>12:30-1:30 pm</td>
<td>Lunch Break</td>
<td></td>
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<tr>
<td>1:30-2:00 pm</td>
<td>Discussion on Administrative issues</td>
<td></td>
</tr>
<tr>
<td>2:00-2:30 pm</td>
<td>Feedback and outlying questions</td>
<td></td>
</tr>
<tr>
<td>2:30-3:00 pm</td>
<td>Wrap up</td>
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</tbody>
</table>
Module 1: Overview of MPDSR and PHEM

Introduction to PHEM:

Slide 1

Introduction to Public Health Emergency Management (PHEM) and Maternal and Perinatal Death Definitions

Slide 2

Outline

- Background on surveillance activities in Ethiopia
- Introduction to PHEM
- Goal and objectives of PHEM
- Mandate of the PHEM Center
  - Capacity Building
  - Early Warning and Communication
  - Response
  - Recovery and Rehabilitation
- Maternal and Perinatal Death Definition
Background:
Diseases Surveillance in Ethiopia before 2009
- It includes:
  - Integrated diseases surveillance
  - Response
  - Containment of an outbreak
- Focused on epidemic diseases only:
  - No nutritional surveillance
  - Weak laboratory surveillance
  - Event based surveillance
  - Lack of appropriate preparedness
  - No recovery activities after disaster
Since 2009
- Public Health Emergency Management (PHEM)
- Designed by BPR
- It is one of the Eight core processes of MOH
- Located in Ethiopian Public Health Institute

Do not spend too much time on this slide, as it is just to provide some context on the health surveillance system into which MPDSR is integrated.

Introduction:
IDSR
- Mainly focus on epidemic disease
- Surveillance data comes monthly
- Smallest reporting unit is Health Center
- Week early warning system
- Delayed response
- No recovery
- No event based surveillance

PHEM
- Multi hazard approach
- Surveillance Data comes weekly
- Smallest reporting unit is Health post
- Robust early warning system
- Prompt response
- Recovery activities included
- Event based surveillance

Most participants will already be familiar with this information – you can ask for questions of clarification and then move on.

Goal and objective of PHEM:
Goal of PHEM:
- To markedly reduce mortality and morbidity due to epidemics and other Public Health Emergencies and minimize associated social and economic crises

General Objective
- To prepare for, detect early, and contain epidemics locally; respond timely to other public health emergencies and recover quickly from their impacts.
Slide 6

Capacity Building:
Reporting formats for all reportable events

Types of Reporting Formats

Slide 7

Capacity Building:

1. Community case definitions
   - Sensitive
   - Used at the community level

Slide 8

Capacity Building:

2. Standard case definitions
   - Customized from WHO case definitions
   - Printed and distributed to all health facilities
   - Used at health center and above

Mention that the case definitions for maternal and perinatal deaths will be provided in this training.
Slide 9

Capacity Building:
3. Guidelines already printed and distributed
   - PHEM guideline
   - Cholera guideline
   - Malaria guideline
   - Influenza Surveillance implementation guideline
   - Meningitis Guideline
   - AFP Guideline
   - NNT Guideline
   - Yellow Fever
   - Anthrax
   - Dengue Fever

Slide 10

Indicator based surveillance:

Immediately Reportable
1. Acute Flaccid Paralysis
2. Anthrax
3. Avian Human Influenza
4. Cholera
5. Dracunculiasis/Guinea worm
6. Malaria
7. Measles
8. Neonatal tetanus
9. Pandemic Influenza A(H1N1)
10. Rabies
11. Typhoid Fever
12. Typhus
13. Yellow Fever
14. Severe Acute Malnutrition

Weekly Reportable
1. Dysentery
2. Malaria
3. Meningitis
4. Relapsing
5. Typhoid Fever
6. Typhus
7. Severe Acute Malnutrition

Criteria for identification
1. Diseases under eradication and elimination
2. Disease of public health importance
3. Disease of international concern

Slide 11

Timeline for immediately Reportable Diseases:
Slide 12

Timeline for Weekly Reportable Diseases:

- Event
- HF to woreda Region
- to EPHI
- The following week
- Woreda to zone
- Zone to Region
- Monday            Tuesday            Wednesday           Thursday

Slide 13

Reporting Channel:

- Health Facility
- EPHI
- Woreda
- Zone
- Region
  - Paper
  - Telephone
  - Fax
  - Telephone
  - E-mail
  - Fax
  - E-mail
  - Telephone

Slide 14

CASE DEFINITION

Classification of case definitions:

1. COMMUNITY CASE DEFINITION
   1.a. Probable death:
       - Broad, sensitive, needs further screening, used by the general community
   1.b. Possible (suspected) death:
       - Filtered after screening verbally
       - Gets coded and used for investigation

2. STANDARD (CONFIRMED) CASE DEFINITION
   - No need for verification
COMMUNITY CASE DEFINITION

**PROBABLE MATERNAL DEATHS**

- Death of a woman of reproductive age group: (15-49 years of age)

**PROBABLE PERINATAL DEATHS**

- The birth of a dead foetus or death of a new born

These are key definitions for the MPDSR system.

---

**COMMUNITY CASE DEFINITION**

**Suspected maternal death**

"Probable maternal death" plus at least one of the following (screen):

- Died while pregnant,
- Died within 42 days of termination of pregnancy or missed her menses before she died

**Suspected perinatal death**

"Probable perinatal death" plus (screen):

- Birth after 7 month of pregnancy end
- New born died at the time of birth
- Death within 28 days of delivery

Screening questions can be answered by family members or health providers who were familiar with the mother and/or baby prior to the death.

---

**Screen if there was seven months of pregnancy using:**

1. Any one who knows her duration of pregnancy or
2. GA of 28 weeks or 196 days starting from the first date of the last normal menstrual period (LNMP)
Slide 18

STANDARD CASE DEFINITION

Confirmed maternal death

“The death of a woman while pregnant or within 42 days of the end 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.”

(Source: ICD-10)

Confirmed perinatal death

“Death of a fetus born after 28 completed weeks of gestation or neonatal deaths through the first 28 completed days after birth”

Slide 19

By Using :

1. LNMP: GA of 28 weeks or 196 days starting from the first date of the last menstrual period (LNMP) or

2. Fundal height of 28 cm

3. Early or First Trimester Ultrasound:
   • CRL (9-11 weeks) or
   • GS diameter at 5-6 GA weeks.

Gestational age of 28 weeks is confirmed

Practical 1: WHY Did Mrs. X die?

Make sure you test the video in the training venue prior to the actual training, so you can be sure it works. In particular, make sure participants can hear everything in the video. If the sound is not optimal, then provide a summary narrative.

To save time, play the video from 01:22 minutes UNTIL the end of the animation at 11.22 minutes

Slide 1

Understanding the “pathway to death”

Video

Why Did Mrs. X Die?
The video itself includes superfluous material, including an interview with a famous Obstetrician who has been instrumental in intensifying efforts to reduce maternal mortality.

After 10-15 minutes of participants working in pairs, bring everyone back together for a group discussion. Ensure that participants understand the difference between the direct cause of Mrs. X’s death (antepartum haemorrhage), its indirect cause (anaemia) and any contributing social factors (low status of women, poor nutrition, lack of awareness of ANC, transport costs).

**Practical 1: Why did Mrs X die? ANSWERS**

Q1: What was the direct cause of Mrs X’s death?  
**Antepartum Haemorrhage**

Q2: Were there any indirect causes?  
**Anaemia**

Q3: What evidence did the review committees use to make changes in quality of care at the facility?

**Staff MDR Review:**  
Conducted a retrospective audit of files, including Mrs. X’s, and also interviewed her family members in the community

**International Review (National Enquiry):** Reviewed aggregated data from across facilities, including social and cultural issues related to access to family planning and gender roles and responsibilities.

Q4: List 2 actions taken at Hospital level after the first review?
   - Improved blood supply
   - Increased availability of emergency services e.g. Caesarean Section
   - More trained midwives both for ANC and Delivery
Ethiopia MPDSR overview:

Slide 1

Maternal & Perinatal Death Surveillance and Response (MPDSR):
Overview and Introduction to National Guidance

Slide 2

Learning objectives

By the end of this session, participants will:

• Understand the purpose of MPDSR
• Be familiar with key concepts and definitions
• Know the structure of the Ethiopian MPDSR system
• Identify how data flows through the system
• Be aware of the MPDSR National Guidance

Slide 3

What is MPDSR?

Maternal and Perinatal Death Surveillance and Response is a key component of the health system that incorporates identification, notification, analysis, and determination of causes and avoidability of maternal and perinatal deaths, with the goal of acting to prevent these in future.
What is MPDSR?

*Community Based & Facility Based*

*Continuous Cycle*

1. Respond with action
2. Notify deaths
3. Review deaths
4. Action

Adding the P to MPDSR

- Ethiopia's MDSR system was established in E.C. 2006
- Public Health Emergency Management (PHEM) has been responsible for MDSR data collection since E.C. 2007
- Now that the MDSR system is established across the country, *perinatal* deaths can be integrated into the process

Justification for MPDSR

- MCH remains a key national health priority
- Ethiopia's *maternal mortality rate* is estimated to be 412/100,000 live births = 13,000 deaths per year
- The *perinatal mortality rate* is estimated to be 46/1000 births = 87,000 neonatal deaths & 97,000 still births per year
- MPDSR is part of the HSTP as a strategy to reduce avoidable deaths
**Slide 7**

**PHEM – MCH Integration**

- PHEM leads Ethiopia’s surveillance
- Maternal deaths are one of the weekly reportable conditions
- Following reporting and review, case based data are aggregated and analysed within regional and national databases
- The MCH directorate receives analysed data and works to identify appropriate responses at every level of the health system.
- Perinatal deaths will be added to this existing data management platform

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**Slide 8**

Coordination of MPDSR within PHEM

- National technical working group: Quarterly meetings and review of national data
- RHB TWG: Monthly meeting and review of MPDSR
- Referral Hospitals
- Zonal Level Reporting
- Woreda Level Reporting
- Health Centre RRT Committees: Review verbal autopsies for community & facility deaths
- Hospital RRT Committee: Review deaths occurring within the premises

This is the basic structure of the Ethiopian MPDSR review committees at each level of the health system

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**Slide 9**

**Goal and Objectives of Guidance**

**Goal**

To guide effective implementation and scale up of MPDSR in a systematic, standardized and integrated manner
**Slide 10**

**Purpose of the MPDSR Guidance**

To facilitate effective functioning of Ethiopia’s MPDSR for:

- Surveillance focal persons
- Health care managers and providers
- Policy makers who take action based on MPDSR findings

To ensure use of emerging information in improving maternal & perinatal health care quality and outcomes

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**Slide 11**

**Basics of MPDSR Data Flow**

1. Identify all probable maternal and perinatal deaths occurring in both facilities and the community
2. Determine if the death is a suspected maternal or perinatal death
3. Notify suspected maternal and perinatal deaths to the focal point at the appropriate level of the health system level
4. Verbal autopsy conducted
5. Review conducted
6. Case-based report completed
7. Actions identified

---

**Slide 12**

**Principles of MPDSR**

The following ethical principles are central to MPDSR implementation:

- Confidentiality
- Anonymity
- Respect
- No Name, Not Blame and No Shame!
Confidentiality: a Code of conduct

- Local data collectors and involved health care workers are the only staff who see the names of deceased women and babies
- Staff who gather data for MPDSR must commit to never sharing the information
- Review committee members at all levels must sign a non-disclosure confidentiality agreement (kept on record)
- Data cannot be spoken about outside the formal review process

---

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 analysed here, and will not disclose the names of any individuals involved, including family members or health care providers.

---

Anonymity

- Notes and reports protect the patient, friends, family and staff members involved
- Names obscured on case notes used in review
- No names recorded on abstraction forms
- Family informed of the purpose of the investigation and how data will be used

---

A disclaimer like this should be signed at the start of every review meeting, at all levels of the health system (in facility based committees as well as Rapid Response Teams)
It is rare for a death to be caused by just one mistake or one person. Most commonly, a series of events together lead up to a perinatal or maternal death. Therefore, it is more useful to identify a range of factors that might have prevented the death at each step.

The purpose of reviewing a maternal or perinatal death is to give value to that life and collectively learn from the experience NOT to blame individuals or institutions.

This man is at risk of drowning.... How can he be helped without blaming him for his behaviour?
### Summary

- MPDSR system captures **maternal and perinatal deaths in communities and facilities**
- MPDSR surveillance is managed by **PHEM** but **MCH** is involved in review and response
- The ultimate aim of MPDSR is to **identify feasible action to prevent avoidable maternal and perinatal deaths**
- MPDSR follows key principles of **confidentiality, anonymity and no blame**
Module 2: Understanding determinants and causes of maternal and perinatal death

Slide 1

Understand causes and determinants of maternal and perinatal deaths

Slide 2

Learning objectives

By the end of this session, participants will be able to:

• Explain the difference between causes and determinants of maternal and perinatal deaths
• Recognize common cause of maternal and perinatal deaths
• Classify determinants using the “3 delays”

Slide 3

Brainstorming Exercise

In the next 5 minutes:

- List 3-5 main causes of maternal deaths during or immediately after childbirth in Ethiopia
- List 3-5 main causes of perinatal deaths (still births and neonatal deaths) in Ethiopia
- For each of these, note down what social factors you think contribute to them

Practical 2: Brainstorming causes and determinants

On your own, in the next 5 minutes ....

1. List 2 main causes of maternal death during or immediately after childbirth in Ethiopia
2. List 2 main causes of perinatal death in Ethiopia
3. For each of these, what social factors contribute to them?
**Possible main causes of maternal death**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Contributing social factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemorrhage</td>
<td>Poor nutritional status</td>
</tr>
<tr>
<td>Ruptured Uterus/ Obstructed Labour</td>
<td>Insufficient access to family planning Too many closely spaced pregnancies</td>
</tr>
<tr>
<td>Sepsis</td>
<td>Lack of clean delivery and clean water Unwanted pregnancy, followed by induced abortion</td>
</tr>
</tbody>
</table>

**Possible main causes of Perintal death**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Contributing social factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth Asphexia</td>
<td>Laboring long at home</td>
</tr>
<tr>
<td></td>
<td>Lack of transport</td>
</tr>
<tr>
<td></td>
<td>Poor quality care in the health facility</td>
</tr>
<tr>
<td>Prematurity/ LBW</td>
<td>Poor maternal nutrition</td>
</tr>
<tr>
<td></td>
<td>Infection</td>
</tr>
<tr>
<td></td>
<td>Poverty</td>
</tr>
<tr>
<td></td>
<td>Lack of education</td>
</tr>
<tr>
<td></td>
<td>High work load</td>
</tr>
<tr>
<td>Infections</td>
<td>Maternal infection</td>
</tr>
<tr>
<td></td>
<td>Lack of clean delivery and clean water</td>
</tr>
<tr>
<td></td>
<td>Poor infection prevention practice health facility</td>
</tr>
</tbody>
</table>

Slide 4

**Maternal Death**

<table>
<thead>
<tr>
<th>Causes</th>
<th>Determinants</th>
</tr>
</thead>
<tbody>
<tr>
<td>The immediate clinical or medical reason for the woman's death, classified as a direct or indirect maternal death</td>
<td>The &quot;causes of the causes&quot; or factors that increased the woman's risk of dying from a specific cause</td>
</tr>
</tbody>
</table>
Slide 5

**Review of Classifications**

**Direct Causes (≈75%)**
- Obstetric causes during pregnancy, childbirth and the post-partum period, such as:
  - Haemorrhage
  - 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

Social, cultural & environmental factors across a woman’s life course affect risk for direct & indirect causes of death.

Slide 6

**Perinatal Death**

<table>
<thead>
<tr>
<th>Causes</th>
<th>Determinants</th>
</tr>
</thead>
</table>
| 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 |

Discuss the time of death

Timing of Death may be unknown

Use other clinical clues (Macerated or freshly dead) to identify timing in case of death.

Slide 7

**Review of Classifications**

**Causes of still Birth**
- Maternal cause
  - Instrumental labour
  - Severe pre-eclampsia
  - Pre-eclampsia
  - Preeclampsia (hypertension or proteinuria)
  - HIV (Human Immunodeficiency Virus)
  - Diabetes Type 1 and 2

**Fetal causes**
- Intrapartum asphyxia
- Congenital malformation
- Other

**Causes of Neonatal Deaths**
- Complications Prematurity
- Asphyxia
- Sepsis/pneumonia/meningitis
- Lethal congenital anomaly and
- Other

Social, cultural & environmental factors across the fetal and neonate life course affect risk for fetal and neonatal cause of death.
Slide 8

Causes of Neonatal Death

- Ethiopia
- Global

Source: WHO Global Health Observatory, 2014 (19). Estimates are rounded, and therefore may not sum to 100%

Complication from Birth like: asphyxia, Prematurity and Sepsis and other infections are common causes of neonatal deaths

Slide 9

Contributing Factors

- A contributing factor is something that may have prevented the death if a different circumstance/effort/action/road had been taken.
- Although at first glance a death may appear to be due to a single biological cause, further analysis usually reveals a number of contributing factors or underlying causes.
- Often by exploring the event and gaining a better understanding of the root causes, solutions and strategies become more apparent.
- Contributing factors involve missed opportunities within the different levels of health system (individual, household, community and health facility level).
- The following terms can be used interchangeably with contributing factors:
  - "Avoidable factors"
  - "Elements of substandard care"
  - "Modifiable factors"
- The method uses to identify contributing factors is the well-known "Three delays" model

Think of the following factors

Contributing factors
Avoidable factors
Elements of substandard care
Modifiable factor

Slide 10

The "3 Delays" Model

- Generally refers to events following an obstetric emergency, so very specific
- Related to seeking and obtaining clinical care
- Divides the process of accessing care into 3 phases:
  - Recognising an emergency & need for treatment
  - Reaching a health facility where care is available
  - Receiving the care that is needed

Think of

individual or personal factors
community factors health facility factors
Delay 1: Delay in seeking care

- Were the mother, father or other family members unaware of the need for skilled care for the mother during pregnancy and birth, and for mother and baby in the neonatal period?
- Were they unaware of the warning signs of problems during pregnancy or in newborn infants, or were they reliant on harmful traditional medicine and practices?
- Were there any other sociocultural factors or barriers?

Delay 1: Common contributing factors of Maternal and perinatal death

- Family poverty
- Did not recognize the danger signs of newborn infants
- Unaware of the warning signs of problems during pregnancy
- Did not know where to go
- Had no one to take care of other children
- Lack of decision to go to the health facility
- Traditional beliefs/cultural norms (belief newborns shouldn’t be taken outside home or seen by certain people)

Delay 2: Delay in reaching to a health care facility

- The necessary maternal and/or neonatal health services did not exist, or were inaccessible for other reasons.
- Was distance or cost a factor?
- If there was a delay in travelling to the health-care facility after a problem was identified, what were the reasons for this?
Slide 14

**Delay 2: Common contributing factors of Maternal and perinatal death**

- Transport was not available
- Transport was too expensive
- No facility within reasonable distance
- Security concerns

Slide 15

**Delay 3: Delay in receiving care in a health facility**

- The care the mother and baby received at the health-care facility was not timely or was of poor quality.
- Was this due to provider error, lack of supplies or equipment, or
- Poor management?

Think of Health facility factors affecting maternal health outcome like death.

Slide 16

**Delay 3: Common contributing factors of Maternal and perinatal death**

- Delayed arrival to next facility from another referring facility
- Family lacked money for health care
- Delayed management after admission
- Fear to be scolded or shouted at by the staff
- Human error or mismanagement and
- Delayed or lacking supplies or equipment
Group Work

- Divide into small groups of 5-6 people
- Group will be assigned one of the 3 delays
- Discuss what factors in Ethiopia are most likely to lead to that delay
- Identify at least 3 strategies or activities that target the factors you identified and might help reduce the delay

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.

Most maternal and perinatal deaths are preventable if life-saving preventive and therapeutic interventions are provided at the right time

The majority of stillbirths, particularly those that occur in the intrapartum period, and 75% of neonatal deaths are actually preventable.
Module 3: Identification and Notification

Slide 1

MATERNAL & PERINATAL DEATH SURVEILLANCE:
IDENTIFICATION & NOTIFICATION

---

Slide 2

LEARNING OBJECTIVES

1. Identify the sources of information for maternal and perinatal death identification
2. Know the notification process of maternal and perinatal deaths
3. Identify the responsible bodies in the notification process
4. Learn how to give code for each maternal and perinatal death
5. Learn how to use the identification and notification tools of maternal and perinatal death surveillance

---

Slide 3

MATERNAL AND PERINATAL DEATH SURVEILLANCE

- A single maternal or perinatal death is treated as an outbreak
- A single maternal or perinatal death review informs a lot to prevent many similar deaths in the future
**Slide 4**

**SOURCES OF INFORMATION FOR MATERNAL DEATH & PERINATAL DEATH IDENTIFICATION**

**COMMUNITY REPORT**
- What: Any probable maternal and perinatal deaths
- WHO: Any member of the community will report to their respective H.P or H.C
- Source: Any member of the community
- How: Formally or informally, rumors, any means of communication, and other records from the previous 24 hours

**HEALTH FACILITIES’ REPORT**
- What: All confirmed maternal and perinatal deaths
- WHO: Any health care provider should report to his/her respective facility surveillance focal person
- Source: All health care providers in the facility
- How: Formally and within 30 min using paper-based tools

**Slide 5**

**EARLY SURVEILLANCE ACTIVITIES BEFORE REVIEW**

**SUSPECTED MATERNAL DEATH**
- At community
  - Identify and notify immediately (within 30 min) to PHEM focal person
  - Report using weekly PHEM
  - Investigate with HDA

**CONFIRMED MATERNAL DEATH**
- In Health facility
  - Identify and notify immediately (within 30 min) to PHEM focal person
  - Report using weekly PHEM
  - Investigate with FBMDA

**Slide 6**

**Maternal Death Notification Form**

- Name of the deceased
- Age of the deceased woman (in completed years)
- Name of head of the household
- Household address
- Date and time of the woman's death
- Who informed the death
- Did she die while pregnant?
- Did she die within 30 days of termination of pregnancy?
- Has she missed her menses before she dies?
- Type of maternal death
- Number/code
- Confirmed
- Probable
- ID & Notification within 24 hrs of death
- Any Health care provider should report
- All: Any member of the community
- Suspected
- Confirmed
- Investigation: Immediately (within 30 min)
- motherhood health
- investigation using paper-based tools
### CODING OF MATERNAL AND PERINATAL DEATH

**SUSPECTED MATERNAL DEATH**
- 1. Letters from the Region (E.g. Oromia)
- 2. Letters for the month (E.g. January 03)
- 3. Letters for the health zone (E.g. Gab Gatitu)
- 4. Letters from Health center (E.g. Health center)
- 5. Letters for the health center (E.g. Health center)

- A letter from Health center in the Ethiopian calendar that the death occurred (E.g. 2007-03)
- A letter from Health center in the Ethiopian calendar that the death occurred (E.g. 2007-03)
- A letter from Health center in the Ethiopian calendar that the death occurred (E.g. 2007-03)
- A letter from Health center in the Ethiopian calendar that the death occurred (E.g. 2007-03)

**SUSPECTED PERINATAL DEATH**
- 1. Letters from the Region (E.g. Oromia)
- 2. Letters for the month (E.g. January 03)
- 3. Letters for the health zone (E.g. Gab Gatitu)
- 4. Letters from Health center (E.g. Health center)
- 5. Letters for the health center (E.g. Health center)

- A letter from Health center in the Ethiopian calendar that the death occurred (E.g. 2007-03)
- A letter from Health center in the Ethiopian calendar that the death occurred (E.g. 2007-03)
- A letter from Health center in the Ethiopian calendar that the death occurred (E.g. 2007-03)
- A letter from Health center in the Ethiopian calendar that the death occurred (E.g. 2007-03)

**CODING OF MATERNAL AND PERINATAL DEATH**

**Exercise**

Coding of Maternal And Perinatal Deaths

---
Practical 3: Assigning ID codes

Assigning an ID Code: This is an individual activity.

Using the reference table above, write down the ID code that would be used for a woman who died on the 5th of the month of Yekatit last year in her home. Assume she lived in the kebele, woreda and zone where YOU live (and select a local health centre accordingly). She was the first maternal death that month (7 minutes)

WRITE the code here:__________________________________________________________

Now write down the ID code for a baby who died in Feleg Hiwot hospital in Bahir Dar on 15th day of Sene this year. This baby was the 4th perinatal death reported this month. (7 minutes)

WRITE the code here:__________________________________________________________

CHECKING YOUR CODES: Now turn to the person who are sitting next to and discuss your ID codes and the ones they have written. You should both check each other’s work and discuss any disagreements about how you allocated the codes. Remember that you will both have different correct answers for the first one, as you probably live in different places!

Answer

ASSIGNING AN ID CODE: Answers will depend on the location of each participant’s home, but in regional trainings, the REGIONAL component of the code is likely to be the same for most correct answers, and the DATE should be the same of everyone. Therefore, the first code should END:  

-08-06-01

The second answer is: AMH-HOS-FEL-09-10-P04

NOTE: The Technical Guidance and the trainees’ Workbook have updated full lists of codes.
Slide 10

SUMMARY

COMPONENTS OF MATERNAL AND PERINATAL DEATH SURVEILLANCE:
IDENTIFICATION & NOTIFICATION

1. CASE DEFINITION:
   - Community: Probable and Possible/suspected and
   - Standard: confirmed

2. Sources of information: What, who, source/from where, and how

3. Tools for identification and notification

4. Coding of suspected and confirmed deaths

Slide 11

Exercise

Individual Identification and Notification
Practical Exercises

It is better to err on the side of caution – meaning that if there is doubt, better to notify the death so that it can be further investigated.

The Scenarios are also listed in the Workbook. Provide answers only after discussion.

Participants should work through each case on their own. There are 6 potential maternal death scenarios, and 6 potential perinatal death scenarios. This activity should take about 45 minutes.

Then it is important to lead a discussion with the whole group to go through each case and explain the answers. There may be some disagreements or ambiguities – not all cases are easy to classify!

Remember that the purpose is to assess whether the death is likely to be a maternal or perinatal death and thus require a verbal autopsy. Participants should NOT try to diagnose the condition described or assign a cause of death.

Try to prevent participants’ getting too preoccupied with specific examples or asking about scenarios that are likely to be extremely rare. As long as standardized classification are applied to most deaths, the system will function.
Practical 4: Identification Exercise
(ANSWERS provided after each scenario)

Maternal Death Identification:

This is an individual exercise. Consider the examples described below and for each, determine if it is a maternal death; if so, which type of maternal death and whether it should be reported.

Example 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.

CIRCLE AS APPROPRIATE:

Q1. Is this a maternal death?  
Q2. If yes, can it be classified as  
Q3. Should it be reported to the MDSR committee?

ANSWER
- Yes, maternal death,
- Direct (haemorrhage),
- Should be reported

Example 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 HIV positive. She died at 7 months pregnancy of pneumonia.

Q1. Is this a maternal death?  
Q2. If yes, can it be classified as  
Q3. Should it be reported to the MDSR committee?

ANSWER
- Yes, maternal death
- Indirect (HIV/TB are affected physiologically by pregnancy)
- Should be reported

Example 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?  
Q2. If yes, can it be classified as  
Q3 Should it be reported to the MDSR committee?

ANSWER
- No, it is not a maternal death, as the death occurred from incidental causes
- Should be notified as a death to a woman of reproductive age, but no Verbal Autopsy is required

Example 4

A woman dies very soon after arriving at a health facility. She dies without having delivered, but health personnel at the facility were able to feel fetal parts on vaginal examination. The person accompanying her to the facility reported that she had pains for a day and a half, but could provide no further details.

Q1. Is this a maternal death?  
Q2. If yes, can it be classified as  
Q3 Should it be reported to the MDSR committee?

ANSWER
- Yes, it is a maternal death
- Direct (obstructed labour)
- Should be reported

Example 5

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

Q1. Is this a maternal death?  
Q2. If yes, can it be classified as  
Q3 Should it be reported to the MDSR committee?

ANSWER
- No/ don’t know, it is not a maternal death- the most likely cause of death is poisoning.
- Should be notified as a death to a woman of reproductive age, but not Verbal Autopsy is required
Example 6

A teenage girl has unprotected sex and misses her next period. Her boyfriend gives her some herbal medicine to cause an abortion. Two days later she starts to bleed and 5 days after taking the medicine she becomes feverish and has a very offensive-smelling vaginal discharge. After another 2 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

ANSWER
- yes this is a maternal death
- It is direct probably due to septic shock
- Should be reported

Perinatal death Identification

Example 1

A 24 year old woman, delivered a dead baby at home. She had felt no fetal movements for 5 days. The baby weighed 3kg and there were no signs of life. One week earlier she had had an ANC appointment when her fundal height had measured 34 cm.

Q1. Is this a perinatal death? Yes / No
Q2. If yes, is it probable / suspected / confirmed
Q3. Should it be reported to the MPDSR committee? Yes / No

ANSWER
- yes this is a perinatal death. It is a confirmed death
- This is a stillbirth probably antepartum
- Should be reported

Example 2

A 35yr old, known to be at full term, with a history of 4 stillbirths and 2 live births delivers a baby weighing 3.4 kg at the hospital. The baby takes a breath at birth but is floppy and makes no further attempt at breathing. Resuscitation is unsuccessful.

Q1. Is this a perinatal death? Yes / No
Q2. If yes, is it probable / suspected / confirmed
Q3. Should it be reported to the MPDSR committee? Yes / No

ANSWER
yes this is a perinatal death. It is a suspected death
This is an early neonatal death
Should be reported

Example 3
A 28 year old farmer goes to the health centre with bleeding. She can’t remember her last period. She is admitted to labour ward and passes a baby that is 15cm long

Q1. Is this a perinatal death? Yes / No
Q2. If yes, is it probable / suspected / confirmed
Q3. Should it be reported to the MPDSR committee? Yes / No

ANSWER
• No, this is not a perinatal death.
• The fetus is too small and the history does not support a pregnancy of more than 7 months gestation.
• Should not be reported

Example 4
A baby that was born uneventfully at home becomes unwell at 23 days of age. He is lethargic and vomits for 2 days before dying at home.

Q1. Is this a perinatal death? Yes / No
Q2. If yes, is it probable / suspected / confirmed
Q3. Should it be reported to the MPDSR committee? Yes / No

ANSWER
• yes this is a perinatal death. It is a probable death as there is no information on gestational age
• This is a late neonatal death
• Should be reported

Example 5
A baby was born by Emergency Caesarean Section and shows no signs of life. The CS was done for fetal distress. The mother had pushing down pains and was 7cm dilated. The baby was covered with meconium.

Before the woman went into the Operating Room the fetal heart was heard at 100bpm.
Q1. Is this a perinatal death?  Yes / No
Q2. If yes, is it  probable / suspected/ confirmed
Q3. Should it be reported to the MPDSR committee?  Yes / No

ANSWER

- Yes this is a perinatal probable death as there is no gestational age documented
- This is an *intrapartum stillbirth*
- Should be reported

**Example 6**

A woman delivers a baby weighing 3kg at a health centre and goes home. The baby develops breathing problems and despite receiving treatment dies after 32 days.

Q1. Is this a perinatal death?  Yes / No
Q2. If yes, is it  probable / suspected/ confirmed
Q3. Should it be reported to the MPDSR committee?  Yes / No

ANSWER

- No this is not a perinatal death, as it took place after 28 days.
- Should NOT be reported
Practice on Using the Identification & Notification Forms

Practical 5: Notifications
Maternal death notification

**INDIVIDUAL WORK: Notification of the death of a woman reported by her Husband**

Tigist Abebe had no periods for over 3 months. She was 40 years old and already had 6 children. She had been using an injectible contraceptive. She had been vomiting and bleeding for 6 days and died in her sleep last night.

Participants should pretend they are the local health extension worker, who has heard about this woman’s death. They should fill out Annex 1 (in the Workbook) using the information provided. (They can make up the deceased woman’s residential address).

Perinatal death notification form

**INDIVIDUAL WORK: Notification of a perinatal death reported by the local priest**

A local couple went to the health centre when the woman, who was roughly 6 months pregnant, started bleeding. After several hours of labour, she delivered a live baby girl who died during the night and was buried the next morning.

Participants should pretend they are the local health extension worker, who has heard about this woman’s death. They should fill out Annex 7 (in the Workbook) using the information provided. (They can make up the deceased baby’s residential address).

*No answers available for the identification forms as the information will depend on each individual’s made-up information*
Module 4: Maternal and perinatal death investigation

Slide 1

Maternal and Perinatal Death Investigation and Verification

Slide 2

Presentation Outline

- Objectives of the Module
- Introduction
- The Deaths Investigation Process - Community
- The Verbal Autopsy Forms
- The Death Investigation Process - Health Facilities
- The Health Facility Data Abstraction Forms
- Summary Exercises

Slide 3

Objectives of the Module

- After Completing this module Trainees are expected to acquire the following knowledge and skills
  - Introduce to major principles and prerequisites for maternal and perinatal death investigation
  - Understand the process for maternal and perinatal death investigation in the community and health facilities
  - Acquire the skills to properly use and code the maternal and perinatal death investigation tools
Introduction

- The objectives of maternal and perinatal death investigation are:
  - Verify the suspected death
  - Collect information on possible causes and contributing factors
- Effective investigation of maternal and perinatal death requires;
  - Mapping and using all appropriate information sources
  - Approach information sources ethically and sympathetically
  - Using and recording the death investigation tools accurately

Introduction CONT . . .

- All deaths fulfilling the suspected or standard case definition should be investigated

  **Community Perinatal**
  - The birth of a live-born or death of a new born after 7 months of pregnancy + live born dead at the time of birth but within 24 days of delivery

  **Community Maternal**
  - Death of a woman of reproductive age group (between 15-49 years of age) + died while pregnant or within 42 days of termination of pregnancy or missed her menses before she died

  **Health Facility-Perinatal**
  - A death of a fetus born after 28 completed weeks of gestation or neonatal deaths through the first 28 completed days after birth

  **Health Facility-Maternal**
  - The death of a woman while pregnant or within 42 days of the end of pregnancy (termination of pregnancy and site of pregnancy), from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes

Deaths Investigation Process-Community

- All suspected maternal and perinatal deaths should be investigated by the health extension worker
- The community death investigation should be conducted within two weeks in order to;
  - Give adequate mourning period for families
  - Reduce the recall biases
### Slide 7

**Community Deaths Investigation CONT . .**

- The health extension worker uses the standard verbal autopsy tool to verify and investigate maternal and perinatal deaths in the community
- Information sources to complete verbal autopsy includes,
  - Families of the deceased mother/neonate who were around the during the death circumstance
  - Traditional birth attendants - if applicable
  - Any community member who were around the deceased during the death circumstance

### Slide 8

**Community Deaths Investigation CONT . .**

- Before start of interview proper oral consent should be taken and the consent information needs to contain
  - Introduce your self
  - The objectives of the investigation
  - The confidentiality of the information provide
- Before and during the interview process respectful, sympathetic and culturally right approaches should be followed

### Slide 9

**Verbal Autopsy**

- The objective of verbal autopsy is to verify the suspected deaths in the community and collect basic information to identify possible causes and contributing factors
- Verbal autopsy is used by health extension workers only for maternal and perinatal death which fulfill the community suspected cause definition
- There is a separate verbal autopsy forms for maternal deaths and perinatal deaths
The verbal autopsy form for maternal death contains five sections to be completed for all suspected maternal deaths in the community.

The verbal autopsy form for perinatal death contains nine parts and to be completed for all suspected perinatal deaths in the community.

When both the mother and the neonate are deceased maternal and perinatal verbal autopsy forms should be completed.

Community Level Data Capture (verbal Autopsy)

Verbal Autopsies

- Collect data from family members, friends, neighbors, and potentially HEW on circumstances around death
- Help construct the “pathway to death” including background factors
- Investigates
  - the woman’s or the baby's health issues,
  - decisions about care,
  - services received, and
  - community factors (e.g. Transportation)
Community Data Collection - process

Any community member can alert HEW about deaths of women 15-49

- HEW identify deaths, report them as part of PHEM, screen for maternal causes, and notify HC
- Data from VA presented at the HC review committee

Logistical Issues

- Timing is important – VA should be conducted after the mourning period, but before key details are forgotten (roughly 2 weeks after the death)
- Important to find respondents familiar with the case and events leading up to it
- Families may have separated or moved

Ethical Issues

- Maternal and Perinatal deaths are emotional events
- Grief of the family must be respected
- Information provided must be voluntary
- There should be no repercussions for family members' actions
- The VA process can raise sensitive issues requiring support (disagreements, abortion, lack of available care)
Slide 16

**Informed Consent**

- Formally establishes voluntary participation
- Reassures family members
- Can offer legal protection to communities
- Builds rapport and trust before starting data collection

---

Slide 17

**Informed Consent**

When obtaining Informed Consent, remember to mention ...

- Purpose of the VA interview
- What will happen during the interview
- Risks involved (feeling uncomfortable, sad)
- Benefits (avoiding future deaths)
- Confidentiality
- Voluntary participation

---

Slide 18

**Steps in Conducting VA**

- Planning a community visit
- Approaching the household
- Selecting the best respondent(s)
- Obtaining Informed Consent
- Conducting the VA interview
- Recording the information accurately
- Submitting the filled format to the Health Centre
Slide 19

**Best Practices for Verbal Autopsy (1)**

- Friendly approach – Explain the purpose of your visit in positive terms
- Ensure privacy – Interviews will go more smoothly if you are undisturbed
- Speak slowly & clearly – explain anything that the respondent doesn’t understand
- Probe for detailed information

---

Slide 20

**Best Practices for Verbal Autopsy (2)**

- There are NO “right answers” - let respondents tell their story in their own words
- Take notes – write down additional relevant information in the blank spaces of the VA form
- Pay attention – show that you are listening & aware of respondents’ emotions

---

Slide 21

**Deaths Investigation Process - Health Facilities**

- All maternal and perinatal deaths which fulfil the standard case definitions should be investigated
- The health facility death investigation should be conducted within 1 week in order to:
  - Get all the necessary medical registers timely
  - Reduce the recall biases
  - Avail timely information for service quality improvement
- The surveillance officer uses the standard facility data abstraction form to investigate and verify maternal and perinatal deaths in the health facility
**Deaths Investigation Process CONT . . .**

- Information sources to complete data abstraction includes,
  - Medical records: client chart, registers, death logs, operation notes
  - Health care providers in the facility who involved in the provision of health care
- Before start of interview with health care providers proper consent should be taken and the consent information needs to contain
  - Introduce yourself (if useful)
  - The objectives of the investigation
  - The no blame principles of the MPDSR
  - The confidentiality of the information provided

---

**Health Facility Data Abstraction Form**

- The objective of the facility data abstraction form is to verify deaths in the health facilities and collect basic information to identify possible causes and contributing factors
- Facility-based data abstraction form is used by surveillance officer only for maternal and perinatal death which fulfill the standard case definition
- There is a separate facility data abstraction form for maternal deaths and perinatal deaths

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**Data Abstraction CONT . . .**

- The data abstraction form for maternal death contains four sections to be completed for all maternal deaths
- The data abstraction form for perinatal death contains eight parts and to be completed for all perinatal deaths within
- When both the mother and the neonate are deceased maternal and perinatal data abstraction form should be completed
Exercise: Verbal Autopsy

- Exercise on how to fill the maternal and perinatal death verbal autopsy forms

Verbal Autopsy - Maternal Death
Verbal Autopsy - Perinatal Death

Practical 6: Community level investigation using Verbal Autopsy

This is a GROUP activity. Participants should get into groups of 5-6 people, and consider the scenario below. The screening process has found that the death of Tigist was likely to be a maternal death. One group member should take the role of the Verbal Autopsy interviewer, and the others can play the role of family members with relevant knowledge (the husband, mother, sister etc). The objective is to go through the VA form together (Annex 2) and practice trying to fill in as much of the information as possible, using realistic information provided by the members of the group.

Tigist Abebe had no periods for over 3 months. She was 40 years old and already had 6 children. She had been using an injectible contraceptive. She had been vomiting and bleeding for 6 days and died in her sleep last night.

Role Play: The interviewer should go through the tool with the other family and community members and fill out the form as best as possible. The others should not make the activity too easy for the interviewer! As a group, reflect on the following:

- Which sections of the VA form are easy to fill out?
- Which are difficult?
- What might be the challenges of obtaining reliable VA information?

No answers available for verbal autopsy form as the information will depend on each group’s discussion
Exercise: Facility Based Abstraction:

- Exercise on how to fill the maternal and perinatal death facility based abstraction from anonymous clinical cases

Facility Based Abstraction Form-maternal Death
Facility Based Abstraction Form- Perinatal Death

Practical 7: Facility level investigation using the Facility Based Abstraction Form

N.B The Case Notes will be made available during the training but will be collected at the end of the session.

Transfer of raw data from anonymised clinical notes to the facility based abstraction Form. This is an small group activity (2-3 people).

1. Using the notes provided on a perinatal death, complete as much of the facility based abstraction form as possible
2. Return the notes at the end of the session, as these are confidential

The following Date was only available on the anonymised case “BA” that was provided for the national ToT. If you use a different anonymised case, new answers will need to be developed

ANSWERS:

The following Date was only available on the anonymized case “BA”.

General information of the deceased:

1. Date and time of birth: 04/04/2009 EC at 9:14PM
2. Status of the newborn at birth: Alive
3. Date and time of perinatal death: 05/04/2009 EC at 300 am
4. Sex of the deceased: Male
5. Place of death: Hospital

General information of the mother:

1. Age: 25 years
2. Is the mother alive: Yes

General obstetric history of the mother:

1. Number of pregnancies: 1

ANC history of the mother during pregnancy:

1. ANC: Yes
2. Place of ANC: Unknown
3. Did the mother receive...?: Iron and TT
4. Maternal disease or condition: Unknown

Intra partum history of the mother:

1. GA: 42+5
2. Partograph user: No
3. Fetal heart beat during labor: Persistent Tachycardia
4. Mode of delivery: C/S
5. Place of birth: Hospital
6. Total duration of labor: 20 hours
7. Total duration of rupture of membranes: 4 hours
8. APGAR score at 1st and 5th minute: 7 and 8
9. Birth weight of the baby: 2800gm
10. HC: 34.5cm
11. Who assisted the delivery: Obstetrician
12. Problem experienced during labor: Obstructed Labor

Postnatal history of the perinatal death:

1. Baby receive: Vitamin K
2. Baby problem: Birth asphyxia and meconium aspiration syndrome

Cause and time of death:

1. 1st cause of death: Meconium aspiration syndrome with respiratory failure
2. Timing of death: Between 1st and 7th day

Contributing factors:

1. Delay 2: Delay referral from the health center
Module 5: Maternal and perinatal death review

Slide 1

Maternal and Perinatal Deaths Review

Summary of the Module

- Community Maternal and Perinatal Deaths Investigation Process
  - The Prerequisite for investigation: Suspected case definitions
  - Investigation process
  - The verbal autopsy forms
- Maternal and Perinatal Deaths Investigation Process
  - In Health Facilities
  - The Prerequisite for investigation: standard case definitions
  - Investigation process
  - The data abstraction forms
Slide 2

Outline:

- Community - Review of suspected Maternal deaths
- Facility - Review of suspected Maternal deaths
- Setting up MPDSR system at facility
- Data quality improvement
  - Confidentiality: a Code of conduct
  - Disclaimer pledge
  - Committee discussion
- Summary Points
- Exercise on MDRF and PDRF

Slide 3

Community - Review of suspected Maternal and perinatal deaths:

- Each completed verbal autopsy should be reviewed by the rapid response team (RRT) of the respective health center within one week after Verbal autopsy report is received.

- The Health Center RRT should include midwives, MCH nurses and other MCH related health professionals.

Slide 4

Community - Review of suspected Maternal and perinatal deaths:

- For every reviewed verbal autopsy an action plan has to be developed for response based on the identified modifiable factors

- Following the review of the verbal autopsy the RRT will complete the case based reporting format (maternal/Perinatal death reporting format (MDRF/PDRF))
Each completed FBAF should be reviewed by the rapid response team (RRT) of the respective health facility within one week.

The health facility RRT should include midwives, NICU Nurses, ESOs, GPs, Health officers, obstetrician, pediatrician and other related health professionals working in obstetrics or neonatal care of that particular facility.

For every reviewed FBMDA/FBPDA an action plan has to be developed for response based on the identified modifiable factors.

Following the review of the FBMDA and FBPDA, the health facility surveillance focal person will complete the case based reporting format (maternal/perinatal death reporting format (MDRF/PDRF)).
During the “Set Up” phase, facilities should:

- Raise awareness and provide training for all staff
- Schedule regular, routine facility reviews
- Appoint a MPDSR coordinator who relates well to other staff, is supportive and respected
- Invite local experts to join committee from backgrounds other than medical/midwifery
- Engage senior staff and managers

To improve the data quality for FBAF, MDSR committee members and data collectors have their great role.

1. **Role of data collector**
   - Ensuring data quality
   - Maximizing data capture
   - Summarizing cases for presentation at review

2. **MPDSR Facility committee**
   Roles and responsibility
   - Constructive discussion and taking key decisions

Data quality improves when:

- All members of staff understand the purpose of the data collection
- There is good coordination across the facility departments for collecting and synthesizing data
- Multiple sources are used (case notes, records from admission, surgery theatre, mortuary e.t.c)
- Notes are legible

Once the process of data collection becomes routine, reporting and quality often improve as staff realize their notes and records will be looked at and used!
Slide 11

Data quality improvement:

Data capture
- Include all sources of information if women/neonate received care at multiple sites
- Every effort should be made to include information from accompanying family members
- A summary of the chain of events should be generated (description of events leading to the death)

Data quality improvement:
___________________________________
___________________________________
___________________________________
___________________________________
___________________________________
___________________________________
___________________________________

Slide 12

Reminder: Committee Roles
- Multi-disciplinary to bring in different perspectives and ideas
- Preserves the anonymity of patients and staff (through non-disclosure pledge)
- Maintains a "No Blame" culture
- Reports objectively on cases
- Identifies actions and provides required feedback to all concerned
- Coordinates with community reviews – essential to build a complete picture

Data quality improvement:
___________________________________
___________________________________
___________________________________
___________________________________
___________________________________
___________________________________
___________________________________

Slide 13

Confidentiality: a Code of conduct:
- Local data collectors and involved health care workers are the only staff who see the names of deceased
- Knowledge contained within review committees
- All individuals (including committee members) who access identifying data sign a non-disclosure confidentiality agreement (kept on record)

Data quality improvement:
___________________________________
___________________________________
___________________________________
___________________________________
___________________________________
___________________________________
___________________________________
Disclaimer pledge:
(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.

Committee discussion:

Five key decisions
1. Cause of death
2. Death classification
   Direct/indirect/incidental
3. Relevant delays
4. Preventability Lessons learnt are applied to prevent further deaths
5. Actions

Summary Points:
- Quality of notes and records are vital to the success of facility based reviews
- Data must be obtained from all relevant sources (departments where woman treated, other health services she attended, family members)
- The whole team should review cases and contribute to taking the key 5 decisions
Slide 17

MPDSR Case based reporting (aDRFs and tDRFs)

- The Health facility RRT (including MCH experts) meets to discuss the case
- The committee agrees on the major delays involved
- The RRT decides on any local actions needed to prevent further similar deaths
- The surveillance focal person is responsible for completing the aDRF and tDRF (case based reporting format) and sending it up the system
- A UNIQUE ID is also given to aDRF/tDRF

Attention should be given to the Completeness of MDRF and PDRFs

Completed forms should be sent timely within 48 hrs from level to level

Slide 18

Maternal death reporting form (MDRF)

Includes five sections
- Reporting Health facility information
- Deceased information
- Antenatal Care (ANC), Delivery and Postnatal care (PNC) / Post abortion care (PAC)
- Causes of death
- Contributory factors

Slide 19

Perinatal death reporting form (PDRF)

Includes six sections
- Reporting Health facility information
- Deceased information
- General information of the mother
- Obstetric History of the mother in relation to the deceased case
- Perinatal Cause of death
- Contributory factors
Practical 8: Using the Case Based Reporting Form
There are 2 case based forms that will be filled out by the Rapid Response Team (RRT) / review committee. The form is filled out during the discussion about each case, based on the Verbal Autopsy or Facility Based Abstraction Form.

The maternal or perinatal death reporting form identifies the causes of the death, contributing delays, and determines whether or not the death was preventable.

This is a GROUP activity. Work in the same group as for the Verbal Autopsy practice.

Review the case from the provided medical notes on a perinatal death. This time, instead of looking at the raw notes, you should use the Facility Based Abstraction Form. Conduct a review meeting (role play) – each group member should take a role, e.g. Health facility director, Surveillance officer, midwife, quality officer, etc.

Remember to maintain confidentiality and anonymity at all times!
Annex 10 in National MPDSR Guidance: Perinatal Death Case Based Report Form (PDRF)

(To be filled in 5 copies by the Health Centre/hospital. Send the rest of copies to the next level by keeping one copy)

### Reporting Facility Information

| Reporting Health Facility name type (H.C./CI./Hosp): | __________________________ x | Woreda: __________________________ y |
| Zone: ___________________ | Region: ___________________ | Date of Reporting DD/MM/YYYY __/__/____ |

This PDRF is extracted from:
1. VA
2. Facility based Perinatal death abstraction form

### Deceased Information

| Deceased ID(code): | ______________________________________________________________ |
| Residence of deceased/parents | ___________________ Urban __ Rural __ n/k |
| Region | ___________________ n/k |
| Zone | ___________________ n/k |
| Woreda | ___________________ n/k |
| Kebele | ___________________ |

| Date and time of birth | DD/MM/YYYY __/__/____ |
| Date and time of death (Not applicable for stillborn) | DD/MM/YYYY __/__/____ |
| Sex of the deceased | 1. Male | 2. Female |

| --- | --- | --- | --- | --- | --- | --- |

### General information of the mother

| Is the mother of the deceased perinate alive? | Yes ☒ | No ☐ |
| Age of the mother | 25 [years] |
| Parity | 0 |
| Number of alive children | 0 |


### Obstetric History of the mother in relation to this deceased case

| Number of ANC visits in relation to the deceased case (report “0” if no ANC visits) | 4 ANC |
| Number of TT vaccine during the pregnancy of the deceased case: 1. No TT | 2. One TT | 3. Two and above TT n/k |
| Status of the baby at birth | Alive/live born ☒ | Dead/Still birth ☐ | if alive APGAR score at 5th minute ___ |
| Maternal disease or condition identified | none |

### Perinatal Cause of death


### Timing of the death

<table>
<thead>
<tr>
<th>Timing of the death</th>
<th>1. Antepartum stillbirth</th>
<th>2. Intrapartum stillbirth</th>
<th>3. Still birth of un known time</th>
<th>4. Death In the first 24 after birth</th>
<th>5. Death Between 1st day and 7 day</th>
<th>6. Death Between 8 day and 28 days</th>
</tr>
</thead>
</table>

| Is the death preventable? | 1= Yes | 2= No | 3= Unknown |

### Contributory factors (Tick all that apply)

**Delay 1**
1. Family poverty
2. Did not recognize the danger signs of newborn infants
3. Unaware of the warning signs of problems during pregnancy
4. Did not know where to go
5. Had no one to take care of other children
6. Reliant on traditional practice/medicine
7. Lack of decision to go to the health facility

**Delay 2**
1. Transport was not available
2. Transport was too expensive
3. No facility within reasonable distance
4. Lack of road access
5. Others

---

65
The probable cause of death in this case was meconium aspiration syndrome. The main issues which should be identified in this case are

- Delay in referral of mother from home and/or the health centre
- Arrival at the hospital with suboptimal documentation eg. Mothers ANC history, length of stay at the health centre and any interventions undertaken
- Delay at the Hospital as the mother was initially taken to GOPD resulting in repeated unnecessary evaluations
- Suboptimal management on NICU with
  - lack of senior supervision for a critically ill infant,
  - lack of diagnostic Chest X Ray over 29 hours
  - lack of documentation on vital signs sheet including lack of fluid balance
  - possible human error resulting in very high blood glucose levels possibly secondary to glucose administration
- Poor documentation both before and after delivery, particularly in relation to dates and times and interchange between Ethiopian and international time
Module 6: Data aggregation, analysis and interpretation and reporting

Slide 1

Maternal & Perinatal Death Surveillance and Response (MPDSR)

Data Analysis, Interpretation, Reporting

Slide 2

Learning objectives
By the end of this session, participants will:
• Identify MPDSR reporting tools and periodicity of reporting
• Be familiar with MPDSR data flow and mechanisms of monitoring & ensuring data quality
• Perform basics of MPDSR data analysis, aggregation and interpretation

Slide 3

Outline of the presentation
• Introduction
• Classification of MPDSR reporting within PHEM
• Weekly Maternal and Perinatal deaths reporting
• MPDSR Case based reporting (MDRF&PDRF)
• MPDSR Data quality
• Data analysis- aggregation and interpretation
• Use of aggregated MPDSR data for programmatic response
Slide 4

Introduction

Ensuring reliable reporting of Maternal and Perinatal death surveillance data throughout the system is important so that program managers, surveillance officers and other health care staff can use of this information to respond with actions that will prevent future deaths.

Slide 5

Introduction (2)

It is not enough to collect, record and report information about Maternal and Perinatal deaths; The data must also be analyzed closest to the community with the appropriate analytical skills; minimum at the district level

Analyzing data provides the information that is used to take relevant, timely and appropriate public health action.

Slide 6

WRF for HEWs

Section II. Summary for Immediately Reportable Diseases/Conditions:

<table>
<thead>
<tr>
<th>Disease</th>
<th>Incidence</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthrax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guinea worm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute Watery Diarrhea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza Like Illnesses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deaths of women of reproductive age (15-49 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rabies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify) :</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disease</th>
<th>Incidence</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth of a dead fetus or death of a newborn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify) :</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Slide 7

WRF (HF & above)

<table>
<thead>
<tr>
<th>Disease/Event</th>
<th>Case Define</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polio</td>
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<td></td>
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<tr>
<td>Measles</td>
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<td>SARS</td>
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<td></td>
</tr>
<tr>
<td>Anthrax</td>
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<td></td>
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<tr>
<td>Neonatal Tetanus</td>
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<td></td>
</tr>
<tr>
<td>Smallpox</td>
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<td></td>
</tr>
<tr>
<td>Cholera</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pandemic Influenza</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viral hemorrhagic fever</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dracunculiasis</td>
<td>Guinea worm</td>
<td></td>
</tr>
<tr>
<td>Rabies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow fever</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maternal Death</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify)</td>
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</tr>
<tr>
<td>Perinatal death</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section III. Summary for Immediately Reportable Case-based Disease / Conditions

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Slide 8

Data quality - Weekly reporting

Progress of completeness and timeliness of Maternal and Perinatal death reporting at all levels should be monitored

- Actions can be taken to improve completeness and timeliness
- When the surveillance system is good, the rates these two indicators should approach 100%
- If no cases of death (maternal or perinatal death) have been identified during the week, a "zero" is actively reported

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Slide 9

Analysis – data aggregation and interpretation

Aim?
- To identify causes of death,
- Subgroups at highest risk,
- To identify factors contributing to maternal deaths,
- To assess the emerging data patterns
- Prioritize the most important health problems to improve the public health response

It also helps to identify changes in reporting especially at initial stages of implementation
**Slide 10**

**Analysis – data aggregation and interpretation**

**Steps**
- Receive, handle and store data from reporting sites
- Data entry, quality and completeness
- Aggregating reported Weekly notifications and case based reports
- Perform standard data analysis plan
- Perform specialized complex analysis or sub analysis
- Analyze preventable factors
- Translate data analysis for broader audience
- Respond, disseminate results and recommendations, and implement M&E

**Slide 11**

**Analysis – data aggregation and interpretation**

Basic MPDSR data analysis includes;
- Basic descriptive analysis by *person, place, and time*
- Medical cause of death,
- Contributing factors and preventability of death
- Patterns and trends , and

**Slide 12**

**Analysis – data aggregation and interpretation**

**How?**
- Tabulating reports manually and filling in a summary data sheet
- Using Microsoft excel (Pivot tables , charts and running formulas)
- Running a standard computer program to generate a summary report (EPI Info 7 database/dashboard ,or other standardized databases)
Regional and National MDSR TWGs will produce Annual reports which will demonstrate trends in numbers, cause of death and contributory factors and geographical distribution. A certain amount of basic epidemiological data will be included in these reports. The reports should be disseminated for wider utilization.

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Exercise on Data Analysis

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**Practical 9: Interpreting data**

NOTE: Answers provided in BOLD after each question.

**Instructions:** Please read the case study and then discuss the questions with your assigned group members.

**Case study:** Pretend you are the woreda-level MPDSR focal person responsible for monitoring MPDSR reporting and preparing the data for discussion and also to report upwards.

In your woreda, maternal death surveillance started at the beginning of 2009 EFY. Notification of maternal deaths and case based reports (MDRF) have been sent from catchment health facilities throughout your woreda (details below). For maternal deaths, you have received a total of 13 weekly notifications and 22 case based reports in the last 2 quarters of 2009. The total population for 2009 EFY...
was 284,604 (CSA projection) with crude birth rate of 32 per 1000 populations. (MMR of 412 per 100,000 LBs)

Table 1. Maternal deaths notification reports by reporting month

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1. Looking at the data on reporting above, review the completeness of the maternal death weekly reports. Answer the following questions:
   o Which month had the lowest reporting rate from Health Posts? ________________  
     ANSWER: Yekatit (just 23 HP out of 38)___
   o How many “silent” health centres are there in your woreda (meaning they are not sending any reports)? __ANSWER: 1 (12 Health centres are expected, but just 11 report each month)___
   o Which category of health facilities has the best reporting? __ANSWER: “Other” health facilities – it is 2 out of 2 for every month __

2. Now look at Table 2 (provided separately), which provides the details of all 22 maternal deaths reported through MDRF in the past 6 months. Using this data, calculate the following:
   o How many of the deaths were considered preventable? ANSWER: 17
   o What proportion of all the deaths was this? ANSWER: 77.3 % (17/22)
   o Give the percentage breakdown (% out of 100) for timing of death
     Antepartum ___ANSWER: 13.6% (3/22)
     Intrapartum ___ANSWER: 13.6% (3/22)
     Postpartum ___ANSWER: 72.7% (16/22)
What is the commonest cause of death among reported cases? **ANSWER:** Haemorrhage = 63.6% (14/22)

What is the second largest? **ANSWER:** We don’t really know – “direct others” has the next highest number, 4 deaths

What is the contribution of each delay? i.e. determine the percentage of deaths to which Delay 1, Delay 2, and Delay 3 were listed as contributing factors.

**ANSWER:**

Delay 1= 14 deaths have one of the Delay 1 factors mentioned = 63.6%
Delay 2= 8 deaths have one of the Delay 2 factors mentioned = 36.3%
Delay 3= 5 deaths have one of the Delay 3 factors mentioned = 22.7%

These percentages add up to more than 100%, why is this?

**Answer:** For 1 maternal death, it is possible to have more than one delay contributing to it, for example if there was a delay in deciding to seek help (Delay 1) and then a delay at the health facility in receiving the correct treatment (Delay 3)

3. Based on your data interpretation, identify 3 key points to present to the Woreda RRT members for discussion?

**Possible answer include:**

- Reporting is still patchy and not 100% of facilities report every month
- Most maternal deaths occur during the postpartum period
- Haemorrhage is the most significant cause of death
- Delay in seeking care occurs in the majority of maternal deaths
- Better data are needed from the review process to try to determine the most likely cause of death to avoid such a high number reported in the “other” category.
Module 7: Response

Slide 1

MOVING TO ACTION: Identifying Responses in MPDS

Slide 2

Learning objectives

By the end of this session, participants will be able to:

• Understand the central role of action in the MPDSR process
• Identify actions appropriate to every level of the health system
• Use the action tool and support its implementation
• List ‘evidence based actions’

Think of avoidable contributing causes and then SMART actions

Slide 3

Taking action to reduce avoidable maternal and perinatal deaths is the reason for conducting MPDSR
Slide 4

What are appropriate actions?

It is preferable to achieve a few achievable actions rather than many unachievable ones.

Slide 5

What are evidence based actions?

Actions for which there is overwhelming evidence that maternal and/or perinatal mortality will be prevented if they are followed.

- Often refer to clinical actions, based on trials
- Individual cases should be assessed to see if “best practices” were carried out or not
- If not, appropriate action should be taken to ensure these are implemented to prevent further deaths
- Ethiopian Guidelines (FMoH) for A/N and intrapartum care provide details

Emphasise family planning which has been shown to cut MMR by 25%

None of these are expensive especially quality ANC and kangaroo care.

Slide 6

General

- Family planning
- ANC and birth preparedness plans
- Iron supplements
- Good Referrals
- Kangaroo care
- Health education & promotion
Slide 7

**Eclampsia**
- Diagnosis and treatment of high blood pressure
- Magnesium Sulphate
- Timely delivery

Timely delivery is the priority in treatment. Once the placenta is removed the process of preeclampsia or eclampsia will start to reverse.

Slide 8

**Haemorrhage**
- Active management of third stage of labour
- Misoprostil
- Blood transfusion (dependent on environment)

This is the biggest killer in Ethiopia, all health facilities **must have** oxytocics. In the 2016 EmONC 17% had experienced in the last 3 months.

Slide 9

**Sepsis**
- Clean delivery
- Antibiotics for prolonged ruptured membranes at term
- Antibiotics for C/S
- Avoid prolonged delivery

A recurring story from the first few reports of MDSR in Ethiopia is of women with long labours and prolonged ruptured membranes not getting **timely triple** antibiotics.
**Slide 10**

**Abortion**
- Availability of safe abortion
- Availability of post abortion care including safe MVA or D&C and i/v antibiotics

Death from abortion has decreased in Ethiopia in the last decade but care is still required, especially around timely antibiotics and safe practice.

**Slide 11**

**Obstructed labour**
- Facility delivery after 12 hours of labour
- Use of partograph
- Availability of C/S

2016 EmONC showed a **good** increase in the use of the partograph but **poor** use of the alert and action lines EmONC.

**Slide 12**

**Prematurity**
- Ultrasound use
- Antenatal steroid injections
- Kangaroo mother care
- Immediate and frequent breastfeeding
- Available antibiotics

Antenatal steroids were given in just 5% of premature deliveries according to 2016 EmONC survey.

Kangaroo mother care was used in just 46% of premature deliveries in Ethiopia according to EmONC.
Non clinical actions

- Not all problems identified during the review and analysis have clinical solutions
- Actions in the community e.g. Changing health-seeking behaviour, addressing transportation, reducing costs of accessing care, also play a role.
- Community participation can help identify barriers and feasible solutions.

Criteria for Actions

Responses to MPDSR data need to meet the following criteria at every level (Be SMART!)

- Specific: state exactly what needs to happen
- Measurable: it must be possible to check whether the action has been implemented
- Achievable: choose responses that you can complete given available resources
- Realistic: each action must be feasible in the local context
- Timely: set a deadline for completing actions

It is vital to prioritise actions.

Only one or two of these donkeys will get enough to eat!
How do you select responses?

**During the review process:**
- "Brainstorm" possible actions
- Identify those most likely to have a large impact
- Check that they meet the SMART criteria
- Try to address all 3 “delays”
- Think of prevention as well as solutions!

If someone has died of haemorrhage and anaemia an appropriate action with more impact will be to ensure all women get iron antenatally than blood transfusion is made available at health centre level.

The action of blood transfusion at health centre level is unachievable.

Some actions are immediate but others take time.

**Immediate Actions**
- Almost every maternal or perinatal death can lead to immediate actions to prevent similar deaths from occurring
- There is no need to wait for aggregated data to begin implementing action
- Common examples include:
  - Increasing availability of skilled providers
  - Changing the system for access to the drug cupboard
  - Training in management of emergencies
  - Moving the area for critically ill patients
Slide 19

**Immediate action 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 death!

Slide 20

**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.

Slide 21

**Example of periodic actions**

- A referral hospital was noted to have a high proportion of newborn deaths.
- An audit of all cases of newborn deaths was conducted.
- Two catchment area woredas were found to be ‘hot spots’.
- **Actions**
  - Discussions with woredas, which found slow referrals and poor transport
  - New ambulances deployed to these woredas and midwives provided with refresher training on partograph use and timely referral
Periodic responses at different levels

**Community**
- Improved community awareness of risk factors and danger signs
- Iron supplementation
- Increasing uptake of ANC and birth preparedness
- Family planning promotion
- Improvement in transport

**Periodic Facility level response**
- Strengthen referral mechanisms
- Improve 24/7 care by allocating staff across all shifts
- Make a generator available and maintain it
- Provide refresher training and support to staff
- Create a “no blame” culture

**Long Term (Regional & 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.
Slide 25

**Long term response: facility**

- Every hospital and HC should summarize maternal & perinatal mortality findings annually.
- In larger facilities, findings should contribute to continuous quality improvement plans.

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Slide 26

**Example of annual response: facility**

- 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 changed to ensure availability at all times

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Slide 27

**Woreda Long Term Response**

Actions at the district level may include health-system strengthening:

- Reduce barriers to good health-seeking
- Check ambulance distribution and maintenance policies
- Equip health facilities with essential supplies
**Regional Long Term Response**

Actions at the RHB level may include health-system strengthening:
- Fill training gaps
- Identify “hot spots” and assess their resource needs
- Work across the region to address non-health sector determinants e.g. electricity supply/road infrastructure
- Distribute manuals, guidelines, MPDSR forms
- Mobilise resources for MNCH quality improvement

**National Response**

EPHI and the FMOH should facilitate the following in response to MPDSR data:
- Monitor weekly surveillance and provide support to strengthen reporting system
- Produce necessary guidelines and protocols
- Avail essential reproductive health commodities
- Produce standards i.e. for referrals
- Facilitate intersectoral collaboration to address common maternal and newborn health problems
- Work for adequate budget allocation for MNCH

**Response Accountability**

- An individual within the review committee should take responsibility for monitoring agreed actions
- Progress should be reported on at every meeting.
- If actions are not being implemented, a discussion should determine why
- New actions can be taken or efforts intensified to complete previously selected responses
- All actions should link to existing quality improvement initiatives and institutional plans
Regular Feedback

- Feedback helps maintain staff motivation and sense of participation in the review process
- Appropriate and timely feedback is part of the response process
- Feedback should emphasise positive action and good practice in addition to pointing out gaps
- Feedback across the system maintains continuity and the flow of information in both directions
- Feedback can be written as well as verbal – e.g. annual facility reports circulated among staff
Identifying responses

The most important part of the MPDSR review process is to ensure that realistic and effective responses are identified after every death. In the next activities, work in the same groups as you did for the RRT role play.

Practical 10: SMART responses

NOTE: This is a multiprofessional activity

A 25-year old in her second pregnancy attended ANC x 4 at the health post

In her first pregnancy she had a normal delivery at home and the baby is now 2 years of age and doing well

In the second pregnancy at 28 weeks and again at 36 weeks the midwife thought the fundus was big compared with the stated menstrual dates

The woman complained of being very uncomfortable and finding it difficult to sleep

At 36 weeks the midwife at the health centre referred the woman to the local hospital with polyhydramnios for further management

At the local hospital an Ultrasound showed a twin pregnancy with one absent Fetal heart, the presenting/leading twin had an FH of 140bpm

The obstetric resident decided to induce labour with an ARM (breaking the waters) as she was 3 cms dilated

This was carried out in the admission room and the woman was transferred to Labour Ward

On admission to labour ward there was a prolapsed cord and the fetal heart was absent

Both twins were born vaginally 2 hours later, twin 1 was a fresh stillbirth and twin 2 was a macerated stillbirth

Q1. List 3 Avoidable factors

1. ...............................................................................................................................................

2. ...............................................................................................................................................

3. ..............................................................................................................................................
Q2. List the 3 actions you consider to be most appropriate

1. ........................................................................................................................................
2. ........................................................................................................................................
3. ........................................................................................................................................

Q3. Are your actions SMART?

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Answers:

Q1. List 3 Avoidable factors

1. *Delayed referral after the 28 week review*. In this review the problem of large for dates was noted, but no action was taken and the next review was a routine one at 36 weeks. An earlier review eg. at 30 weeks should have been planned to decide if an early referral was indicated. Earlier referral may have prevented the death of twin 2.

2. *Substandard medical care. Inappropriate decision about the mode of delivery*. The ARM resulted in a prolapsed cord, causing the death of twin 1. The Resident had performed an USS. It should have been possible to assess the risk of prolapsed cord by a combination of clinical examination and USS eg. Assessment of amount of liquor and position of the fetus. It is likely that polyhydramnios was present +/- the position of the fetus was suboptimal for vaginal delivery.

3. *Substandard medical care. Inappropriate venue of ARM*. It was inappropriate to perform an ARM in the admission room where access to C/S would be delayed. If an ARM is performed in this situation, it should be a controlled ARM with Anaesthetic and OR staff immediately available.

Q2. List the 3 actions you consider to be most appropriate

1. *Organise an education meeting about the quality of ANC* for all providers of ANC within 2 weeks. Include the need to identify and refer women with suspected large for dates pregnancies to identify multiple pregnancies and organise appropriate ANC follow up and hospital delivery. Attendance at the meeting should be recorded.
2. **Organise an education meeting about multiple pregnancy** for all medical, midwifery and anaesthetic staff to increase awareness of the complications of multiple pregnancy and the associated increase in maternal and perinatal mortality and morbidity. The meeting should take place within 2 weeks. Attendance at the meeting should be recorded.

3. **Devise guidelines for management of Multiple pregnancy** at the facility and **start an annual audit** of Multiple pregnancies to be conducted by a named Resident. Draft guidelines should be developed by a senior resident and reviewed by the Lead Obstetrician, lead midwife and medical director. The guidelines should include guidance about ANC management, intrapartum and postpartum management of multiple pregnancy. The audit should audit actual management of all cases of multiple pregnancies against the standards set in the guidelines. The guidelines should be completed and signed off at the facility by the Medical Director within 4 weeks and the audit initiated in the following week.

Q3. Are your actions SMART?

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<tr>
<td><strong>Specific</strong></td>
<td>Yes, the participants are specifically mentioned and specific items to include in the meeting are mentioned.</td>
<td>Yes, the participants and the content of the meeting are specified.</td>
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<tr>
<td><strong>Measurable</strong></td>
<td>Yes, a register of attendance confirms not only that the meeting took place, but also what % of relevant staff attended</td>
<td>Yes, a register of attendance confirms not only that the meeting took place, but also what % of relevant staff attended</td>
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<td><strong>Achievable</strong></td>
<td>Yes, all facilities should hold regular education meetings to improve standards of care.</td>
<td>Yes, all facilities should hold regular education meetings to improve standards of care.</td>
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<td><strong>Realistic</strong></td>
<td>Yes, all facilities should have the capacity to hold such a meeting</td>
<td>Yes, all facilities should have the capacity to hold such a meeting</td>
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<tr>
<td><strong>Timely</strong></td>
<td>Within 2 weeks</td>
<td>Within 2 weeks</td>
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## Action plan template

Date of meeting ___________ Case ID _______________

Maternal Death [ ] Maternal Near miss [ ]

Date of Death (date of discharge, if near miss): ____________

Death preventable [ ] Yes [ ] No [ ]

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<th>Avoidable Factor</th>
<th>Action to be taken as a result of the case</th>
<th>Person responsible for the action</th>
<th>Timeline</th>
<th>Date Action completed</th>
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Module 8 MPDSR Role and Responsibility

Slide 1

MPDSR ROLE AND RESPONSIBILITY
Community Level

Health extension
- Identify and notify probable maternal and perinatal death
- Reports from the community to the respective health center surveillance focal person within 24 hours.
- Completely fill verbal autopsies within 02-week after notification
- HEWs summarize a total deaths and report to the respective health center on a weekly basis.

Slide 2

MPDSR ROLE AND RESPONSIBILITY
Health Facility level

Surveillance focal person at HC
- Immediately notify (within 30 minutes) the PHEM focal person of the respective Woreda
- Formally complete the identification and notification format within 24 hours.
- Fill the verbal autopsy of all deaths within one week of notification.
- Receive WRFs from HEWs every week that is reported from HEWs and report to the next level.
- Complete FBMDA for every death notified from the facility within 3 week of initial notification.
- The facility RRT will review FBMDA/TFPSA and VA within Sext., and complete the MDRF/PDRF and develop a response action plan
- MDRF/PDRFs will be sent by the surveillance focal person within 48 hours to the immediate higher level PHEM unit.

Slide 3

MPDSR ROLE AND RESPONSIBILITY
Woreda Health Office level

PHEM officer at Woreda
- Works closely with the MNCH officer for MPDSR/PHEM.
- Works with RRT/ERT led by the Woreda administrator for multi-sectorial response management of MPDSR/PHEM
- Receives WRF from health centers on a weekly basis and sends to the zonal/regional PHEM unit.
- Checks the MDRFs and PDRFs for completeness and send to the zonal/regional PHEM unit.
- Compile and analyze WRF and MDRF/PDRF data, and produce a report.
- Works with the MNCH unit and Woreda administrator to organize a dissemination meeting for multi-stakeholders of the RRT/ERT to plan and implement responses included in the action plan.
**MPDSR ROLE AND RESPONSIBILITY**

**Zonal Health Office level (where applicable)**

- **PHEM officer (zonal)**
  - works closely with the PHEM and MNCH officers of the RHB and Woreda health offices for MPDSR/PHEM.
  - Receives WRF from Woreda health offices and hospitals on a weekly basis
  - Receives MDRFs/PDRFs from all Woreda health offices and hospitals within one month of receiving WRFs of deaths.
  - Checks for completeness of the MDRFs/PDRFs and send the next level.

**Regional Health Bureau level**

- **RHB PHEM unit**
  - works closely with the MNCH unit of the region for MPDSR/PHEM.
  - Leads the Regional MPDSR/PHEM TWG in collaboration with the MNCH unit. For response management, the regional multi-sectorial MPDSR/PHEM response.
  - Receives WRF from Woreda health offices/zonal health offices and hospitals on a weekly basis and to the National PHEM unit.
  - Receives MDRFs/PDRFs from all Woreda health offices/zonal health offices and hospitals within one month of receipt of WRFs of deaths.
  - Checks MDRF/PDRF completeness and sends the MDRF/PDRF copies to the national PHEM unit, keeping one copy in the region PHEM unit.
  - Compile and analyze WRF and MDRF/PDRF data, and produce a report.
  - Collaborates with the MNCH unit and regional administrator to organize a dissemination meeting for regional multi-sectorial stakeholders and to plan and implement responses identified in the action plans of the MPDSR TWG.
  - Develops a report on monthly, quarterly, semiannual and annual plans of the regional MNCH and other units of RHB.

**Central/National level**

- **PHEM unit within EPHI**
  - works closely with the MNCH unit of the FMOH of Ethiopia on MPDSR/PHEM.
  - Leads the MPDSR/PHEM TWG in collaboration with the MNCH unit for response management at the national level.
  - Receives WRFs from regional PHEM units on a weekly basis.
  - Receives MDRFs from all regional PHEM units within one month of WRF reports of the deaths.
  - The national PHEM unit checks MDRF completeness.
  - Compile and analyze the WRF and MDRF data and produce a report and development of an action plan by MPDSR TWG.
  - Collaborates with the MNCH unit and FMOH higher officials to organize a dissemination meeting for national PHEM multi-sectorial stakeholders to the action plans of the national MNCH unit and other units of FMOH.
Module 9: MPDSR Monitoring and Evaluation

Slide 1

MPDSR MONITORING AND EVALUATION

- The purpose of M&E evaluation framework is to monitor progress of the MPDSR system.
- The framework also assesses the relevance, effectiveness and impact of activities in the light of the objectives the surveillance and response system.
- Specific indicators are identified based on the WHO surveillance M&E guidance.
- These are illustrated as components of the M&E framework in the MPDSR technical guide.

Slide 2

Components of M&E of the MPDSR System
Components of the System:

Structure of the System:
- The structure of MPDSR system is defined by mandatory notification of maternal and perinatal deaths, the surveillance strategy for MPDSR, and networking and partnership as the elements for progress measurement using specific indicators listed under each element.

Core Functions of the System:
- The core functions measure the process and outputs of the system. It includes elements such as death detection, death registration, death confirmation, reporting, data analysis and interpretation, epidemic preparedness, response and control, and feedback.

Components of the System

Support Functions of the System:
- Support functions of the system facilitate implementation of the core functions and include standards and guidelines, training, supervision, communication, and resources as its elements.

Quality of the System:
- The quality of the MPDSR system is defined by attributes such as completeness and timeliness of reporting of the system.

M&E Approach and Method:
- The system implements robust supervision, review meetings, and regular reporting and assessment of performance as standard M&E approaches. In addition to data obtained through the routine surveillance/MPDSR reports, the system will use such techniques as key informant interviews and review of documents to gather information.
- This M&E framework uses a matrix of core and optional indicators categorized by level of their importance. These indicators are also categorized by type, e.g., input, process, output, and impact. The matrix also provides definitions for the indicators, frequency of data collection, data sources and collection methods. Targets have been set for a set of core indicators to monitor key achievements over time.

(Refer the MPDSR Technical Guidance)