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Maternal and Child Survival Program

Maternal and Perinatal Death Surveillance and Response Capacity-Building Materials: MDSR module

Facilitator's Guide

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The Maternal and Child Survival Program (MCSP) is a global, United States Agency for International Development (USAID) Cooperative Agreement to introduce and support high-impact health interventions with a focus on 25 high-priority countries with the ultimate goal of ending preventable child and maternal deaths within a generation. The Program is focused on ensuring that all women, newborns and children most in need have equitable access to quality health care services to save lives. MCSP supports programming in maternal, newborn and child health, immunisation, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and paediatric HIV care and treatment. Visit www.mcsprogram.org to learn more.

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Acknowledgements

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- Lead technical author: Kusum Thapa
- Subject matter experts: Kusum Thapa, Edward Kenyi
- Key contributors: Kathleen Hill, Kate Brickson, Gbaike Ajayi, Caitlin Gillespie
- Instructional designers (Jhpiego): Raleigh Esperidion, Alison Trump, Margo Rice

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Some of the content in this module was adapted from materials developed by other agencies and organisations, including the International Federation of Gynaecology and Obstetrics and WHO. Citations are provided for module content adapted from other sources.

Introduction

Several recent assessments[1] have demonstrated that maternal and perinatal death surveillance and response (MPDSR) implementation lags behind national policy in many countries and that there are few global or local resources to build manager and health worker skills to implement MPDSR processes in low-resource settings. This module is part of a set of aligned MPDSR guidance and capacity-building materials supported by the World Health Organization (WHO), UNICEF, partners and members of the Global MPDSR Technical Working Group. Designed to support policy-makers, subnational managers and facility health workers to strengthen MPDSR systems, materials thus far include this maternal death surveillance and response (MDSR) capacity-building module; an aligned UNICEF-led perinatal death surveillance and response (PDSR) capacity-building module (*available here*); and MPDSR operational guidance under development by WHO.

The purpose of this MDSR module is to build the capacity of district managers and facility providers to strengthen MDSR processes. The module focuses on maternal deaths in health care facilities and should complement (not replace) existing national MDSR or MPDSR guidelines and materials already in use. Future capacity-building modules may address maternal deaths outside the facility, especially important in settings where a high proportion of maternal deaths occur in the community.

The interactive sessions in this module include practice-based case-study exercises, PowerPoint presentations and job aids designed to build health worker skills to correctly implement the six-step death audit cycle, including: identifying and notifying maternal deaths; correctly assigning cause of maternal death using the International Statistical Classification of Diseases for Maternal Mortality (ICD-MM); analysing key contributors to a death; and developing, implementing and monitoring a "response/action" based on identified contributors.

Additional sessions build district manager and health worker skills to: create and manage MPDSR committees; monitor trends in leading local causes of maternal death, triangulating death audit and routine health information sources; analyse the most commonly identified contributors across death audits for leading causes of death; and define, implement and monitor a set of priority "actions/responses" based on identified trends (at the facility and district/subnational levels).

Though many of the sessions and specific case studies in this module focus on maternal health, several sessions are relevant to maternal, perinatal and child death surveillance and response implementation—regardless of the type of deaths being reviewed (maternal, perinatal or child deaths). For example, sessions on the formation of an MPDSR team are relevant for integrated MPDSR systems. As useful, many of the case studies can be adapted to incorporate perinatal and child health content to support capacity building for PDSR and child death surveillance and response, as was done in the PDSR module published by UNICEF.

Finally, it is not necessary to implement the module sessions sequentially or in one workshop at a single point in time. Programme implementers and educators may selectively use, sequence and combine sessions based on their local needs, activities and resources.

[1] MCSP. In press. A Regional Review of Facility-Level Maternal and Perinatal Death Surveillance and Response Systems in Four Sub-Saharan African Countries.
World Health Organization (WHO). In press. WHO Global SRMNCAH Policy Survey 2018–2019.
MCSP. 2018. A Regional Assessment of Facility-Level Maternal and Perinatal Death Surveillance and Response Systems in Four Sub-Saharan African Countries. At: https://www.mcsprogram.org/resource/regional-assessment-facility-level-maternal-perinatal-death-surveillance-response-systems-four-sub-saharan-african-countries/

Workshop Overview

The MDSR module includes 16 sessions with a linked Facilitator's Guide, a Learner's Guide and PowerPoint slides and session handouts. For simplicity of presentation, this module is organised around a 3-day workshop.

Workshop Goal

The goal of this 3-day workshop is to strengthen manager and provider skills to support strong MDSR processes that contribute to facility and subnational efforts to improve the quality of maternal health care and eliminate preventable maternal deaths.

Workshop Objectives

By the end of the workshop, learners will be able to:

1. Identify and notify maternal deaths
2. Create and/or strengthen capacity of district/subnational and facility MPDSR or MDSR committees to implement MDSR processes
3. Review maternal deaths, assign cause of death using the ICD-MM and identify contributing factors
4. Define, implement and monitor responses based on individual death audits
5. Monitor and analyse trends in causes of maternal death and findings of death reviews over time, and define, implement and monitor a set of priority responses based on identified trends (at the facility and district/subnational levels)

Recommended Participants

Participants should be drawn from administrative/managerial/clinical staff who lead, participate in or supervise MPDSR committees. This may include:

- Facility-level health providers (i.e., physicians, nurses, midwives)
- Facility and district managers who supervise staff implementing MDSR
- Facility- and district-level data managers
- Facility- and district-level members of quality improvement committees

Workshop Setting and Session Plans

The training materials are designed to be delivered in one of two ways:

- **Off-site:** Workshop at a venue with learners selected from across the district/state/province, including subnational managers and facility health workers
- **Facility-based:** Workshop at a high-volume facility with learners representing all staff who support reviews of maternal deaths in the facility, as well as district managers and health workers from smaller facilities if applicable.

It is recommended that there are no more than 5–6 learners per facilitator. The session plans walk the facilitator through the topic for each session, the objectives, the teaching methods and activities, and the materials/resources needed. Facilitators should review the session plans closely and familiarise themselves with the content and exercises before planning a capacity-building workshop. This Facilitator's Guide includes the session objectives as well as activities, handouts, job aids and advanced preparation needed for

each session. Facilitators should have available an electronic copy of the workshop materials and a projector to display the PowerPoint slides, videos and an online game. In addition, an internet connection is required to access the online game (Day 2, Session 1). In settings where a computer and projector are not available, facilitators should use hard copy printouts of the materials referenced in relevant sessions. Table 1 below lists each day's sessions and their approximate duration.

Table 1: Sessions and Duration

Day 1		
Session 1: Welcome and Introduction to MPDSR	Maternal and Perinatal	30 minutes
Session 2: Individual Learning Plan and MPDSR Knowledge Assessment Pre-Test	Maternal and Perinatal	30 minutes
Session 3: Understanding Pathways to Maternal Death	Maternal	90 minutes
Session 4: Six-Step Mortality Audit Cycle	Maternal and Perinatal	60 minutes
Session 5: Identifying Maternal Deaths	Maternal	60 minutes
Session 6: Day 1 Wrap-up Discussion	Maternal and Perinatal	30 minutes
Day 2		
Session 1: Day 1 Review and Knowledge Check	Maternal and Perinatal	30 minutes
Session 2: Creating or Strengthening MPDSR Committees	Maternal and Perinatal	60 minutes
Session 3: Introduction to MDSR Forms	Maternal	90 minutes
Session 4: Cause Assignment Using the ICD-MM	Maternal	90 minutes
Session 5: Day 2 Wrap-up and Discussion	Maternal and Perinatal	30 minutes
Day 3		
Session 1: Day 2 Review	Maternal and Perinatal	25 minutes
Session 2: Identifying Modifiable Contributing Factors for a Maternal Death and Priority Responses to Implement and Monitor	Maternal and Perinatal	90 minutes
Session 3: Monitoring and Analysing Trends in Causes of Maternal Deaths and Findings of Death Reviews to Prioritise Aggregated Responses	Maternal	90 minutes
Session 4: MDSR Workshop Final Knowledge Assessment and Review	Maternal and Perinatal	45 minutes
Session 5: Workshop Wrap-up and Closing Ceremony	Maternal and Perinatal	50 minutes

Considerations for Adapting Capacity-Building Materials

In designing the training materials for this course, every effort was made to develop a flexible set of materials to give facilitator(s) the freedom to adapt the training to the learners' needs (group and individual). The package can be adapted to meet local needs, such as:

- **Timing and Duration** – Each day of the workshop has been designed to fit within a 9am to 5pm workday. However, if workdays in the workshop setting start earlier or end later and if more time is needed to ensure learner understanding of the materials, the facilitator can choose to adjust session lengths by either starting the workshop earlier or ending later in the day. If needed, an additional day can also be added to ensure that learners have enough time to absorb the content and practice their skills.

- **Delivery Modality** – All-day, off-site trainings can be costly and disruptive to service provision and MDSR capacity needs will vary by context. Instead of delivering the training over 3 days, programme managers can conduct trainings on-site in a facility at times that are convenient for learners and do not hinder providers' abilities to perform their jobs. Programme managers may also change the sequencing of sessions or prioritise specific sessions based on local factors such as capacity needs and cost and time constraints.
- **Ongoing Supportive Supervision** – After the MDSR workshop, learners may need additional supportive supervision to ensure that skills are being applied appropriately. Individual sessions and practice exercises may be used to strengthen performance gaps identified during supervision visits.

Preparing for the Workshop

Initial Preparation

Step 1: Engage with key stakeholders

- Schedule a meeting with key stakeholders to introduce the training materials, and discuss how to strengthen MDSR/PDSR/MPDSR implementation in your country
    - Request that the key stakeholders identify current national trainers, national MPDSR committee members, professional association members and district-level managers who have the skills to be effective facilitators for this workshop
- In coordination with the key stakeholders, draft a plan that includes who will conduct the workshop as well as where, when and how the workshop will be conducted

Step 2: Review country-specific forms and tools

- Gather and review all relevant country MPDSR/MDSR policies and guidelines, MPDSR/MDSR forms, national health management information system (HMIS) forms (e.g., facility registers and summary reporting forms; patient charts, partographs, or other individual-level records) and other relevant country-specific MPDSR materials

Step 3: Develop a pool of facilitators through an initial orientation (training of trainers)

- See Appendix A: Facilitator Profile
- Schedule a workshop to orient a small pool of experienced MPDSR facilitators/trainers to these capacity-building materials
- The initial facilitator orientation may require 2–3 days, depending on the background of proposed facilitators and their familiarity with ICD-MM and other content in this workshop
- During the orientation workshop:
    - Orient facilitators to the training approach, including required facilitation skills for each session and exercise
    - Orient facilitators to the Learner's Guide and exercises that participants will complete during the training
    - Familiarise facilitators with the content of the materials, including the ICD-MM
    - As needed, incorporate national MPDSR policies, guidelines and tools into the workshop materials (as indicated under "Advanced Preparation" within each session plan)

Convening the MPDSR Capacity-Building Workshop

Step 4: Engage with stakeholders at the subnational and facility levels

- Meet with appropriate national or subnational health authority and MPDSR partners to orient them to the activity
- Review local MDSR/MPDSR activities and structures and MDSR capacity-building needs of managers and health workers (subnational, facility)

- Discuss how the MDSR capacity-building materials can best be delivered and followed up to address leading gaps in health worker MDSR skills

- Draft a local plan for who will conduct and who will participate in the workshop; where, when and how the workshop will be conducted; and any planned follow-up to reinforce skills leveraging established activities (e.g., supportive supervision visits, district quarterly MPDSR review meetings.)
  - Identify site (province, district, state or facility) to hold a potential training
  - Agree on specific facilitators
  - Request support from district managers and facility administrators to identify and invite participants for the workshop
  - Request support after the workshop to reinforce MDSR skills of learners based on agreed follow-up activities

Step 5: Conduct the MDSR workshop

- Refer to **Appendix B: Preparation Checklist** for a detailed list of steps to take in planning and executing this MDSR capacity-building workshop
- Materials and supplies required for the workshop are described on the next page
- After the workshop, prepare a brief report to share with relevant stakeholders

Materials and Supplies

Before beginning the workshop, the facilitator should ensure that all required supplies, noted below, are available.

Table 2: Materials and Supplies

Category	Name / Item	Print For	
		Facilitator	Learner
Handouts/ documents to print	• Attendance sheets for each day	X	
	• Country-specific MPDSR guidelines	X	X
	• Country-specific death certificate form	X	X
	• Country-specific HMIS summary form (facility and subnational)	X	X
	• Country-specific patient record (or facility-specific)	X	X
	• Country-specific maternity register	X	X
	• Country-specific MDSR and response plan forms	X	X
	• Agenda	X	X
	• Why Did Mrs. X Die? transcript (2–3 copies, if no video/audio available)	X	
	• Individual Learning Plan		X
	• D1 S2 - MPDSR Knowledge Assessment – pre-test		X
	• D2 S3 – Completed Case Summaries		X
	• D2 S4 – Completed Medical Certificate of the Cause of Death Forms		X
	• D3 S4 – MPDSR Knowledge Assessment – post-test		X

Category	Name / Item	Print For	
		Facilitator	Learner
	• D3 S5 – Workshop Evaluation Form		X
	• Participant certificates	X	X
	• Consent forms for pictures (if the training will be photographed)	X	

Supplies	• Flip charts
	• Computer or laptop
	• Projector
	• Speakers (for playing the Why Did Mrs. X Die? video)
	• Index cards (or firm coloured paper)
	• Post-it notes/stickies
	• Name badges
	• Masking tape
	• Pens
	• Markers
	• Blank paper (for making into strips for icebreaker)
	• Bowls (or can build boxes from firm paper)
	  • one for holding strips of paper for icebreaker
	  • another for holding chocolates or sweets as prizes for correct answers, etc.
	• Scissors
	• Flash drive with materials for facilitators
	• Pre-printed ICD-MM wall chart		

Day 1/Session 1: Welcome and Introduction to MPDSR

Session Plan

Duration: 30 min

Session Objectives: By the end of this session, learners will be able to:

- Describe the training format
- Explain how to use the Learner's Guide

Advanced Preparation
• Ensure all learner materials needed for the day are printed and distributed; these may include copies of the Learner's Guide, National MPDSR Guideline, notification and review forms, handouts, pens, notepads, name badges, etc. • Print an attendance sheet • List session objectives on flip chart • Prepare a flip chart for collecting parking lot questions • Prepare a flip chart for workshop norms and expectations • Prepare a flip chart for the Individual Learning Plan exercise • Cut strips of paper for all learners and facilitators to use for the icebreaker activity • Ensure post-it notes/stickies are available for learners to write down outstanding questions • Set up projector, laptop and speaker for the workshop • Review session presentation and materials

Methods and Activities	Materials/Resources
Introduction and Review of Learner's Guide (10 min) • Welcome learners to the workshop. Facilitator(s) introduce him/herself and ask learners to briefly introduce themselves. • Review the goal of the workshop. • Review the objectives of MDSR workshop. • Describe workshop format (3 days, discuss lunch and breaks). • Walk through workshop agenda and other sections of the Learner's Guide.	• MDSR Day 1 Session 1.pptx • Flip chart papers with goals/objectives

Icebreaker (10 min)
• In this icebreaker activity, the learners will move around the room sharing their names and an interesting or unusual fact about themselves. After the introductions, the facilitator will read the interesting facts and quiz the group (without keeping score).
  ◦ Hand out a strip of paper to each learner and facilitator.
  ◦ Have the learners and facilitators write down an interesting or unusual fact about themselves on the strip of paper. Collect the strips of paper when they have finished writing.
  ◦ Next, have everyone move around the room, introducing themselves and sharing their interesting fact.
  ◦ After several minutes, bring the group back together.
  ◦ Randomly pick a strip of paper and read aloud the interesting fact on the piece of paper.
	• Strips of paper and a bowl or box

Methods and Activities	Materials/Resources
• Choose a single learner OR the group and ask, "Who said this?" or "Whose fact is this?" • During this session, read 3–5 interesting facts and reserve remaining strips for mini-icebreakers throughout the workshops (e.g., after tea breaks and lunches).	
Closing (10 min) • Take a few minutes to ask learners to identify workshop norms and expectations. These should be written out and displayed on a flip chart for the duration of the workshop. • Encourage active participation and collaboration; clarify that the learning environment will be an interactive, respectful and safe environment where everyone's contributions are valued. • Point out the location of restrooms/lavatories. • Parking Lot: Throughout the workshop, if participants have questions that require additional time or a separate discussion, encourage participants to write their questions on sticky notes and put them in the "parking lot." Explain that you will answer "parking lot" questions after lunch and breaks during regrouping. • Take questions.	• Stickies • Flip chart – Workshop Norms • Flip chart – Parking Lot

Day 1/Session 2: Individual Learning Plan and MPDSR Knowledge Assessment Pre-Test

Session Plan

Duration: 30 min

Session Objectives: By the end of this session, learners will be able to:

- Identify areas of MPDSR where they feel competent and where they require further instruction
- Complete the MPDSR knowledge assessment pre-test

Advanced Preparation
• Review session presentation and materials • Prepare flip charts with Learning Objectives and columns marked "Low," "Moderate" and "High" • Print copies of the Individual Learning Plan form and knowledge pre-test for distribution to learners • Decide whether learners will write their names on the Individual Learning Plan and Pre-Test, or use a "Learner Number" based on their order number on the attendance sheet or number drawn out of a bowl

Methods and Activities	Materials/Resources
Introduction (5 min) • Review the session objectives.	• MDSR Day 1 Session 2.pptx
Individual Learning Plan (10 min) • Share with learners that they will now complete an Individual Learning Plan form which will inform facilitators on their needs. During the workshop, facilitators will spend extra time and emphasis on those sessions that learners have marked low and moderate. This will also help learners identify areas they need to focus on. • Display Slide 3 of the PowerPoint slides for this session which explain how "low," "moderate" and "high" are defined. • Distribute Individual Learning Plan forms. • Ask learners to take a few minutes to complete their Individual Learning Plan. • Collect the completed Individual Learning Plans. • Bring the group back together for the pre-test.	• Flip chart paper (3 pages, 1 per day) with areas of competence and columns for "Low," "Moderate" and "High" • MDSR Day 1 Session 2.pptx • Handout - Individual Learning Plan.docx
MPDSR Knowledge Assessment Pre-Test (15 min) • Share with learners that they will now complete the knowledge pre-test. • Ask learners to write their name (or number) at the top of the pre-test, and collect the forms once completed. • Collect the completed tests from learners and inform them that correct answers will be reviewed after completion of the post-test on Day 3. • ***Facilitator Task*** – As learners complete the knowledge assessment pre-test (if time allows), create a flip chart summarising the tallies for each learning objective. Note where learners indicated that they have particularly low or particularly high levels of confidence. Refer to this during Day 1 Session 6, throughout the workshop and in the wrap-up session (Day 3/Session 5). • ***Facilitator Task*** – Grade the completed pre-tests, and enter grades into the database.	• Handout - Knowledge Assessment Pre-test-Learner.docx • Database – pre- and post-test scores

Individual Learning Plan

Learner: _____Facilitator:_____Date: _____

Instructions: In the form on the following page, for each topic listed, assess your level of competency according to the scale given below.

Level of Competency Scale	
Low	Topic is new or unfamiliar to the learner.
Moderate	Learner is aware of the topic. Learner is knowledgeable but will benefit from additional education on the topic.
High	Learner is highly knowledgeable on the topic and may be able to provide additional insight during the workshop.

Day/Session #	Learning Objectives	Level of Competence
D1/S3	Describe the goals of Maternal Death Surveillance and Response	Low – Moderate – High
D1/S4	Identify the steps of the six-step mortality audit cycle	Low – Moderate – High
D1/S5	Identify maternal deaths	Low – Moderate – High
D1/S5	Differentiate between direct and indirect obstetric deaths	Low – Moderate – High
D2/S2	Create and/or strengthen MPDSR committees	Low – Moderate – High
D2/S2	Describe the key roles and responsibilities of an MPDSR committee	Low – Moderate – High
D2/S3	Complete a maternal death review form	Low – Moderate – High
D2/S4	Assign cause of maternal death using ICD-MM	Low – Moderate – High
D3/S2	Develop an MDSR response plan	Low – Moderate – High
D3/S3	Monitor and analyse trends in maternal deaths and death review findings over time using combined data sources to inform priority responses (heath monitoring information system, death review findings and data from civil registration and vital statistics when available)	Low – Moderate – High
D3/S3	Analyse trends in maternal death data and findings of audits to inform priority responses at individual facility and regional/district level	Low – Moderate – High

MDSR Knowledge Assessment

Pre-Test

Answer Key

Correct answers are in bold.

1. Which is the best definition of a maternal death?
   a. **The death of a woman while pregnant or within 42 days of termination of pregnancy from any cause related to pregnancy or its management, but not from accidental or incidental causes**
   b. The death of a woman while pregnant or within 42 days of pregnancy, including any accidental or incidental causes
   c. The death of a woman while pregnant or within 42 days of pregnancy because of limited critical care services
2. How many steps are in the mortality audit cycle?
   a. 3 steps
   b. **6 steps**
   c. 9 steps
3. What are the steps of the mortality audit cycle?
   a. Identify, locate, recommend solutions, implement recommendations, evaluate and refine
   b. **Identify, collect information/notify, analyse information, recommend solutions, implement recommendations, evaluate and refine**
   c. Identify, review, recommend solutions, implement recommendations
4. Standardisation of identification of direct and indirect causes of maternal deaths are found in:
   a. ICD-PM
   b. **ICD-MM**
   c. ICD-20
5. What is the first step of the MDSR process?
   a. Review of the MDSR form
   b. **Identification of maternal deaths**
   c. Analyse maternal or perinatal death
6. What single term should be written on the death certificate?
   a. Cause of mortality
   b. **Underlying cause of death**
   c. Morbidity agent

7. Which of the following is a direct cause of maternal death in pregnancy?

   a. Pre-eclampsia/eclampsia

   b. Cardiac disorder

   c. Thyroid disorder

8. Which term is defined as the death of a women from direct or indirect causes more than 42 days but less than 1 year after termination of pregnancy?

   a. Late maternal death

   b. Delayed maternal mortality

   c. Postpartum death

9. What is the underlying cause of death of a woman with HIV who dies of septic shock and renal failure after a spontaneous incomplete abortion?

   a. Renal failure

   b. Septic abortion

   c. Septic shock

10. A 20-year-old woman (30 weeks pregnant), was involved in a traffic accident and died soon after reaching the hospital. What ICD-MM group does this fall into?

    a. Direct maternal death

    b. Indirect maternal death

    c. Coincidental cause of death

11. A 30-year-old woman (38 weeks pregnant), underwent a caesarean section for foetal distress. She had just had a full meal and died on the theatre table because of aspiration following anaesthesia. What ICD-MM group does this fall into?

    a. Other obstetric complications

    b. Coincidental causes

    c. Unanticipated complication of management

12. A 16-year-old girl who was being treated for a high fever died suddenly after reaching the facility. She had taken an herbal medication 2 days earlier, following unprotected intercourse 2 weeks after her last menstrual period. How should the provider document this death?

    a. Coincidental cause of death

    b. Indirect maternal death

    c. Not a pregnancy-related death

13. Pre-eclampsia has been determined to be a leading cause of maternal mortality in Facility X. Which of the options below is an appropriate action that an MPDSR committee could implement to improve the quality of care for women with pre-eclampsia in this facility?

    a. Take action against the provider who was on duty at the time of the two most recent maternal deaths caused by pre-eclampsia

    b. Ensure availability of magnesium sulphate in the emergency area at all times

    c. Immediately refer women who present with pre-eclampsia to another facility

14. What is the primary responsibility of the facility MPDSR committee?
    a. **To review and develop response actions following maternal and perinatal deaths**
    b. To penalise the provider involved in the maternal death
    c. To complete and send reports on maternal deaths to the district managers
15. How often should the facility MPDSR committee meet?
    a. When two or more similar maternal deaths are recorded
    b. Once or twice a year, depending on facility size
    c. **After a maternal death or periodically, even if there is no death**
16. Which types of maternal death are included in the ICD-MM classification system?
    a. Direct, coincidental, unspecified
    b. Direct, indirect, coincidental
    c. **Direct, unspecified, indirect**
17. Which of the following is NOT one of the guiding principles of the response portion of MPDSR?
    a. Monitoring the implementation of actions/responses identified during the death review
    b. Prioritising actions/responses based on avoidable factors identified during the death review
    c. **Not establishing a timeline for response actions**
18. Which of the following options includes examples of the three types of delay in the Three Delays Model?
    a. **Waiting too long to seek care because of the financial implications, the length of time it takes to reach care because of poor roads, and timeliness of care because of understaffed facilities**
    b. Receiving services at a busy facility, the time it takes to properly diagnose the root cause of an illness, and the time it takes medication or treatment to take effect
    c. The time it takes to find an affordable health care provider, the length of time it takes a provider to reach the patient, and the recovery time needed after a surgical procedure
19. What is an important function of a Civil Registration / Vital Statistics system?
    a. Registration of only births
    b. Registration of only deaths
    c. **Registration of births and deaths**
20. Monitoring and analysing trends in maternal deaths and the findings of death reviews should be done at the following level:
    a. Community and facility levels only
    b. **Community, facility, subnational and national levels**
    c. Subnational level only

Day 1/Session 3: Understanding Pathways to Maternal Death

Session Plan

Duration: 90 min

Session Objectives: By the end of this session, learners will be able to:

- Describe the goals of a continual MPDSR process
- Explain the Three Delays Model

Advanced Preparation
• Review country-specific policies/guidelines and tailor the session PowerPoint presentation to the country context, including adding information about other frameworks used to identify modifiable contributing factors (if the Three Delays Model is not used) • Review country-specific mortality data and update the PowerPoint presentation (Slide 6–7) • Ensure availability of at least 2 sticky notes per learner to use during the "Roses and Thorns" activity • Prepare 2 flip charts, one with the heading "Roses" and the other with the heading "Thorns" • Review session activities, timing, presentation and materials

Methods and Activities	Materials/Resources
Introduction (5 min) • Review the session objectives.	• MDSR Day 1 Session 3.pptx

Presentation and Discussion (20 min)
• Distribute the country-specific MPDSR guidelines to learners and review the session PowerPoint including the following topics:
  • Definition of maternal mortality;
  • Maternal mortality data;
  • What is MDSR?;
  • Goals and objectives of MDSR; and
  • MDSR Overview.
	• MDSR Day 1 Session 3.pptx

Reflections on Maternal Death (20 min) • Ask the learners to close their eyes and recall a time when they provided health care for a woman who died while pregnant or soon after giving birth. Tell them to try to recall the causes of the death and any complications the woman may have experienced before the death. • Ask learners to open their eyes and invite **1 learner** to volunteer to share their story.	• MDSR Day 1 Session 3.pptx
Roses and Thorns (15 min) • This activity will encourage critical thinking about the importance of MDSR. Based on the story just told and the story each learner reflected upon, ask them to identify strengths/opportunities (roses) and potential challenges (thorns). • Distribute 2 different coloured sticky notes to each learner. • Give the learners 8–10 minutes to reflect and list their strengths/opportunities (roses) and challenge (thorn) from the story.	• MDSR Day 1 Session 3.pptx • 2 flip charts • Stickies – 1 colour for roses, another for thorns

Methods and Activities	Materials/Resources
• Ask learners to write a strength/opportunity (rose) and a challenge (thorn). Instruct learners on which colour sticky to use for their roses and which one to use for their thorns. • Ask the learners to post their responses on the relevant flip chart. • Select a few strengths/opportunities (roses) and a few challenges (thorns) and share with the group. Emphasise that each maternal death needs to be reviewed and responses defined to prevent future death.	
Three Delays Model (15 min) • Return to the PowerPoint slides to review the Three Delays Model.	• MDSR Day 1 Session 3.pptx
Summary (15 min) • Summarise key points from this session.	

Day 1/Session 4: Six-Step Mortality Audit Cycle

Session Plan

Duration: 60 min

Session Objectives: By the end of this session, learners will be able to:

- Identify modifiable contributing factors that led to Mrs. X's death
- Describe the six steps of the mortality audit cycle

Advanced Preparation
• Ensure that the Why Did Mrs. X Die? video can be played during the session and that all learners will be able to see and hear the video (*If there is a version available in a local language, please feel free to download and use this version of the video for this session)* • Print 2–3 copies of the Why Did Mrs. X Die? transcript (if no video player/speakers available) • Prepare 3 sets of metacards/firm coloured paper cut in half for the six steps of the mortality audit cycle exercise • Review session activities, timing, presentation and materials

Methods and Activities	Materials/Resources
Introduction (5 min) • Review the session objectives. • Introduce this session by asking learners what they know about the MDSR/audit cycle and show PowerPoint on the definition of audit.	• 3 sets of 6 meta cards/firm coloured paper cut in half • MDSR Day 1 Session 4.pptx
Why Did Mrs. X Die? (30 min) • Divide learners into 3 groups. Distribute flip chart paper for small group work. • Introduce the activity by saying that they will watch a video that illustrates the pathways to death discussed in the previous session. • Review with the learners their understanding of the Three Delays Model. • Ask learners to take notes on what factors may have contributed to Mrs. X's death. • Play Why Did Mrs. X Die? video (14:37); if there is no video capability, ask learners to take turns reading the Why Did Mrs. X Die? transcript to the group. • Ask learners to work in groups to **identify modifiable contributing factors** (e.g., delays and/or barriers in the home, community and hospital) that led to Mrs. X's death. • Ask **one group** to present **the modifiable contributing factors** that they have identified. Invite discussion by asking other groups to comment on whether the presenting group missed any modifiable contributing factors. • Make sure that the group notes all points from the Mrs. X PowerPoint summary slides.	• MDSR Day 1 Session 4.pptx • Why Did Mrs. X Die? Video • Why Did Mrs. X Die? transcript (if no video player/speakers available) • Flip charts for small group work

Methods and Activities	Materials/Resources
Exercise: Six Steps of Mortality Audit (10 min) • This activity will introduce learners to the six steps of the mortality audit cycle. • Provide each group with a flip chart and set of prepared meta cards with one step written on each meta card. • Ask the groups to discuss each step and place the cards in the correct order. • The first group to correctly order the steps wins and will present their chart to the large group. • Review the steps and correct accordingly.	• Flip charts (1 per group) • Index/meta cards/firm coloured paper cut in half (1 set per group) with the six steps of the audit cycle • Masking tape
Presentation (10 min) • Introduce the six-step mortality audit cycle. • Review each step while asking for examples from the group.	• MDSR Day 1 Session 4.pptx
Summary (5 min) • Summarise key points from this session.	

Why Did Mrs. X Die? Transcript

This is the story of a mother called Mrs. X. Mrs. X could have come from anywhere, but she is most likely to have come from a low-income family in a poor country. Mrs. X represents a universal mother.

Mrs. X died in the small hospital 8 months pregnant. The doctor had no doubt about the cause of her death. A haemorrhage. Her placenta had been too low down in her uterus and hadn't been identified in time. The doctor recorded her death, closed her file and added it to a growing stack of similar cases locked away in a cupboard. Over time, these stacks grew and grew.

Some years later, worried about the high numbers of mothers dying in their hospital, the staff reviewed the cases to learn lessons and make improvements. They reopened and reviewed file after file. One of these was that of Mrs. X. When they read it, they found two striking points. First, Mrs. X had arrived at the hospital bleeding heavily, yet she only received half a litre of blood. This was all the hospital had available, and it was not enough. Second, Mrs. X and her baby needed a caesarean section, but resources were limited, and the operation took place 3 hours too late. Both Mrs. X and her unborn baby died.

The group then visited Mrs. X's village and spoke with her family, neighbours and community leaders. They found that there were other reasons for her death. Mrs. X had a history of bleeding early in pregnancy but wasn't aware that this was a danger sign needing attention. She also had had only one antenatal visit. If she'd gone regularly, her problem may have been picked up. She would have been referred to a specialist, and she and her baby could have survived. Mrs. X was also severely anaemic, so the loss of even the smallest amount of blood, as little as a cupful, could have tipped the balance between life and death. The team discovered that it had taken 6 hours to collect enough money to pay for her transport to the hospital.

As a result of these findings, the hospital improved their blood supplies, updated their emergency procedures, and caesarean sections could now be performed as soon as it was necessary. The local health department provided more midwives in more places to enable more women to have access to good maternity services throughout their pregnancy and birth. Mrs. X's file was closed again.

A year later, a group of visiting health professionals came to the hospital as part of a national inquiry into maternal deaths. They wanted to understand what lay behind the statistics, beyond the numbers, and discover the wider social and economic reasons for the deaths of women like Mrs. X and their babies and what could be done about it. The aim of their work was to recommend changes to the national or regional policies and strategies, to improve women's health and to save mothers' lives. When they reviewed all that data, common patterns emerged. They found most mothers' stories were similar to that of Mrs. X.

Like many women in developing countries, Mrs. X worked day and night to care and provide for her family. She was illiterate. She lived in poverty in a remote village. She was unable to choose when and if to become pregnant. Mrs. X was also weak and unhealthy. In her society, the male members of the family came first in the queue for food, for education and for health care. Mrs. X often went without. For women like her, death or complications in pregnancy were, and still are, a real threat.

By uncovering the stories of women like Mrs. X, the national team were able to put pressure on the government to provide more education for girls, more resources and staff for maternity care, and better reproductive health services. They also pushed for raising community awareness about health, nutrition, family planning and the benefits of skilled maternity care.

Mrs. X started on the pathway of her pregnancy exhausted, with few physical reserves. She hadn't chosen to become pregnant. It was her destiny. The only value she had to her family and community was her ability to produce children. However, Mrs. X had been lucky, in a way. At least she'd had a childhood. In some societies, girls are married off while still children themselves, not physically or mentally prepared for childbirth or motherhood.

If Mrs. X had been treated as an equal to her brothers while she was growing up, she could have been healthier and better educated. If she'd had more control over her adult life, she may have been able to choose when she had children. As Mrs. X continued her walk through pregnancy, her prospects would've been better if she visited a skilled professional health worker, a midwife or doctor. Even if Mrs. X had known the importance of antenatal care, her midwife was many miles walk away. If only Mrs. X's problems had been recognised and her anaemia treated. If only she'd had specialist care in time.

Because of tradition, poverty and lack of knowledge, many women in Mrs. X's community gave birth at home. Some told stories of being treated harshly and disrespectfully by hospital staff. Some were expected to pay bribes. Mrs. X had also planned to give birth at home, but then she developed a life-threatening complication. She started to bleed.

If Mrs. X had been referred and had transport in time to go to a hospital with facilities for providing comprehensive emergency obstetric care, such as equipment, well-trained staff and enough medicines and blood, her life and that of her baby might have been saved.

Mrs. X could have lived to raise her children.

After the long delay in finding transport, Mrs. X was eventually admitted to the hospital where, due to the lack of resources, she and her baby died.

Along the pathway of her pregnancy, Mrs. X faced barriers that prevented her from receiving the care she needed. Each could have been removed. And yet, many or all of these barriers remain along the roads taken by women today.

Mrs. X could be any woman. Your sister, your wife, your mother, your daughter, you. It is up to all of us, no matter where we live, who we are, or what we do, to help remove these barriers for Mrs. X and the millions of pregnant women like her. As individuals, we can lobby for better health care and equal rights for girls and women. As communities, we can make sure our pregnant women are informed and cared for. We can organise local education, support and transport for our mothers. As health care workers, we can provide quality care in a respectful environment. And we can continue to open the files and learn the lessons from mothers like Mrs. X.

As local health planners, we can provide high-quality maternity and family planning services that reach out to more women. And as politicians and policy-makers, we can strengthen human rights. We can improve education for girls and women. And we can provide the resources for better, more effective health care services across the world, wherever they're needed, now.

Day 1/Session 5: Identifying Maternal Deaths

Session Plan

Duration: 60 min

Session Objectives: By the end of this session, learners will be able to:

- Distinguish between deaths that are maternal deaths and those that are not maternal deaths
- Differentiate between direct causes and indirect causes of maternal death
- Describe the process of identifying maternal deaths in their facilities

Advanced Preparation
• Prepare 4 flip charts with one type of maternal death type per flip chart (indirect, direct, coincidental and unknown/undetermined) • Paste the flip charts on the wall, but keep covered up until it is time for the types of maternal deaths exercise • Prepare index/meta cards/firm coloured paper cut in half with a cause of death (from the "Types of Maternal Deaths" mix-and-match list below) • Alternatively, print the "printable" mix-and-match cards, and cut with scissors (please find on pages 29–30) • Review session activities, timing, presentation and materials

Methods and Activities	Materials/Resources
Introduction (15 min) • Review the session objectives. • Introduce the session topic by asking learners how they would define maternal deaths. • Review the definition of maternal death, direct obstetric deaths, indirect obstetric deaths and pregnancy-related death. • Ask 1–2 learners to briefly describe how deaths in their facilities are identified.	• MDSR Day 1 Session 5.pptx
Exercise: Identifying maternal deaths (20 min) • Divide learners into 3–4 groups. • Instruct each learner to turn to Page 13 in the Learner's Guide. • Assign each group 2–3 scenarios. • Instruct individuals to read their assigned scenarios and determine if the scenario described is a maternal death; if yes, determine whether the maternal death is due to direct or indirect causes. • When the learners are finished, review the answers with the group. • Ask if learners have any questions.	• Identifying maternal deaths - Answer key (below)
Exercise: Types of maternal death (mix-and-match cards) (20 min) • Prepare 4 flip charts with one type of maternal death per flip chart (indirect, direct, coincidental and unknown/undetermined). • Paste these flip charts on the wall. • Prepare 15 meta cards/firm coloured paper with one cause of death per card. • Ask the learners to work in pairs, pick a meta card/firm coloured paper, and match it with the appropriate type of maternal death by pasting it on the appropriate flip chart.	• 4 Flip charts • Index/meta cards/firm coloured paper cut in half • Mix-and-match answer key

Methods and Activities	Materials/Resources
• Review the answers with the group.	
Summary (5 min) • Summarise key points of the session.	

Identifying Maternal Deaths – Answer Key

Learner Instructions: Read each of the scenarios below and determine whether the scenario described is a maternal death. If it is a maternal death, determine whether the maternal death is due to direct or indirect causes.

Scenario 1

A 21-year-old woman went into labour and delivered a healthy baby at home normally. One hour later, she was bleeding heavily. She was rushed to the health facility but died 2 hours upon arrival.

Answer Key: **Maternal death, Direct – Postpartum Haemorrhage**

Scenario 2

A 30-year-old pregnant woman at 7 months of her pregnancy was on her way to the clinic when the vehicle she was travelling in overturned. She was severely injured and taken to the hospital but died a few hours later.

Answer Key: **Non-Maternal death, Coincidental – Car accident**

Scenario 3

A 19-year-old woman was rushed to the outpatient department of a small hospital with severe headache. Her husband said she was pregnant at 8 months but was on regular antenatal care (ANC) at her local primary health care centre. It was her first pregnancy. She had severe seizures just prior to arrival at the hospital. She was admitted and died immediately

Answer Key: **Maternal death, Direct – Pre-eclampsia/eclampsia**

Scenario 4

A pregnant woman at 4 months was having fever at night, with sweats and cough. She had not been to any ANC visits. She was HIV-positive. She was rushed to the hospital with shortness of breath and difficulty in breathing. She was found to have pneumonia and started on treatment but died a few hours later.

Answer Key: **Maternal death, Indirect – Pneumonia**

Scenario 5

A 21-year-old woman missed her periods and went for a test. When she found out she was pregnant, she went to a local clinic and bought some medicine to try to end the pregnancy. She started bleeding heavily and died a few hours after arriving at the hospital.

Answer Key: **Maternal death, Direct – Abortion**

Scenario 6

A 35-year-old woman arrived at the health facility exhausted and pale. The husband said she was in labour for the last 12 hours at home; since all her previous deliveries were at home and without problems, they kept her at home. On examination, the midwife found that the head was still high, but the cervix was fully dilated. They immediately prepared her for an emergency caesarean section; however, the woman died before the C-section could be performed.

Answer Key: **Maternal death, Direct, Other obstetric complication – Obstructed labour**

Scenario 7

A 29-year-old woman who was 30 weeks pregnant had fever, vomiting and joints pain. She started having high fever and was taken to the hospital and was put on anti-malaria medication for 24 hours. However, her condition deteriorated overnight, and she died.

Answer Key: **Maternal death, Indirect – Malaria**

Scenario 8

A 35-year-old woman was in her third pregnancy and did not have any problems. She went into labour and her husband kept her at home because her two previous babies had been born at home. She was attended by a local traditional birth attendant who performed repeated vaginal examinations to check her progress. After 24 hours, she did not deliver so the husband took her to the hospital. The baby was breech. Assisted breech delivery was required. She did not receive any antibiotics after the assisted delivery but was kept for observation for 8 hours in the hospital before being discharged and sent home. She returned to the maternity ward complaining of excessive foul-smelling discharge and high fever. She died a day later.

Answer Key: Maternal death, Direct – Puerperal Sepsis

Type of Maternal Deaths

Mix-and-Match Cards Answer Key

Answer Key

- Card 1: Septic abortion - Direct
- Card 2: Ectopic pregnancy - Direct
- Card 3: Postpartum haemorrhage - Direct
- Card 4: Pregnancy with bus accident - Coincidental
- Card 5: Severe pre-eclampsia - Direct
- Card 6: Pregnancy with severe anaemia due to malaria - Indirect
- Card 7: Ten days postpartum with severe pneumonia - Indirect
- Card 8: Pregnancy with breast cancer - Indirect
- Card 9: Pregnancy with anaesthetic complication - Direct
- Card 10: Five days postpartum and cause of death not known - Unknown/undetermined
- Card 11: Pregnancy with severe mitral stenosis - Indirect
- Card 12: Pregnancy with severe cervical tear - Direct
- Card 13: Thirty weeks gestation, cause of death not known - Unknown/undetermined
- Card 14: Retained placenta - Direct
- Card 15: Aspiration pneumonitis due to anaesthesia during delivery - Direct

Day 1/Session 6: Day 1 Wrap-up Discussion

Session Plan

Duration: 30 min

Session Objectives: By the end of this session, learners will be able to:

- Review content discussed over the last 5 sessions

Advanced Preparation
• Review the Individual Learning Plan responses (if time allows, tally the votes across each learning objective) • Review parking lot questions

Methods and Activities	Materials/Resources
Introduction (5 min) • Review the session objectives. • Share with learners that this session will be focused on answering questions about content shared over the previous 5 sessions.	• MDSR Day 1 Session 6.pptx

Discussion (15 min)
• Review the day's sessions including the following topics:
  • Describe the goals of continual MDSR process;
  • Describe and identify the six steps of the mortality audit cycle;
  • Distinguish between deaths that are maternal deaths and those that are not maternal deaths; and
  • Differentiate between direct causes and indirect causes of maternal death.
• Revisit parking lot.
• Wrap up session by asking the group if they have any questions or concerns.
	• Flip chart with Individual Learning Plan vote tally

Summary and Assignment (10 min)
• Remind learners of the start time for the next day.
• Announce homework for the next day.
• **Learner Homework**
  • Ask learners to review the ICD-MM reference aid and form (Pages 37–38 of Learner's Guide) located in Day 2 Session 4.
  • Ask learners to bring real case summaries or case notes to review the next day.
  • Ask learners to review the MPDSR national guidelines.	

Day 2/Session 1: Day 1 Review and Knowledge Check

Session Plan

Duration: 30 min

Session Objectives: By the end of this session, learners will be able to:

- Describe the goals of continual MDSR process
- Describe and identify the six steps of the mortality audit cycle
- Distinguish between deaths that are maternal deaths and those that are not maternal deaths
- Differentiate between direct causes and indirect causes of maternal death

Advanced Preparation
• Review Individual Learning Plan and summarise findings • Ensure the availability of internet access for the online Kahoot! Game • Ensure availability of a laptop and 2–3 internet-enabled devices for the Kahoot! Game • Load the Kahoot website and log in to the MDSR game • Ask for 2–3 volunteers to log in to the game before the session begins (each volunteer will serve as the team captain for the Kahoot! Game) • Review session timing, presentation and materials

Methods and Activities	Materials/Resources
Introduction (5 min) • Welcome learners back to the workshop. • Review the day's agenda with learners, highlighting areas where more emphasis will be given based on the Individual Learning Plan summary. • Share with learners that this session will be about reviewing content learned on the previous day. • Review the session objectives.	• MDSR Day 2 Session1.pptx • Individual Learning Plan summary flip chart

Check Your Knowledge (35 min)
• With internet access:
  • Learners should break into 2–3 groups. Each group will have a captain who is logged in to the game and enters the answers for each group.
  • Facilitators reference "Information for Kahoot! Game" below and walk learners through playing the online Kahoot! Game.
  • Explain that questions will be projected on the screen in front of the room. Each response has a colour and shape associated with it. Learners must choose the corresponding shape and colour to the correct response on their screens.
  • Inform learners that points are awarded based on how quickly and accurately they answer the questions.
• Without internet access:
  • Use the version of the game embedded in the PowerPoint for this session.
  • Award 10 points for each correct answer.
• Review the answers with the group.
	• Without internet access – use the game questions in the PowerPoint slides

Summary (5 min) • Discuss and answer any questions from the group.	

Information for Kahoot Game

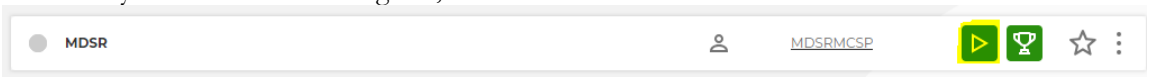
What is Kahoot?

- A free platform to create quizzes and surveys;
- Allows all participants to simultaneously complete the quiz via their phones or computers;
- Determines a "winner" based on who gets the questions right in the shortest amount of time;
- Requires mid-to-high bandwidth (internet connectivity), especially with a large group of participants.

How does the facilitator access the MPDSR game?

- Visit https://kahoot.com/ and log in using the following information:
  - Username: MPDSRKnowledge;
  - Password: MPDSRKA.
- On the top of the screen, click on **kahoots.**

- Once you have accessed the game, select the **"PLAY"** button.



How do learners begin playing the Kahoot game?

- The facilitator should load the Kahoot website and log in to the MDSR game. Once you have accessed the game, select the **"PLAY"** button.
- Select a mode:
  - Classic (player vs. player): Each learner plays individually on their device.
  - Team (team vs. team): Several learners work together on one device. **This is the recommended option for this workshop.**
- After you have selected a mode, you will be brought to a screen with a Game **PIN.**
- Instruct learners to visit **kahoot.it** on any device and enter the **PIN.**
- Learners do not need an account to play.
- Explain that the questions will be displayed on the screen in front of the room. Learners will have 20 seconds to answer each question. Learners will see the answer options on their device.
- Explain that questions will be projected on the screen in front of the room. Each response has a colour and shape associated with it. Learners must choose the corresponding shape and colour to the correct response on their screens.
- Once all the learners have joined the game, click **"START"** to begin playing.
  - You must keep click **"Next"** to switch between questions or questions and scoreboards.

MDSR Kahoot Game Questions - Answer Key

This game introduces participants to key concepts of MDSR (Answers in **bold**)

1. What does MDSR stand for?
    a. Maternal Death System and Response
    b. **Maternal Death Surveillance and Response**
    c. Maternal Death Surveillance and Review
    d. Maternal Death Systematic Register
2. Which step in the MDSR process is often **not** carried out?
    a. Identification of the death
    b. Review of the cases
    c. Ongoing monitoring of recommendations
    d. Analysis of the contributing factors
3. Which of the following is **not** part of the MDSR response?
    a. Action-oriented review mechanisms
    b. Legal framework for protection of families and providers
    c. Legal framework for punishing the providers
    d. Active civil society engagement
4. Which of these is a maternal death and requires notification?
    a. 36-year-old pregnant woman who died of pneumonia
    b. 52-year-old woman who died in an accident
    c. 24-year-old woman who died in her sleep
    d. 60-year-old woman who died of cancer
5. This term defines all deaths of women during or within 42 days of pregnancy regardless of cause
    a. Indirect obstetric death
    b. Maternal death
    c. Direct obstetric death
    d. Death during pregnancy, childbirth and puerperium
6. This term defines maternal deaths resulting from obstetric complications of the pregnancy state
    a. Indirect obstetric deaths
    b. Late maternal deaths
    c. Direct obstetric deaths
    d. Maternal deaths

7. Facility deaths should be identified and notified to the authorities within 24 hours (T/F)
   a. True
   b. False
8. Community deaths should be identified and notified to the authorities within 72 hours (T/F)
   a. True
   b. False
9. Notifying suspected maternal deaths, whether or not any occurred is called _____
   a. Review
   b. Identification
   c. Complete reporting
   d. Zero reporting
10. _____ is the action portion of surveillance
   a. Response
   b. Review
   c. Reaction
   d. Result
11. "No name, no game" is a key principle of MDSR (T/F)
   a. True
   b. False

Day 2/Session 2: Creating or Strengthening MPDSR Committees

Session Plan

Duration: 60 min

Session Objectives: By the end of this session, learners will be able to:

- Create a facility or district/subnational MPDSR committee
- Strengthen a facility or district/subnational MPDSR committee to optimise MPDSR processes

Advanced Preparation
• Update the session PowerPoint as needed to reflect information in the national MPDSR guidelines (Updates should include adding country-specific terms of reference, codes of conduct or membership guidelines for subnational and facility-level MPDSR committees, and structures for the MPDSR committee) • Locate the section of the national MPDSR guidelines that defines the membership of MPDSR committees (district/subnational and facility levels); include the page number for that section on Slide 5 of the session PowerPoint presentation • Review session presentation and materials • Review session activities, timing, presentation and materials

Methods and Activities	Materials/Resources
Introduction (10 min) • Review the session objectives. • Introduce the session by asking participants to raise their hands if they are members of an MPDSR and/or a quality improvement (QI) committee. Ask **a volunteer** to tell the group which type of committee they belong to and describe the membership of that committee (e.g., facility MPDSR committee, district/subnational MPDSR committee, QI committee, combined MPDSR/QI committee) and to share a brief reflection on what is working well, and what they think needs strengthening. • Invite questions and reflections from other participants (on MPDSR/QI structures and membership).	• MDSR Day 2 Session 2.pptx
Presentation and Discussion: Structure and membership of facility and district/subnational MPDSR committees (10 min) • Show the PowerPoint slides with the national MPDSR structure (adapted as needed to reflect the country guidelines). • Ask participants to read to themselves the section of their national MPDSR guidelines that defines the membership and composition of MPDSR committees. • Review learners' understanding of the guidelines on MPDSR committee membership and functions.	• MDSR Day 2 Session 2.pptx
Exercise: Creating or strengthening MPDSR committees, including roles and responsibilities and creating a "no name, no blame" environment (30 min) • Review the PowerPoint slides on promoting a "no name, no blame" environment. • Ask learners to divide into 4 small groups. • Ask learners to turn to Page 18 in their Learner's Guide. • Learners will individually review the "Illustrative roles and responsibilities	• MDSR Day 2 Session 2.pptx

Methods and Activities	Materials/Resources
for an MPDSR committee" document in their Learner's Guide. • Learners will assign members of their group to be the moderator, presenter, secretary, data manager or member(s). Explain to learners that they will continue to play these roles in the next sessions, when they practice reviewing maternal deaths. • Groups will discuss how they will ensure confidentiality and a "no name, no blame" environment in their MPDSR committees. • Return to the larger group. • Ask **one group** to report out on how they will try to ensure a "no name, no blame" environment.	
Summary and Synthesis (10 min) • Show the final slide in the PowerPoint (Discussion questions). • Invite participants to share reflections on what they will do to create or strengthen the MPDSR (or MPDSR/QI) committee in their area. • Answer any questions and remind learners that they will continue in these small groups for the next session.	

Illustrative Roles and Responsibilities for an MPDSR Committee

Adapted from: De Brouwere V., Zinnen V., Delvaux T. (2013). How to conduct Maternal Death Reviews (MDR). Guidelines and tools for health professionals. London, International Federation of Gynaecologists and Obstetricians, FIGO LOGIC, http://www.figo.org/files/figo-corp/MDR_Guidelines_2013.pdf accessed January 2018

Table 3: Illustrative Roles and Responsibilities

Role	Responsibilities	Skills	Reports to/ Consults with
Moderator/ chair	• Convene the MPDSR committee at regular intervals • Facilitate discussion and encourage respectful and open discussion • Establish ground rules and remind participants of the code of conduct including confidentiality, and no-blame principle • Lead review of previous meeting's recommendations and status updates	Facilitation, listening, impartiality	District manager, Ministy of Health
Presenter	**Before the review meeting:** • Identify maternal deaths • Gather all information relevant to the cases to be reviewed • Conduct the interviews with staff involved with case **During the review meeting:** • Present summary of clinical cases under review at committee meetings • Complete MPDSR form and medical certificate of the cause of death • Follow committee code of conduct and ensure **no-blame environment**	Tact, sensitivity, attention to detail	Secretary
Secretary	• Work with the chair to prepare the agenda for the meeting • In consultation with presenter, ensure relevant documents are available for the review meeting • Summarise the case analysis • Send completed form to appropriate person/focal point • Develop and share report of the review meeting • Follow committee code of conduct and ensure **no-blame environment**	Writing, coordination of tasks	Moderator/chair, presenter
Data manager	• Periodically review data trends • Monitor data input quality • Input data into database • Send data to receiving parties (Ministry of Health, etc.) • Develop dashboard and data visualisation • Follow committee code of conduct and ensure **no-blame environment**	Monitoring and evaluation, data management	Moderator/chair, presenter, secretary

Role	Responsibilities	Skills	Reports to/ Consults with
Members	• Participate in review of maternal deaths in the facility • Recommend and participate in implementation and follow-up of individual and aggregated death review responses • Ensure confidentiality of meeting proceedings • Follow committee code of conduct and ensure **no-blame environment**		
QI team representative	• Participate in review of maternal deaths in the facility • Recommend and participate in implementation and follow-up of individual and aggregated death review responses • Transmit QI interventions developed by the MPDSR committee to the QI team • Coordinate and report on status of QI team's interventions to the MPDSR committee • Ensure confidentiality of meeting proceedings • Follow committee code of conduct and ensure **no-blame environment**		

Day 2/Session 3: Introduction to MDSR Forms

Session Plan

Duration: 90 min

Session Objectives: By the end of this session, learners will be able to:

- Identify the key components of country-specific MDSR forms
- Describe the sample MDSR forms that will be used in the workshop to build core MDSR skills
- Demonstrate how to complete a case summary of a maternal death using a sample MDSR form

Advanced Preparation
• Obtain copies of all MPDSR forms used in the country where workshop is being held • Obtain copies of completed clinical case summaries/notes from facility committees, whether included in a combined single MDSR form or as a stand-alone MDSR form or separate document • Review session presentation and materials • Print copies of handout – Death Scenario Clinical Case Summaries (1–4) for each participant • Review session activities, timing, presentation and materials

Methods and Activities	Materials/Resources
Introduction (10 min) • Review the session objectives. • Explain to learners that this session will be focused on learning how to complete a case summary using MPDSR forms.	• MDSR Day 2 Session 3.pptx
Discussion (20 min) • Distribute the country-specific MPDSR form and ask learners to take 5 minutes to review the components of the form. • Using the PowerPoint, introduce the sample forms used during the workshop. • Ask learners to turn to Page 21 in the Learner's Guide. • Walk learners through **Maternal Death Review A – Abortion** (Learner's Guide Pages 21–23), highlighting the information that should be included in a case summary. • Ask learners to comment on the case summary for the abortion example.	• Specific-country MPDSR death reporting form • MDSR Day 2 Session 3.pptx • Death Scenario Example A – Abortion (below)
Activity (45 min) • Learners will remain in their small groups, maintaining the roles they were assigned in the last session. • In small groups, learners will review one Maternal Death Review and Clinical Summary Forms Scenario, and complete a case summary based on the details in that form. • Circulate around the room to offer guidance and review the groups' case summaries. • Ensure that the summaries are complete. • Distribute the handout (completed case summaries) and ask learners to compare their case summary with the completed version in the handout. Emphasise that the facilitator's case summary is just a model. Remind learners that any information is better than no information and not to let the perfect be the enemy of the good.	• Handout – Death Scenario Completed Case Summaries

Methods and Activities	Materials/Resources
• The groups will use the completed case summaries handout for the next session.	
Activity: Reviewing facility-level summary notes and cases (10 min) • If available, distribute country-specific completed facility-level case summaries to learners. • Ask learners to take a few minutes to review the summaries. • Ask learners to discuss their observations of the real cases when compared with the samples provided in the previous activity.	• Completed facility-level case summaries
Summary (5 min) • Ask learners to share one way they could improve their case summary. • Remind learners of the importance of complete documentation in a medical chart so an accurate case summary can be prepared. • Remind learners that any information is better than no information and not to let the perfect be the enemy of the good.	

Maternal Death Review and Clinical Summary Forms[2] (Scenario A) – Abortion

Table 4: Clinical Summary Form – Abortion

Date of MDR: 10 December 2017	**MDR session N°:** 000 - example

Patient code: Patient001		**Patient Age:** 23 Years
Marital status: ☐**married/cohabitant**	☐**divorced**	☒**single**
Gravida: 1	**Para:** 0	**Live children:** 0
Number of previous caesarean sections: 0		**Date of last CS:** 0
Prior obstetric complications: None		
Pre-existing medical problems: None		
Number of ANC visits in this pregnancy: 0		
Risk factor(s)/complications detected during this pregnancy/labour: None		

If delivered/aborted before admission: None		
Date:	**Duration of amenorrhea:**	**Alive baby:** ☐Yes ☐No
Place of birth/abortion:	**Assisted by:**	
Complications occurred: ☐Yes ☐No		

If pregnant on admission:
Duration of amenorrhea: 3 months

Referred from another institution: ☒Yes ☐No	**Type of institution?** Health centre
Reason for coming to hospital: Severe lower abdominal pain, Bleeding with passage of fleshy mass from the vagina	
History of the referral/process of reaching the institution: The patient had wanted to terminate the pregnancy. A woman in the village gave her some herbs to insert into her vagina. After some days, she began	

[2] Adapted from: De Brouwere V., Zinnen V., Delvaux T. (2013). How to Conduct Maternal Death Reviews (MDR). Guidelines and Tools for Health Professionals. London, International Federation of Gynecologists and Obstetricians, FIGO LOGIC, https://www.figo.org/sites/default/files/uploads/project-publications/LOGIC/VfinalEdited%20MDR%20Guidelines%20final%202014.pdf

bleeding and passed several small pieces of fleshy tissue from her vagina. She developed abdominal pain and foul-smelling discharge and was rushed to the health centre, which referred her to the hospital.

What are possible associated factors that may have contributed to this death (e.g., woman's status in community)? She was a young woman unable to access safe abortion services.

Date and time of admission: 01 December 2017; 7:00 pm

Main reason for admission: Incomplete abortion (induced abortion)

Initial clinical assessment/ultrasound/laboratory findings at admission: General condition was poor. Ultrasound revealed echogenic content suggestive of product of conception with free fluid in the uterus and pelvic cavity.

Diagnosis made at admission: Incomplete abortion

Summary of the case evolution if complication(s) occurred after admission: After failure of expulsion of the products of conception, she developed foul discharge and was rushed to the hospital where her condition worsened.

Sequence of events if abortion/delivery occurred: see summary above

Complications: Sepsis

Clinical assessment/ultrasound/laboratory findings: Incomplete septic abortion

Diagnosis: Incomplete septic abortion

How does the woman's status in the community affect the process after admission in this particular case?

Main treatment(s) given: IV fluids; antibiotics

Time between diagnosis of complication and appropriate treatment: 3 hours

Complementary tests and laboratory results after treatment:

Summary of case evolution and monitoring put in place (t°, BP, pulse and bleeding): She was admitted, and put on IV fluids, and antibiotics and blood transfusion. Central venous catheterisation was also done. She was taken to the theatre for evacuation of the products of conception, which was found to be foul smelling. She developed persistent hypotension with BP 49/25 mmHg; pulse 120 bpm; temperature 36.6°C; haemoglobin 6gm/dl and was not responding to the fluids.

Date of death: 01 December 2017

Time elapsed between complication and death: 5 hours

Cause of death notified in records: Incomplete Septic Abortion

Pregnancy outcome (live birth, stillbirth, early death, miscarriage): Miscarriage

Other information available (from family, health centres, community, etc.)

Summary of the case, to be presented to the MPDSR team:

A 23-year-old woman was admitted to the hospital at 12 weeks' gestation in a general poor health with low blood pressure and tachycardia. She had blood pressure of 49/25 mmHg, tachycardia (120 beats/min) and body temperature of 36.6°C. She said she was given some herbs by a woman in the village to insert into her vagina to try to end the pregnancy. She was put on isotonic solution while further assessments were completed. Her haemoglobin was 6 grams/dL. Ultrasound revealed echogenic content suggestive of product of conception with free fluid in the uterus and pelvic cavity. She was taken to the theatre where an evacuation of the uterus was performed. Foul smelling products of conception were removed. She was put on IV fluids and antibiotics. Despite aggressive hydration therapy including blood products, by central venous catheterisation, she had persistent bradycardia and hypotension. The woman died after 5 hours despite all the efforts.

Maternal Death Review and Clinical Summary Forms[3] (Scenario 1) – Postpartum Haemorrhage (PPH)

Table 5: Clinical Summary Form – PPH

Date of MDR: 25 July, 2016	**MDR session N°:** 001

Patient code: Patient002 **Patient Age:** 35 Years

Marital status: ☒**married/cohabitant** ☐**divorced** ☐**single**

Gravida: 5 **Para:** 4 **Live children:** 4

Number of previous caesarean sections: 0 **Date of last CS:** 0

Prior obstetric complications: Retained placenta

Pre-existing medical problems: Anaemia

Number of ANC visits in this pregnancy: 3

Risk factor(s)/complications detected during this pregnancy/labour: Anaemia

If delivered/aborted before admission:

Date: **Duration of amenorrhea:** **Alive baby:** ☐Yes ☐No

Place of birth/abortion: **Assisted by:**

Complications occurred: ☐Yes ☐No

If pregnant on admission:

Duration of amenorrhea: 38 Weeks

Referred from another institution: ☐Yes ☐No **Type of institution?** No

Reason for coming to hospital: Labour pains

History of the referral/process of reaching the institution: None

What are possible associated factors that may have contributed to this death (e.g., woman's status in community)? None

Date and time of admission: 17 July 2016 12:00 AM

Main reason for admission: Normal labour

[3] Adapted from: De Brouwere V., Zinnen V., Delvaux T. (2013). How to Conduct Maternal Death Reviews (MDR). Guidelines and Tools for Health Professionals. London, International Federation of Gynecologists and Obstetricians, FIGO LOGIC, https://www.figo.org/sites/default/files/uploads/project-publications/LOGIC/VfinalEdited%20MDR%20Guidelines%20final%202014.pdf

Summary of the case evolution if complication(s) occurred after admission: The woman was admitted to the labour ward for observation and to the delivery room where she delivered normally. However, after 2 hours she developed severe vaginal bleeding. She was taken back for evaluation and given IV oxytocin 20 IU.

Sequence of events if abortion/delivery occurred: See above

Complications: Bleeding after delivery

Clinical assessment/ultrasound/laboratory findings: None

Diagnosis: Postpartum haemorrhage

How does the woman's status in the community affect the process after admission in this particular case?

Main treatment(s) given: IV fluids; antibiotics; 20 IU of oxytocin

Time between diagnosis of complication and appropriate treatment: 4 hours

Complementary tests and laboratory results after treatment: None

Summary of case evolution and monitoring put in place (t°, BP, pulse and bleeding): After delivery, the woman was admitted to the ward for observation before discharge. After 2 hours, she complained of drowsiness and the midwife was called. She found that her vital signs were abnormal with blood pressure of 90/60 and a pulse rate of 100/min and temperature of 37^0 C. On examining the woman, the midwife found she had vaginal bleeding and her uterus was soft. The woman was immediately put on 1,000 ml of normal saline solution. The midwife re-examined her and found that her uterus was still soft and added 20 IU of oxytocin. When bleeding did not stop, she was rushed to the labour room for full examination which showed that there were no cervical tears and was returned to the ward. The doctor ordered 2 pints of blood; however, blood was not available. The woman went into hypovolemic shock and died 3 hours later.

Date of death: 19 July 2016

Time elapsed between complication and death: 3 hours

Cause of death notified in records: Postpartum Haemorrhage due to uterine atony

Pregnancy outcome (live birth, stillbirth, early death, miscarriage): A live baby, weighing 2,200 grams.

Other information available (from family, health centres, community, etc.)

Summary of the case, to be presented to the team:

A gravida 5 para 4, 35-year-old came to the hospital in the early hours of the morning. She attended 3 ANC visits during the pregnancy, and everything was normal except for mild anaemia. On examination, she was found to be in labour and was admitted into the labour room. Her vital signs and laboratory tests were collected and registered: blood pressure was 110/70, Hb 9 gm/dl, temperature 37^0 C. Her pains intensified after 1 hour and she delivered a live baby at 9:00am, weighing 2,200 grams. She was transferred to the ward and was planned to be discharged after 2 hours. However, the patient informed the midwife in the ward that she was feeling drowsy. When she examined the patient, the midwife found that her BP was 90/60 and she was bleeding profusely on the bed. A new IV line was inserted, and infusion of 1,000 ml of normal saline solution was started. The midwife re-examined her and found that her uterus was soft and added 20 IU of oxytocin. The bleeding, however, did not stop. She was transferred to the labour room for proper examination. On examination, there was no cervical tears that could be seen. She was returned to the ward and placed on constant monitoring of her vital signs. The doctor was called, and he ordered that 2 pints of blood be transfused immediately; however, there was no blood available. She went into hypovolemic shock and died 3 hours later.

Maternal Death Review and Clinical Summary Forms[4] (Scenario 2) – Uterine Rupture

Table 6: Clinical Summary Form – Uterine Rupture

Date of MDR: 14 September 2017	**MDR session N°:** 002

Patient code: Patient003		**Patient Age:** 39 Years
Marital status: ☒**married/cohabitant**	☐**divorced**	☐**single**
Gravida: 8	**Para:** 0	**Live children:** 7
Number of previous caesarean sections: 0		**Date of last CS:** 0
Prior obstetric complications: None		
Pre-existing medical problems: None		
Number of ANC visits in this pregnancy: 2		
Risk factor(s)/complications detected during this pregnancy/labour: None		

If delivered/aborted before admission: No		
Date:	**Duration of amenorrhea:**	**Alive baby:** ☐Yes ☐No
Place of birth/abortion:	**Assisted by:**	
Complications occurred: ☐Yes ☐No		

If pregnant on admission:
Duration of amenorrhea: 38 weeks

[4] Adapted from: De Brouwere V., Zinnen V., Delvaux T. (2013). How to Conduct Maternal Death Reviews (MDR). Guidelines and Tools for Health Professionals. London, International Federation of Gynecologists and Obstetricians, FIGO LOGIC, https://www.figo.org/sites/default/files/uploads/project-publications/LOGIC/VfinalEdited%20MDR%20Guidelines%20final%202014.pdf

Referred from another institution: ☒Yes ☐No **Type of institution?** Health Centre

Reason for coming to hospital: Abdominal pains and vaginal bleeding

History of the referral/process of reaching the institution: The woman was in labour for 20 hours at the rural health centre. When she did not deliver and started to have vaginal bleeding, the midwife decided to refer her to the main hospital in the town using a pickup truck rented by the family because the community ambulance had no fuel.

What are possible associated factors that may have contributed to this death (e.g., woman's status in community)? None

Date and time of admission: 03 September 2017; 12:00PM

Main reason for admission: Labour pains and vaginal bleeding

Initial clinical assessment/ultrasound/laboratory findings at admission: The woman was in pain and had vaginal bleeding**.** On examination she was weak and pale and had a tender abdomen and no foetal heart sound could be heard. Her BP was 90/50 mmHg; pulse rate 110 per minute and respiratory rate of 50 per minute. The Hb was requested and found to be 4 grams/dl. An ultrasound scan revealed the foetus in the abdominal cavity and significant free fluid in the peritoneum.

Diagnosis made at admission:

Summary of the case evolution if complication(s) occurred after admission: The doctor immediately made a diagnosis of uterine rupture.

Sequence of events if abortion/delivery occurred: No delivery occurred

Complications: Abdominal pain; vaginal bleeding

Clinical assessment/ultrasound/laboratory findings: She appeared clinically dehydrated, with concentrated urine. On examination there were no foetal heart sounds and there was generalised abdominal tenderness with distention.
Ultrasound revealed significant free fluid in the peritoneum and the foetus in the abdominal cavity

Diagnosis: Ruptured uterus

How does the woman's status in the community affect the process after admission in this particular case?

Main treatment(s) given: IV antibiotics, 2 litres of IV normal saline, an ultrasound scan

Time between diagnosis of complication and appropriate treatment: 1 hour

Complementary tests and laboratory results after treatment: None

Summary of case evolution and monitoring put in place (t°, BP, pulse and bleeding): A senior doctor was called but did not arrive. A junior doctor decided to conduct an emergency exploratory laparotomy. A posterior uterine rupture in a transverse direction was found, with blood-stained fluids visible on the intra-abdominal organs. A non-viable foetus was delivered from the abdominal cavity. A sub-total hysterectomy

was performed by a junior doctor and the abdomen was washed-out and closed. The woman's condition deteriorated in the recovery ward and she died 2 hours later.

Date of death: 03 September 2017

Time elapsed between complication and death: 5 hours

Cause of death notified in records: Ruptured uterus

Pregnancy outcome (live birth, stillbirth, early death, miscarriage): Stillbirth; 2,900 grams

Other information available (from family, health centres, community, etc.)

Summary of the case, to be presented to the team:

A 39-year old female gravida 8 para 7 presented with severe labour pains at the main hospital after a referral from a local health centre. She had attended two antenatal care visits. She reported no previous medical or surgical history. Her blood pressure and HB were normal. After more than 20 hours, she developed severe abdominal pain and vaginal bleeding. The midwife at the health centre decided to refer her to the hospital when the labour did not progress. The relatives rented a pickup truck to transport her since the health facility ambulance had no fuel. At the hospital, she was found to have a pulse rate of 110 per minute, respiratory rate 50 per minute and BP 90/50mmHg. No temperature was recorded. She appeared clinically dehydrated, with concentrated urine. On examination, foetal heart sounds were not heard and there was generalised abdominal tenderness. The woman was given IV antibiotics, 2 litres of IV normal saline. An ultrasound scan showed a foetus in the abdominal cavity and significant free fluid in the peritoneum. The senior doctor was called but did not arrive. A decision was made for exploratory laparotomy by a junior doctor. A posterior uterine rupture in a transverse direction was found, with blood-stained fluids visible on the intra-abdominal organs. A non-viable male foetus weighing 2,900 grams was delivered through the abdomen and a sub-total hysterectomy was performed. The abdomen was washed-out and closed. The woman's condition deteriorated, and she died after 2 hours.

Maternal Death Review and Clinical Summary Forms[5] (Scenario 3) – Pre-Eclampsia and Eclampsia (PE/E)

Table 7: Clinical Summary Form – PE/E

Date of MDR: 10 June, 2017	**MDR session N°:** 003

Patient code: Patient004 **Patient Age:** 38 Years

Marital status: ☒**married/cohabitant** ☐**divorced** ☐**single**

Gravida: 1 **Para:** 0 **Live children:** 0

Number of previous caesarean sections: 0 **Date of last CS:** 0

Prior obstetric complications: gestational hypertension

Pre-existing medical problems: None

Number of ANC visits in this pregnancy: 3

Risk factor(s)/complications detected during this pregnancy/labour: None

If delivered/aborted before admission: None

Date: **Duration of amenorrhea:** **Alive baby:**☐Yes ☐No

Place of birth/abortion: **Assisted by:**

Complications occurred: ☐Yes ☐No

If pregnant on admission:

Duration of amenorrhea: 36 weeks

Referred from another institution? ☐Yes ☒No **Type of institution?**

Reason for coming to hospital: Severe Headache

History of the referral/process of reaching the institution:

What are possible associated factors that may have contributed to this death (e.g., woman's status in community)?

Date and time of admission: 05 June 2017; 6:00PM

[5] Adapted from: De Brouwere V., Zinnen V., Delvaux T. (2013). How to Conduct Maternal Death Reviews (MDR). Guidelines and Tools for Health Professionals. London, International Federation of Gynecologists and Obstetricians, FIGO LOGIC, https://www.figo.org/sites/default/files/uploads/project-publications/LOGIC/VfinalEdited%20MDR%20Guidelines%20final%202014.pdf

Main reason for admission: Pregnancy with severe headache and high blood pressure

Initial clinical assessment/ultrasound/laboratory findings at admission: Blood pressure of 180/110, lower limb oedema, uterine fundus height of 30 cm, closed cervix, no uterine contractions, and foetal heart sound heard.

Diagnosis made at admission: Pre-eclampsia

Summary of the case evolution if complication(s) occurred after admission: Following assessment, the woman was transferred immediately to the delivery room where she had her first eclamptic fit. The nurses waited for the obstetrician before initiating the loading dose of magnesium sulphate. The obstetrician arrived 1 hour after the woman's first eclamptic fit and started management with magnesium sulphate and antihypertensive.

Sequence of events if abortion/delivery occurred: See above

Complications: Fits/seizures

Clinical assessment/ultrasound/laboratory findings:

Diagnosis: Eclampsia

How does the woman's status in the community affect the process after admission in this particular case?

Main treatment(s) given: A urinary catheter and intravenous line were placed; antihypertensive treatment and loading dose of magnesium sulphate. The woman was transferred to the intensive care unit.

Time between diagnosis of complication and appropriate treatment: 1 hour

Complementary tests and laboratory results after treatment: None. The ultrasound revealed a live foetus of 36 weeks.

Summary of case evolution and monitoring put in place (t°, BP, pulse and bleeding): A caesarean section was performed in the central block at 8 pm. The obstetrician extracted a live male baby (Apgar 6), who was transferred to the paediatric ward. During the post-operative period, vital signs were hardly monitored at all (BP taken 3 hours after surgery). The woman went into a coma in the intensive care unit and died 16 hours after admission.

Date of death: 06 June 2017

Time elapsed between complication and death: 16 hours

Cause of death notified in records: Eclampsia

Pregnancy outcome (live birth, stillbirth, early death, miscarriage): A live infant weighing 2,300g

Other information available (from family, health centres, community, etc.)

Summary of the case, to be presented to the team:

Primigravida, 38 years old, with a history of gestational hypertension admitted at 6 pm with severe headache. She had attended 3 ANC visits at the health facility and her pregnancy was progressing normally. On admission her blood pressure was 180/110, lower limb oedema, uterine fundus height of 30 cm, closed cervix, no uterine contractions, and positive foetal heart sounds were heard. Following assessment, the woman was transferred immediately to the delivery room where she had her first eclamptic fit. The nurses waited for the obstetrician before initiating the loading dose of magnesium sulphate. Once the obstetrician arrived (one hour after the eclamptic fit began), management started. A urinary catheter and intravenous line were placed, loading dose of magnesium sulphate and antihypertensive treatment was then started in the delivery room. The woman was transferred to intensive care unit. Laboratory investigations were requested (white blood cells, electrolytes, glucose, urea and creatinine) and this was recorded in the patient record, but no results could be found. An ultrasound was requested to assess gestational age and foetal viability. The ultrasound revealed a live foetus of 36 weeks and the decision to perform a caesarean section was taken. A caesarean section was performed at 8:00 pm. The obstetrician extracted a live infant weighing 2300g (Apgar 6), who was transferred to the paediatric ward. During the post-operative period, vital signs were hardly monitored at all (BP taken 3 hours after surgery). The woman went into coma in intensive care unit and died 16 hours after admission.

Maternal Death Review and Clinical Summary Forms[6] (Scenario 4) – Anaesthesia

Table 8: Clinical Summary Form – Anaesthesia

Date of MDR: 16 March, 2015	**MDR session N°:** 005

Patient code: Patient005		**Patient Age:** 29
Marital status: ☒**married/cohabitant**	☐**divorced**	☐**single**
Gravida: 3	**Para:** 2	**Live children:** 1
Number of previous caesarean sections: 0		**Date of last CS: X**
Prior obstetric complications: None		
Pre-existing medical problems: Asthma		
Number of ANC visits in this pregnancy: 3		
Risk factor(s)/complications detected during this pregnancy/labour: None		

If delivered/aborted before admission: No		
Date:	**Duration of amenorrhea:**	**Alive baby:** ☐Yes ☐No
Place of birth/abortion:	**Assisted by:**	
Complications occurred: ☐Yes ☐No		

If pregnant on admission:
Duration of amenorrhea: 40 weeks

Referred from another institution: ☐Yes ☒No	**Type of institution?** Unknown
Reason for coming to hospital: Labour	
History of the referral/process of reaching the institution: None	
What are possible associated factors that may have contributed to this death (e.g., woman's status in community)? None	
Date and time of admission: 04 March 2015; 4:00 AM	
Main reason for admission: Normal Labour	

[6] Adapted from: De Brouwere V., Zinnen V., Delvaux T. (2013). How to Conduct Maternal Death Reviews (MDR). Guidelines and Tools for Health Professionals. London, International Federation of Gynecologists and Obstetricians, FIGO LOGIC, https://www.figo.org/sites/default/files/uploads/project-publications/LOGIC/VfinalEdited%20MDR%20Guidelines%20final%202014.pdf

Initial clinical assessment/ultrasound/laboratory findings at admission: On examination, the patient's BP was 120/80 mm Hg, pulse rate was 80 beats per minute and the foetal heart sound was 120 per minute. Her Hb and urine exams were normal. On vaginal examinations, the cervix was open 4 cm, the membranes were intact and no discharge of fluids was seen.

Diagnosis made at admission: Normal labour

Summary of the case evolution if complication(s) occurred after admission: The patient was admitted in the labour room and her progress monitored by partograph. Four hours later, the membranes broke, which was meconium stained and the foetal heart sound was 90 beats per minute, the cervix was 8 cm dilated but the head was still high. A decision was made to perform an emergency caesarean section due to foetal distress

Sequence of events if abortion/delivery occurred: See summary

Complications: Foetal distress

Clinical assessment/ultrasound/laboratory findings:

Diagnosis: Foetal distress

How does the woman's status in the community affect the process after admission in this particular case? None

Main treatment(s) given: Emergency caesarean section was performed under general anaesthesia (because spinal anaesthesia failed). Anaesthesia was administered by an anaesthetic assistant with limited experience. A live foetus weighing 2,800 grams was delivered. After closure of the abdomen, the patient did not wake up from anaesthesia and had difficulty breathing on her own. Breathing was assisted by bag and mask, and she was put on IV fluids and taken to the ICU but died a few hours later.

Time between diagnosis of complication and appropriate treatment: 1 hour

Complementary tests and laboratory results after treatment: HB 10 grams/ld.; Urine normal

Summary of case evolution and monitoring put in place (t°, BP, pulse and bleeding): Temperature 36° Celsius; BP 90/60 mm Hg; Pulse 100 bpm; no vaginal bleeding

Date of death: 06 March 2015

Time elapsed between complication and death: 6 hours

Cause of death notified in records: Complications of anaesthesia (failed spinal anaesthesia)

Pregnancy outcome (live birth, stillbirth, early death, miscarriage): Live baby, male, weighing 2,800 grams

Other information available (from family, health centres, community, etc.):
Her first child, who was fully immunised, died of pneumonia at 2 years.

Summary of the case, to be presented to the team:

A 29-year-old gravida 3 para 2 woman with a medical history of asthma presented to the labour room at the health facility in labour and was admitted. She previously had two antenatal care visits at the same facility. On examination, her BP was 120/80 mm Hg, pulse rate 80 beats per minute and the foetal heart sound was 120 per minute. Her Hb and urine exams were normal. On vaginal examinations, the cervix was open 4 cm, the membranes were intact, and no discharge of fluids seen. She was admitted into the labour room and the progress of labour monitored by using a partograph. Four hours later, the membranes broke, which was meconium stained and the foetal heart sound was 90 beats per minute, the cervix was 8 cm dilated but the head was still high. A decision was made to perform an emergency caesarean section due to foetal distress. The woman was taken to the theatre and operated under general anaesthesia, after a first attempt at spinal anaesthesia failed. Anaesthesia was administered by an anaesthetic assistant with limited experience. A live baby weighing 2,800 grams was delivered. When the operation was completed, the woman did not wake up and experienced respiratory distress. Her vital signs dropped: she had blood pressure at 90/50 mmHg and was unable to breathe on her own. She was assisted with bag and mask ventilation and was put on IV fluids and taken to the ICU, where she died after a few hours.

Day 2/Session 4: Cause Assignment Using the ICD-MM

Session Plan

Duration: 90 min

Session Objectives: By the end of this session, learners will be able to:

- Correctly assign the causes of maternal deaths using the ICD-MM classification system

Advanced Preparation
• Gather and make copies of country-specific death certificate forms • Print handout of the completed medical certificate of cause of death (MCCD) forms • Review session activities, timing, presentation and materials

Methods and Activities	Materials/Resources
Introduction (10 min) • Review the session objectives. • Explain that in this session, learners will learn how to use the ICD-MM reference aid to assign causes of maternal deaths and complete the MCCD form.	• MDSR Day 2 Session 4.pptx

Discussion (20 min)
• Review the previous sessions including the following topics:
  • Key components of MDSR forms; and
  • The use of case summary forms.
• Using the PowerPoint, introduce learners to the purpose and uses of the ICD-MM classification system.
• Ask learners to refer to Page 37 of their Learner's Guide.
• Introduce learners to the ICD-MM reference aid and walk learners through using the document.
• Introduce the MCCD form and walk learners through its components.
• Inform learners that the 2 example MCCD forms are available in their Learner's Guide on Pages 41–42.
• Walk learners through the 2 example MCCD forms.
	• MDSR Day 2 Session 4.pptx

Assigning Cause of Death Using the MCCD Form (50 min) • Ask learners to return to their small groups from the previous session. • In their small groups, learners will complete the MCCD form using the completed case summary distributed in the previous session. Learners will use the ICD-MM reference aid to help assign cause of death. Learners will also complete their country-specific death certificate form with the cause of death information from the MCCD form. • Once groups have completed the exercise, ask each group to explain how they assigned the cause of death for their case. • Ask for inputs from the other groups including whether learners agree with the cause of death assignment. If there is a misunderstanding or disagreement, review and discuss. Move to the group/next case once learners have reached consensus on a cause of death for each case. • Refer to the PowerPoint slides for completed MCCD forms for each scenario. • Provide learners with the handout of completed MCCD forms.	• MDSR Day 2 Session 4.pptx • Handout – Completed MCCD forms for Scenarios 1–4 • Country-specific death certification form (facilitator will need to get it in advance)

Methods and Activities	Materials/Resources
Summary (10 min) • Ask learners to provide a key takeaway from the day's session and exercises. • Emphasise importance of correct assignment of causes of maternal deaths.	

Medical Certificate of Cause of Death

ICD-MM

Example of MCCD.[7] If the death certificate has been completed correctly, the underlying cause of death should normally be the single condition which the certifier has written on the lowest used line of Part 1.

Cause of death (*The disease or condition determined to be the underlying cause of death should appear in the lowest completed line of part I)*		Approximate interval between onset and death
Part I Disease or condition leading directly to death	a)	
Antecedent causes: Due to or as a consequence of	b)	
Due to or as a consequence of	c)	
Due to or as a consequence of	d)	
Part II Other significant conditions Contributing to death but not related to the disease or condition causing it		
The woman was: ☐ pregnant at the time of death ☐ not pregnant at the time of death (but pregnant within 42 days) ☐ pregnant within the past year		

[7] Source: World Health Organization. (2012). The WHO Application of ICD-10 to deaths during pregnancy, childbirth and the puerperium: ICD-MM. World Health Organization.

ICD-MM Reference Aid

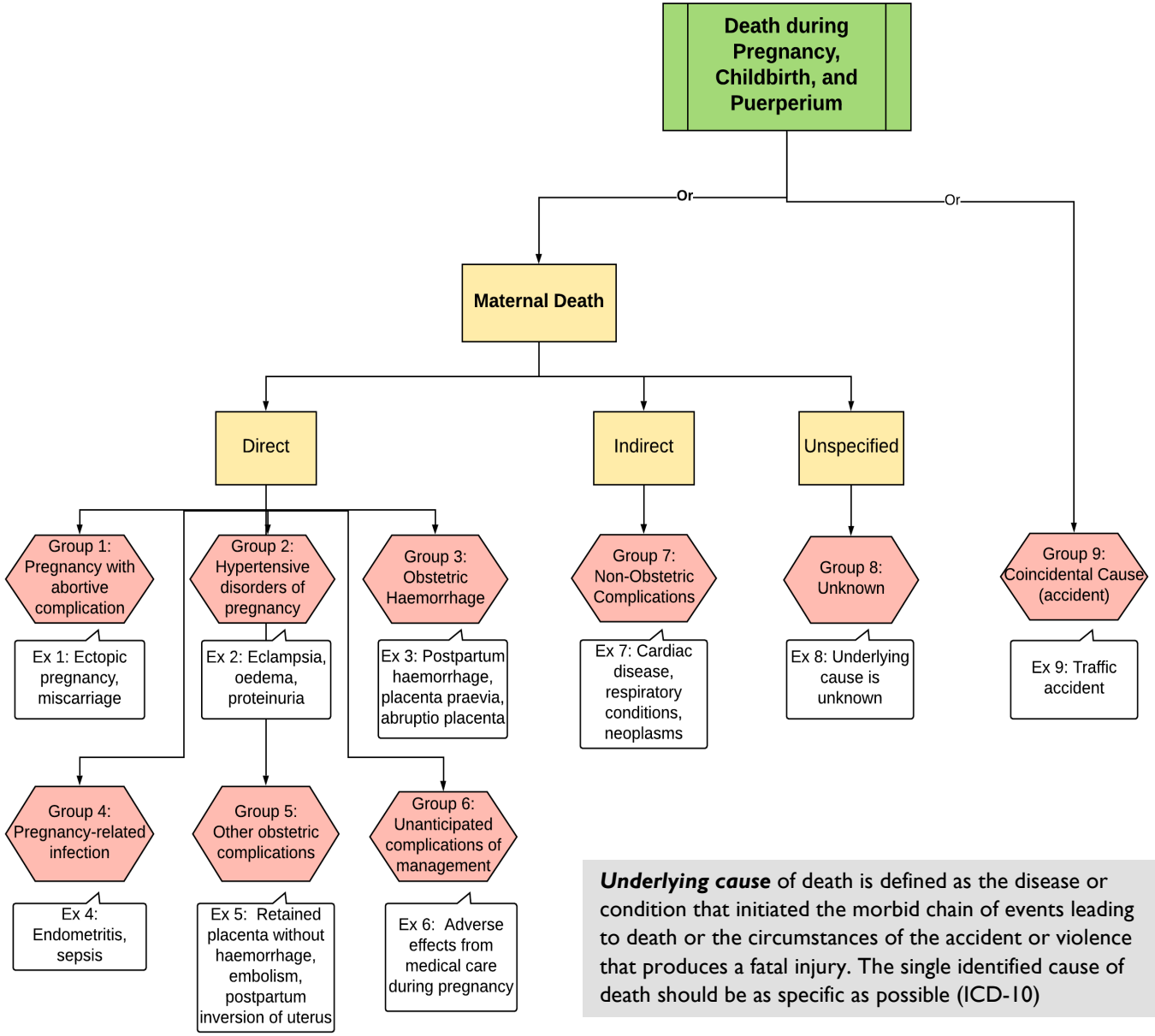
Groups of the Underlying Cause of Death during Pregnancy, Childbirth, and Puerperium

Definitions of deaths

Death occurring during pregnancy, childbirth and the puerperium is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death.

Maternal death
A maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (irrespective of the duration and the site of the pregnancy).

Late maternal death
A late maternal death is the death of a woman from direct or indirect causes more than 42 days but less than one year after termination of pregnancy.



Underlying cause of death is defined as the disease or condition that initiated the morbid chain of events leading to death or the circumstances of the accident or violence that produces a fatal injury. The single identified cause of death should be as specific as possible (ICD-10)

Definitions of Cause Groups with Examples

Categories of underlying causes of death are aggregated in 9 groups of causes of death during pregnancy, childbirth and the puerperium. These groups are clinically and epidemiologically relevant, mutually exclusive and totally inclusive and descriptive of all causes of maternal and pregnancy-related deaths.

Groups of Underlying Causes of Death During Pregnancy, Childbirth and the Puerperium in Mutually Exclusive, Totally Inclusive Groups[8]

Type	Group Name/Number	EXAMPLES of Potential Causes of eath
Maternal death: direct	1. Pregnancies with abortive outcome	Abortion, miscarriage, ectopic pregnancy and other conditions leading to maternal death and a pregnancy with abortive outcome
Maternal death: direct	2. Hypertensive disorders in pregnancy, childbirth and the puerperium	Hypertensive disorders of pregnancy, childbirth and puerperium including pre-eclampsia, eclampsia and gestational hypertension9
Maternal death: direct	3. Obstetric haemorrhage	Obstetric diseases or conditions directly associated with haemorrhage
Maternal death: direct	4. Pregnancy-related infection	Pregnancy-related, infection-based diseases or conditions
Maternal death: direct	5. Other obstetric complications	All other direct obstetric conditions not included in Groups 1–4
Maternal death: direct	6. Unanticipated complications of management	Severe adverse effects and other unanticipated complications of medical and surgical care during pregnancy, childbirth or the puerperium
Maternal death: indirect	7. Non-obstetric complications	Non-obstetric conditions • Cardiac disease (including pre-existing hypertension) • Endocrine conditions • Gastrointestinal tract conditions • Central nervous system conditions • Respiratory conditions • Genitourinary conditions • Autoimmune disorders • Skeletal diseases • Psychiatric disorders • Neoplasms • Infections that are not a direct result of pregnancy
Maternal death: unspecified[10]	8. Unknown/undetermined	Maternal death during pregnancy, childbirth and the puerperium where the underlying cause is unknown or was not determined
Death during pregnancy, childbirth and the puerperium	9. Coincidental causes	Death during pregnancy, childbirth and the puerperium due to external causes

[8] Adapted from World Health Organization. (2012). The WHO Application of ICD-10 to deaths during pregnancy, childbirth and puerperium: ICD-MM. World Health Organization.
[9] World Health Organization and UNICEF. (2017). Managing complications in pregnancy and childbirth: a guide for midwives and doctors. World Health Organization and UNICEF.
[10] In some settings, teams mark the cause of death as unspecified to avoid litigation or disciplinary action. It is important to foster a no-blame atmosphere to promote learning and action as a result of a maternal death, a primary goal of MPDSR. The death should be marked as unspecified only when the cause of death truly cannot be ascertained.

MCCD Exercise Examples

EXAMPLE 1

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

Medical certificate of cause of death

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

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

(Part I shaded for purposes of the example)

EXAMPLE 2

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

Medical certificate of cause of death

Cause of death *the disease or condition thought to be the underlying cause should appear in the lowest completed line of Part I*		Approximate interval between onset and death
1. Disease or condition leading directly to death	(a) renal failure	2 hours
Antecedent causes: Due to or as a consequence of	(b) septic shock	24 hours
Due to or as a consequence of	(c) septic miscarriage	36 hours
Due to or as a consequence of	(d)	
2 . Other significant conditions Contributing to death but not related to the disease or condition causing it	HIV	pre-existing
The woman was: ☒ pregnant at the time of death ☐ not pregnant at the time of death (but pregnant within 42 days) ☐ pregnant within the past year		

A contributory condition, indicated in Part 1

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

A contributory condition, indicated in Part IIB

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

(Part I shaded for purposes of the example)

Medical Certificate of Cause of Death (Example A – Abortion)

Example of MCCD.[11] If the death certificate has been completed correctly, the underlying cause of death should normally be the single condition that the certifier has written on the lowest used line of Part 1.

Table 9: MCCD – Abortion

Cause of death (*The disease or condition thought to be the underlying cause should appear in the lowest completed line of part I)*		Approximate interval between onset and death
Part I Disease or condition leading directly to death	a) Septic shock	5 hours
Antecedent causes: Due to or as a consequence of	b) Septicaemia	24 hours
Due to or as a consequence of	c) Septic incomplete abortion	72 hours
Due to or as a consequence of	d)	
Part II Other significant conditions Contributing to death but not related to the disease or condition causing it		
The woman was: X pregnant at the time of death ☐ not pregnant at the time of death (but pregnant within 42 days) ☐ pregnant within the past year		

[11] Source: World Health Organization. (2012). The WHO Application of ICD-10 to deaths during pregnancy, childbirth and the puerperium: ICD-MM. World Health Organization.

Medical Certificate of Cause of Death (Scenario 1 – PPH)

ICD-MM

Example of MCCD.[12] If the death certificate has been completed correctly, the underlying cause of death should normally be the single condition which the certifier has written on the lowest used line of Part 1.

Table 10: MCCD – PPH

Cause of death (*The disease or condition thought to be the underlying cause should appear in the lowest completed line of part I)*		Approximate interval between onset and death
Part I Disease or condition leading directly to death	a) Hypovolemic shock	3 hours
Antecedent causes: Due to or as a consequence of	b) Postpartum haemorrhage	5 hours
Due to or as a consequence of	c) Uterine Atony	6 hours
Due to or as a consequence of	d)	
Part II Other significant conditions Contributing to death but not related to the disease or condition causing it		
The woman was: X pregnant at the time of death ☐ not pregnant at the time of death (but pregnant within 42 days) ☐ pregnant within the past year		

[12] Source: World Health Organization. (2012). The WHO Application of ICD-10 to deaths during pregnancy, childbirth and puerperium: ICD-MM. World Health Organization.

Medical Certificate of Cause of Death (Scenario 2 – Uterine Rupture)

ICD-MM

Example of MCCD.[13] If the death certificate has been completed correctly, the underlying cause of death should normally be the single condition which the certifier has written on the lowest used line of Part 1.

Table 11: MCCD – Uterine Rupture

Cause of death (*The disease or condition thought to be the underlying cause should appear in the lowest completed line of part I)*		Approximate interval between onset and death
Part I Disease or condition leading directly to death	a) Hypovolemic shock	1 hour
Antecedent causes: Due to or as a consequence of	b) Obstetric haemorrhage	3 hours
Due to or as a consequence of	c) Uterine rupture	5 hours
Due to or as a consequence of	d)	
Part II Other significant conditions Contributing to death but not related to the disease or condition causing it		
The woman was: X pregnant at the time of death ☐ not pregnant at the time of death (but pregnant within 42 days) ☐ pregnant within the past year		

[13] Source: World Health Organization. (2012). The WHO Application of ICD-10 to deaths during pregnancy, childbirth and puerperium: ICD-MM. World Health Organization.

Medical Certificate of Cause of Death (Scenario 3 – PE/E)

ICD-MM

Example of MCCD.[14] If the death certificate has been completed correctly, the underlying cause of death should normally be the single condition which the certifier has written on the lowest used line of Part 1.

Table 12: MCCD – PE/E

Cause of death (*The disease or condition thought to be the underlying cause should appear in the lowest completed line of part I)*		Approximate interval between onset and death
Part I Disease or condition leading directly to death	a) Cerebrovascular haemorrhage / Stroke	16 hours
Antecedent causes: Due to or as a consequence of	b) High blood pressure	36 hours
due to or as a consequence of	c) Pre-eclampsia/Eclampsia	
Due to or as a consequence of	d)	
Part II Other significant conditions Contributing to death but not related to the disease or condition causing it		
The woman was: X pregnant at the time of death ☐ not pregnant at the time of death (but pregnant within 42 days) ☐ pregnant within the past year		

[14] Source: World Health Organization. (2012). The WHO Application of ICD-10 to deaths during pregnancy, childbirth and puerperium: ICD-MM. World Health Organization.

Medical Certificate of Cause of Death (Scenario 4 – Anaesthesia)

ICD-MM

Example of MCCD.[15] If the death certificate has been completed correctly, the underlying cause of death should normally be the single condition which the certifier has written on the lowest used line of Part 1.

Table 13: MCCD – Anaesthesia

Cause of death (*The disease or condition thought to be the underlying cause should appear in the lowest completed line of part I)*		Approximate interval between onset and death
Part I Disease or condition leading directly to death	a) Brain damage / Hypoxia	1 hour
Antecedent causes: Due to or as a consequence of	b) Complications of Anaesthesia	3 hours
Due to or as a consequence of	c)	
Due to or as a consequence of	d)	
Part II Other significant conditions Contributing to death but not related to the disease or condition causing it		
The woman was: ☐ pregnant at the time of death X not pregnant at the time of death (but pregnant within 42 days) ☐ pregnant within the past year		

[15] Source: World Health Organization. (2012). The WHO Application of ICD-10 to deaths during pregnancy, childbirth and puerperium: ICD-MM. World Health Organization.

Day 2/Session 5: Day 2 Wrap-up and Discussion

Session Plan

Duration: 30 min

Session Objectives: By the end of this session, learners will be able to:

- Review content discussed over the last 4 sessions

Advanced Preparation
• Review parking lot questions

Methods and Activities	Materials/Resources
Introduction (5 min) • Review session objectives. • Share with learners that this session will be focused on discussing any outstanding questions or comments about the previous 4 sessions.	• MDSR Day 2 Session 5.pptx
Discussion (15 min) • Revisit parking lot. • Wrap up the session by asking the group if they have any questions or concerns regarding the day.	

Summary and Assignment (10 min)
• Remind learners of the start time for the next day.
• Announce homework for the next day.
• ***Learner Homework***
  • Ask learners to review the MDSR Individual Death Review Response Plan (Learner's Guide Pages 47–48).
  • Ask learners to review the data exercises located in Day 3, Session 3 (Learner's Guide Pages 50–56).
  • Ask learners to complete the HMIS Data Availability Review (Learner's Guide Pages 57–58).
• ***Facilitator Homework***
  • Collect and review country-specific local HMIS monthly summary forms (facility and/or subnational), sample maternity register(s) and sample patient record(s) (hospital and health clinic).
  • Complete the HMIS Data Availability Review Form on Pages 88–89 of this guide.
  • Review and modify HMIS section of the D3S3 PowerPoint (Slides 15–17) based on data elements that are available in the local HMIS materials.	

Day 3/Session 1: Day 2 Review

Session Plan

Duration: 25 min

Session Objectives: By the end of this session, learners will be able to:

- Review content learned in the previous days
- Review the ICD-MM reference aid

Advanced Preparation
• Review key points of discussions from the previous day and plan to address during this session, as needed • Load the "Jeopardy" game • Prepare a flip chart to record team scores for the "Jeopardy" game • Review session activities, timing, presentation and materials

Methods and Activities	Materials/Resources

Introduction (5 min)
• Welcome learners back to the workshop.
• Review the day's agenda with learners, highlighting areas where more emphasis will be given based on the Individual Learning Plan summary.
• Share with learners that this session will be about reviewing content learned in the previous days.
• Review of the six-step mortality audit cycle, using the flip chart from Day 1, noting that Day 3 will focus on the final three steps of the audit cycle.
• Review the session objectives.
	• Flip charts
	  • The completed flip chart from Day 1 with results from the Individual Learning Plan (tallies)
	  • One of the completed flip charts from Day 1 with the six steps
	• MDSR Day 3 Session 1.pptx

Activity: Jeopardy (15min) • Ask learners to break into 2 teams. • Teams should take turns choosing a question. Inform learners that the question number corresponds to the number of points awarded for a correct answer.	• MDSR Day 3 Session 1.pptx
Summary (5 min) • Discuss and answer any questions from the group.	

Day 3/Session 2: Identifying Modifiable Contributing Factors for a Maternal Death and Priority Responses to Implement and Monitor

Session Plan

Duration: 90 min

Session Objectives: By the end of this session, learners will be able to:

- Identify modifiable factors that contributed to a maternal death
- Describe components of a SMART (Specific, Measurable, Attainable, Relevant and Timely) response based on identified modifiable factors
- Develop response plans (at facility and district levels) for implementing and monitoring based on identified modifiable factors

Advanced Preparation
• Collect and review country-specific MPDSR response forms used to develop and record modifiable factors and priority responses based on the review of a maternal death, if available • Review session activities, timing, presentation and materials

Methods and Activities	Materials/Resources
Introduction (5 min) • Review the session objectives. • Explain to learners that in this session they will learn to identify modifiable factors that contributed to a maternal death and to prioritise responses for implementation and monitoring responses.	• MDSR Day 3 Session 2.pptx
Discussion (15 min) • Using the PowerPoint presentation, discuss the components of SMART responses. • Discuss the individual death review response plan development process. • Review the Three Delays Model. • Introduce and review relevant response form(s) used in the country to record modifiable factors and priority responses, if available.	• Specific country MDSR response plan • MDSR Day 3 Session 2.pptx
Exercise: Preparing an individual death review response plan (45 min) • Ask learners to return to small groups based on the case scenarios they used in Day 2 (Scenarios 1–4). • In small groups, learners use the Maternal Death Review and Clinical Summary Forms scenarios and case summaries to analyse the case, identify modifiable contributing factors and prioritise responses to implement and monitor. • Work with learners to complete the sample MDSR Individual Death Review Response Plan. • Ask **one group** to volunteer to report out, and invite feedback from the other groups.	• Learner's Guide – Pages 47–48

Methods and Activities	Materials/Resources
• Lead a discussion on formulation and implementation of an Individual Death Review Response Plan.	
Follow-up on Individual Death Review Response Plans (15 min) • Using the PowerPoint, discuss the importance of regular review and follow-up of individual death review response plans. • Review examples of strategies that MDSR committees can implement to follow up on responses from death reviews. • Ask learners to work in small groups to brainstorm additional strategies for follow-up. Ask learners to discuss which strategies they would adopt and take back to their committees. • Ask **one group** to volunteer to report out, and invite feedback from the other groups.	• MDSR Day 3 Session 2.pptx • Flip charts and markers
Summary (10 min) • Ask learners to discuss key components of an MDSR response plan. • Remind learners of the importance of formulation and follow-up of response plans.	

[SAMPLE] MDSR Individual Death Review Response Plan

MDSR Form: Modifiable Factors

District :	**HF :**	**Meeting Date (MM/DD/YY):……/……../…….**
Maternal Death Event Date (MM/DD/YR):	**Address of the deceased**	
Place of death:	**Date of Form Completion (MM/DD/YY)**	
Case Summary: *(Can be pasted in, if completed during previous meetings)*		
Modifiable Contributing Factors ***(organised within the Three Delays Model)***		
First Delay: Recognition and decision to seek care (Home/family/community)		
Second Delay: Transport to care, delays reaching an appropriate facility		
Third Delay: Quality of care received in the health facility		

MDSR Form: Priority Responses to Implement and Monitor

Modifiable contributing factors	Response (What to do)	Responsible person (Ensures completion of response) Specify facility and/or district	Target completion date	Follow up progress notes (completed/ongoing/failed)

Day 3/Session 3: Monitoring and Analysing Trends in Causes of Maternal Deaths and Findings of Death Reviews to Prioritise Aggregated Responses

Session Plan

Duration: 90 min

Session Objectives: By the end of this session, learners will be able to:

- Practice monitoring and analysing trends in causes of facility maternal death and findings of death reviews for leading local causes of death
- Practice prioritising aggregated responses at the facility and district/subnational level based on analysis of local trends in causes of maternal death and findings of death reviews
- Review availability of maternal death data elements in country HMIS materials (facility and subnational) and discuss ways to strengthen availability of maternal health and death data in HMIS

Advanced Preparation
• Collect and review country-specific HMIS monthly summary forms (facility and/or subnational), sample maternity register(s) and sample patient record(s) (hospital and health clinic) • Review and complete the HMIS Data Availability Review on page 88–89 of this guide • Modify the HMIS section of the session PowerPoint (Slides 15–17) based on data elements that are available in the HMIS forms • Prepare flip charts for Exercise C with pre-labelled x- and y-axis and legend • Ensure blank flip charts and markers are available for learners • Review session activities, timing, presentation and materials

Note to facilitators: Many facility HMIS registers do not include designated data elements (e.g., columns or fields) to record cause of maternal deaths. Even when data on cause of maternal death is captured systematically in facility registers, it may not be included in summary reporting forms and aggregated up in a country's national HMIS.

Every country's HMIS forms and materials are different. Depending on what data elements are available in your country's HMIS forms, district managers and facility teams may or may not be able to monitor trends in causes of maternal death at facility, subnational and national levels. Please review your country's HMIS forms and consider whether the available data elements are adequate to complete these activities.

Methods and Activities	Materials/Resources
Introduction (5 min) • Review the session objectives. • Tell learners that this session is about analysing trends in causes of maternal deaths and findings of death reviews to understand local leading causes of death, key contributors to these deaths and to prioritise aggregated responses based on trends. • Discuss the importance of data visualisation.	• MDSR Day 3 Session 3.pptx

Methods and Activities	Materials/Resources
Calculating and Analysing Data Trends (Exercise A) (20 min) • Introduce the group work by reviewing the PowerPoint slides on monitoring and interpreting trends in maternal deaths by cause. Explain how to calculate the proportion of maternal deaths by individual cause, using the example in the PowerPoint slide. • Ask learners to divide into 4 small groups by having learners count off from 1 to 4. • Ask learners to turn to Page 50 in the Learner's Guide for Exercise A on "Monitoring and Analysing Maternal Death and Audit Trends" and read the introduction to the exercise aloud while learners follow along. • Explain that learners will work in their groups on Exercise A to calculate the proportion of monthly maternal deaths due to specific causes. [Learners do **NOT** need to plot a bar graph as part of this exercise.] • Ask **one group** to volunteer to present their findings from Exercise A and invite feedback/comments from the other groups. • Show the PowerPoint slide with a completed bar graph ("Discussion - Exercise A") and explain the importance of visualising data to help identify and analyse trends in causes of maternal deaths.	• MDSR Day 3 Session 3.pptx
Reviewing Trends to Prioritise Aggregated Responses (Facility and District Levels) (Exercise B) (20 min) • Ask learners to return to their small groups and turn to Exercise B on Page 52 of the Learner's Guide. Ask learners to read the description of the exercise, review Table 15, discuss the questions in their group and (if time allows) begin to complete the template of aggregated priority responses. • Invite **one group** (different from the group that presented findings from Exercise A) to volunteer to present the findings from their discussion. Ask other groups to comment on the findings. • As part of this discussion, also ask learners whether they would have been able to create Table 15 based on the MDSR forms used in their facilities or at district/regional level.	• MDSR Day 3 Session 3.pptx
Calculating and Analysing Data Trends after Implementing Priority Responses (Exercise C) (25 min) • Distribute flip charts with pre-labelled x-axis, y-axis and colour-coded legend. • Introduce Exercise C by reviewing the PowerPoint slide on visualising trends on a bar chart, and visualising and interpreting trends in proportion of deaths by cause. • Tell learners that they will continue to work in their small groups to complete Exercise C on Page 56 of the Learner's Guide. • Ask learners to read the instructions and complete the exercise. Explain that the exercise is like Exercise A; however, instead of calculating the proportions for each cause, they will plot the data on a bar graph to visualise trends. • Ask for another group (other than the group that presented findings from Exercises A and B) to volunteer to present their graph and invite discussion/comments from other learners. • Show the completed graph in the PowerPoint and discuss the trends.	• MDSR Day 3 Session 3.pptx • Flip chart paper for each group
Reviewing and Discussing Availability of Maternal Health Data Elements within Country HMIS Materials (15 min) • Ask the learners if they were able to complete the HMIS review table (homework assignment from Day 2).	• MDSR Day 3 Session 3.pptx • Country-specific HMIS monthly summary form • Sample of maternity

Methods and Activities	Materials/Resources
• Show the PowerPoint slides with examples of data elements available in the country's HMIS monthly summary form, facility register (clinic/hospital) and individual patient record (clinic/hospital) (using standard forms if these exist or an illustrative example from a facility if no standard forms in country/region). • Ask whether learners would have been able to complete Exercises A and C using available country-specific HMIS materials (in their work setting). • Ask learners to take a few minutes to write down 2–3 changes that they could make to their HMIS forms to improve the availability of data elements used in exercises A and B (e.g., monthly reporting form, facility register, patient records.) Ask for 2–3 volunteers to share their suggested actions.	registers (from hospitals and health centres, if different) • (Facilitator will need to gather these forms ahead of the session)
Summary (5 min) • Highlight the importance of analysing monthly data on maternal deaths, causes of death and MPDSR findings (using all available data sources) to understand patterns and prioritise aggregated responses most likely to reduce the leading local causes of preventable maternal deaths.	

Activity: Monitoring and Analysing Maternal Death and Death Review Trends

Introduction (setting the stage): You have been working hard as an MDSR team in a **very** busy district hospital to review all maternal deaths in your facility. Over the past 6 months, you have audited and completed a response plan for every maternal death for a total of 105 audits in the last 6 months. Two providers from your maternity team have been re-assigned to another district and you are all feeling very overstretched. Your MDSR committee is having trouble meeting regularly and completing death audits in time, and is struggling to follow up on every individual death review response. You have organised a meeting to take stock of your MDSR efforts. To prepare for your meeting, you decide to review the causes of maternal deaths and the key contributors to leading causes of deaths (based on death review reports) in your facility over the past 6 months. These reviews will help you prioritise efforts that you think will make the biggest difference for reducing maternal deaths.

Exercise A: Calculating percent of maternal deaths by cause

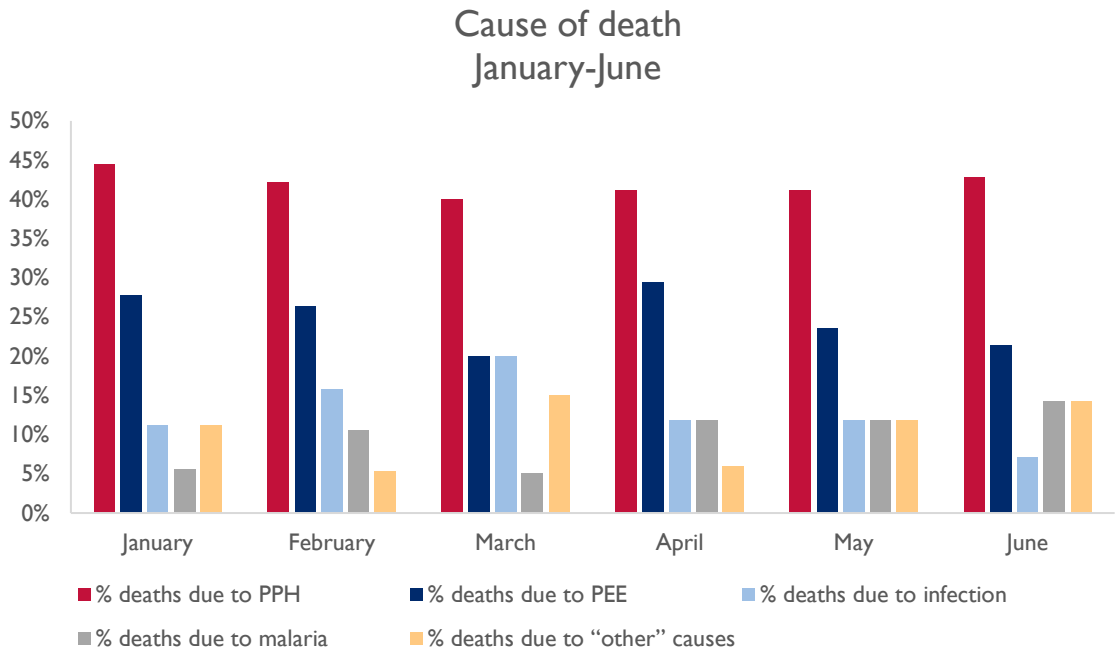
Table 14 shows the total number of maternal deaths and the numbers of deaths by cause in your facility over the last 6 months. You have taken these numbers from your monthly HMIS summary reporting forms. **Complete Rows H through L in the table below to calculate the proportion (%) of deaths by cause for each month.**

Table: Monthly number of total maternal deaths and monthly number and percent of deaths by cause (January–June 2017)

	January	February	March	April	May	June
A. Total number of deliveries (including stillbirths)	713	644	589	630	558	540
B. Total number of maternal deaths	18	19	20	17	17	14
C. Deaths due to PPH	8	8	8	7	7	6
D. Deaths to PE/E	5	5	4	5	4	3
E. Deaths due to pregnancy-related infection	2	3	4	2	2	1
F. Deaths due to malaria complications	1	2	1	2	2	2
G. Deaths due to other causes	2	1	3	1	2	2
H. Proportion of deaths due to PPH *(Row C divided by Row B)*	44%	42%	40%	41%	41%	43%
I. Proportion of deaths due to PE/E *(Row D divided by Row B)*	28%	26%	20%	29%	24%	21%
J. Proportion of deaths due to infection *(Row E divided by Row B)*	11%	16%	20%	12%	12%	7%
K. Proportion of deaths due to malaria *(Row F divided by Row B)*	6%	11%	5%	12%	12%	14%
L. Proportion of deaths due to "other" causes *(Row C divided by Row G)*	11%	5%	15%	6%	12%	14%

What are the first and second leading causes of maternal deaths in your facility over the past 6 months?

1. First leading cause of death: PPH
2. Second leading cause of death: PE/E



Exercise B: Response Review and Analysis

In the previous exercise, you determined that PPH is the current leading cause of maternal death in your facility. Given this finding you decide to review the last nine response plans of deaths of women due to PPH in your facility. You want to understand if there are common modifiable factors on which you can focus your efforts. Table 15 shows modifiable factors and responses identified in the death review response actions for deaths due to PPH for the last nine death reviews

Table 14: Summary of modifiable factors and recommended actions from audits of the nine most recent maternal deaths due to PPH

Number	Modifiable contributing factors (from past individual review of maternal deaths due to PPH)	Summary of prioritised responses (from past individual reviews of maternal deaths due to PPH)
1	• No uterotonic for prevention and management of PPH in the labour ward • Provider did not know how to manage PPH	• Ensure availability of oxytocin in the labour ward 24/7 • Develop a log to track availability of oxytocin • Ensure that providers know how to manage uterine atony and other causes of PPH
2	• Immediate postpartum prophylactic uterotonic not administered (active management of the third stage of labour) • Woman not monitored for bleeding after delivery	• Ensure that all providers are competent and understand importance of providing active management of the third stage of labour • Introduce a systematic written protocol, with assigned staff, to monitor all women for bleeding and other danger signs after birth

Number	Modifiable contributing factors (from past individual review of maternal deaths due to PPH)	Summary of prioritised responses (from past individual reviews of maternal deaths due to PPH)
3	• Delayed identification of PPH in the postnatal ward • Lack of blood and/or blood products	• Ensure that providers conduct regular postnatal checks in the postnatal ward • Ensure that providers document regular postnatal checks in the client file • Ensure existence and implementation of log/system to monitor and document availability of blood and blood products • Ensure blood and blood products are always available and stored properly at the facility blood bank • Introduce a written communication protocol for maternity and blood bank staff to ensure immediate release of blood to the maternity in an emergency
4	• Delay in getting to the health facility due to lack of timely, affordable transportation	• Work with district and community leaders to establish a system for emergency transport of pregnant women with complications from the community to the hospital • Orient community health workers and health facility staff to the transportation system • Purchase ambulance to transport pregnant women from community to health facility
5	• Provider did not know how to manage PPH • Lack of blood and/or blood products	• Strengthen skills of providers to manage atonic uterus and other causes of PPH • Ensure existence of log/system to monitor and document availability of blood and blood products • Introduce team-based PPH simulation drills to strengthen coordination and performance of all relevant staff in an emergency (midwives, nurses, auxiliary assistants, doctors, laboratory technicians, pharmacists, housekeepers, etc.)
6	• Severe anaemia not diagnosed in pregnancy (no ANC screening of haemoglobin) • Iron and Folate supplements not given • No Packed cells available	• Post written protocol for ANC screening and treatment of anaemia • Monitor availability and distribution of Iron supplementation during ANC visits • Monitor anaemia screening and results as part of ANC visits • Ensure Packed cells are always available and stored properly at the facility blood bank
8	• Delay in getting to the health facility due to lack of timely, affordable transportation • No triage protocol for rapid assessment and treatment of pregnant, labouring and postnatal women • Skilled provider not available to triage women in the maternity	• Work with district and community leaders to establish a system for transportation of pregnant women from the community to the hospital • Review and revise maternity triage protocols; post written protocol in maternity • Ensure skilled provider always available to triage women • Review delays in usual patient pathway from arrival at hospital gate to maternity triage area and develop written plan to address gaps and monitor

Number	Modifiable contributing factors (from past individual review of maternal deaths due to PPH)	Summary of prioritised responses (from past individual reviews of maternal deaths due to PPH)
9	• Delayed identification of PPH in the postnatal ward • No uterotonic available in the postnatal ward	• Ensure that providers conduct regular postnatal checks in the postnatal ward • Ensure that providers document regular postnatal checks in the client file • Ensure availability of oxytocin in the postnatal ward 24/7 • Develop a log to track availability of oxytocin

Small Group Discussion: Review Table 15 as a group

- What patterns do you see, if any, in the modifiable factors identified in the last 9 audits of deaths of women due to PPH?
- What do you see as the most important and common modifiable factors contributing to PPH that your team should prioritise?
- Based on these common modifiable factors and the responses recommended, discuss **how your committee will prioritise aggregate responses** to accelerate the reduction of deaths of women due to PPH in your facility?
- If time allows, begin to fill out the "Aggregated Deaths Response Plan" below based on your prioritised responses. Be as specific as possible and prepare to discuss in plenary.
- Table 16 may be a useful tool for MPDSR Committees working to address common and persistent modifiable factors that have led to **multiple deaths** in previous months.

Table 15: Aggregate MDSR Form: Common modifiable factors and aggregated response priority responses to accelerate reduction of maternal deaths due to PPH

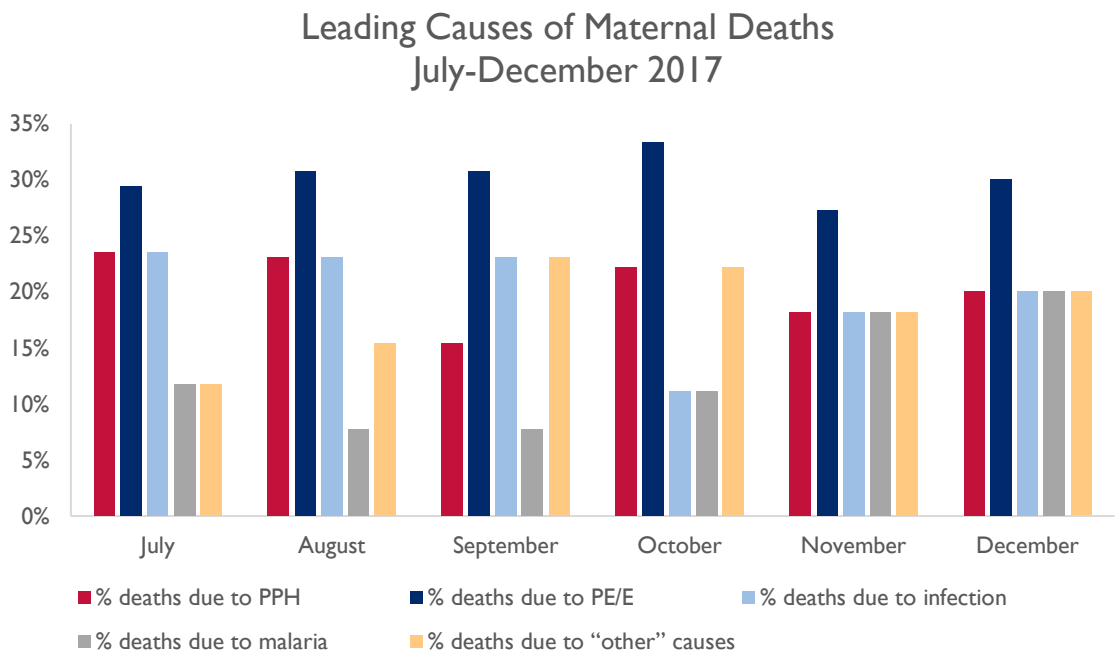
Common modifiable contributing factors	Action (What to do)	Responsible person (Ensures completion of action) Specify facility and/or district	Target completion date	Follow up progress notes (completed/ongoing/failed)

Exercise C: Visualising Trends in Causes of Maternal Deaths

Six months later you have implemented the priority responses you identified in Exercise B to address the key factors contributing to PPH deaths at your facility. To track your progress, you decide to review the causes of maternal deaths once again in your facility over the past 6 months. The results of your data review are presented in Table 17. To visualise the changes over the past 6 months, **create a bar graph** that displays the monthly proportion of specific causes of maternal deaths from July to December 2017.

Table 16: Monthly number of maternal deaths and proportion (%) of deaths by cause (July–December 2017)

	July	August	September	October	November	December
A. Total number of deliveries (including stillbirths)	713	558	690	589	570	651
B. Total number of maternal deaths	17	13	13	9	11	10
C. Deaths due to PPH	4	3	2	2	2	2
D. Deaths to PE/E	5	4	4	3	3	3
E. Deaths due to pregnancy-related infection	4	3	3	1	2	2
F. Deaths due to malaria complications	2	1	1	1	2	2
G. Deaths due to other causes	2	2	3	2	2	2
H. Proportion of deaths due to PPH *(Row C divided by Row B)*	24%	23%	15%	22%	18%	20%
I. Proportion of deaths due to PE/E *(Row D divided by Row B)*	29%	31%	31%	33%	27%	30%
J. Proportion of deaths due to infection *(Row E divided by Row B)*	24%	23%	23%	11%	18%	20%
K. Proportion of deaths due to malaria *(Row F divided by Row B)*	12%	8%	8%	11%	18%	20%
L. Proportion of deaths due to "other" causes *(Row C divided by Row G)*	12%	15%	23%	22%	18%	20%



Conclusion

You are encouraged to see the progress you are making based on the distribution of causes of maternal death over the past 6 months visualised in your bar graph. You note that the total number of maternal deaths has been decreasing and that the proportion of deaths due to PPH has decreased (while the monthly volume of births in your facility has remained constant.) You proudly display your bar graph in a public area of the maternity for all to see! You are now ready to sustain your gains in reducing deaths due to PPH and to tackle the next leading cause of maternal deaths.

Homework: Availability of Maternal Death Data in the National HMIS

(To be completed on the evening of Day 2)

In many countries, basic information about frequency and causes of maternal death is not available in HMIS materials (including individual patient medical records, facility registers [clinic, hospital] and monthly summary forms that are used to aggregate data in the national HMIS). It is important to understand whether information on the frequency and causes of maternal deaths is available to you in your role supporting MPDSR and QI, whether as a member of a facility or a district MPDSR or QI committee. Based on the forms you commonly use to record and/or analyse maternal health information, please note the availability of designated spaces for specified maternal data elements in each type of form listed in the table below.

Table 17: HMIS Data Availability Review Form

Your Role/Title					
Where do you work?	☐Health centre ☐District hospital ☐District health office ☐Other (Please specify)				
Please check which types of HMIS forms you use on a regular basis and fill in the answers below for these forms. (leave blank for the forms you do not use)	**☐Patient record (partograph or other individual chart/ record)**	**☐Hospital register**	**☐Health centre register**	**☐HMIS Monthly Summary Reporting Form**	**☐ Other forms or data sources? (Please specify)**
For each type of form that you use, check if there is a designated space (standard data element) to record **individual (or cumulative)** maternal deaths? (leave blank for forms you do not use)	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
For each type of form, is there a designated space to record the **cause** of maternal deaths? (leave blank for forms you do not use)	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
If YES, please indicate how the **cause** of maternal deaths is documented/captured in each form? (leave blank for forms you do not use)	☐ Open ended space (to write in cause) ☐ Designated data elements (e.g., box to check for individual causes of death) ☐Not applicable	☐ Open ended space (to write in cause) ☐ Designated data elements (e.g., box to check for individual causes of death) ☐Not applicable	☐ Open ended space (to write in cause) ☐ Designated data elements (e.g., box to check for individual causes of death) ☐Not applicable	☐ Open ended space (to write in cause) ☐ Designated data elements (e.g., box to check for individual causes of death) ☐Not applicable	☐ Open ended space (to write in cause) ☐ Designated data elements (e.g., box to check for individual causes of death) ☐Not applicable
IF there is a designated data element for individual causes of maternal deaths, please check **which causes of maternal death have**	☐PPH ☐APH ☐PE/E ☐Sepsis ☐Obstructed labour	☐PPH ☐APH ☐PE/E ☐Sepsis ☐Obstructed labour	☐PPH ☐APH ☐PE/E ☐Sepsis ☐Obstructed labour	☐PPH ☐APH ☐PE/E ☐Sepsis ☐Obstructed labour	☐PPH ☐APH ☐PE/E ☐Sepsis ☐Obstructed labour

designated data elements in each type of form. (leave blank for forms you do not use)	☐Abortion complications ☐Malaria ☐HIV ☐Others, *please specify* ☐Not applicable	☐Abortion complications ☐Malaria ☐HIV ☐Others, *please specify* ☐Not applicable	☐Abortion complications ☐Malaria ☐HIV ☐Others, *please specify* ☐Not applicable	☐Abortion complications ☐Malaria ☐HIV ☐Others, *please specify* ☐Not applicable	☐Abortion complications ☐Malaria ☐HIV ☐Others, *please specify* ☐Not applicable
Is there a column or space to indicate whether the maternal death was audited in each form?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No

On Day 3 of this training, you will be asked to write down 2–3 actions that you would take to strengthen the HMIS forms in your country to enable regular tracking of trends in the most common causes of maternal deaths.

Day 3/Session 4: MDSR Workshop Final Knowledge Assessment and Review

Session Plan

Duration: 45 min

Session Objectives: By the end of this session, learners will be able to:

- Demonstrate knowledge and skills learned in the workshop
- Complete Post-Test

Advanced Preparation
• Print copies of the knowledge assessment post-test • Make sure extra pens are available for participants to complete assessment

Methods and Activities	Materials/Resources
Introduction (5 min) • Ask learners if there are any topics that they would like to review and discuss • Explain that the purpose of the knowledge assessment is to evaluate their understanding of the workshop content	• MDSR Day 3 Session 4.pptx
MDSR Knowledge Assessment (25 min) • Distribute the learner version of the knowledge assessment post-test. • The learners will have 20 minutes to complete the assessment. (The time allotted is an estimate, if the learners finish early or need additional time adjust the following steps.) Review the answers with the group and display the correct answers from the PowerPoint. • Collect completed post-tests from learners. • Discuss and revisit any items or topics that were misunderstood, too difficult or widely marked incorrectly by the learners.	• Knowledge Assessment Post-Test – Learners • MDSR Day 3 Session 4.pptx
Summary (5 min) • Review 1 or 2 questions which most learners marked incorrectly.	

MDSR Knowledge Assessment Post-Test

Answer Key

Correct answers are in bold.

1. Which is the best definition of a maternal death?
   a. The death of a woman while pregnant or within 42 days of termination of pregnancy from any cause related to pregnancy or its management, but not from accidental or incidental causes
   b. The death of a woman while pregnant or within 42 days of pregnancy, including any accidental or incidental causes
   c. The death of a woman while pregnant or within 42 days of pregnancy because of limited critical care services
2. How many steps are in the mortality audit cycle?
   a. 3 steps
   b. 6 steps
   c. 9 steps
3. What are the steps of the mortality audit cycle?
   a. Identify, locate, recommend solutions, implement recommendations, evaluate and refine
   b. Identify, collect information/notify, analyse information, recommend solutions, implement recommendations, evaluate and refine
   c. Identify, review, recommend solutions, implement recommendations
4. Standardisation of identification of direct and indirect causes of maternal deaths are found in:
   a. ICD-PM
   b. ICD-MM
   c. ICD-20
5. What is the first step of the MDSR process?
   a. Review of the MDSR form
   b. Identification of maternal deaths
   c. Analyse maternal or perinatal death
6. What single term should be written on the death certificate?
   a. Cause of mortality
   b. Underlying cause of death
   c. Morbidity agent

7. Which of the following is a direct cause of maternal death in pregnancy?

   a. Pre-eclampsia/eclampsia

   b. Cardiac disorder

   c. Thyroid disorder

8. Which term is defined as the death of a women from direct or indirect causes more than 42 days but less than 1 year after termination of pregnancy?

   a. Late maternal death

   b. Delayed maternal mortality

   c. Postpartum death

9. What is the underlying cause of death of a woman with HIV who dies of septic shock and renal failure after a spontaneous incomplete abortion?

   a. Renal failure

   b. Septic abortion

   c. Septic shock

10. A 20-year-old woman (30 weeks pregnant), was involved in a traffic accident and died soon after reaching the hospital. What ICD-MM group does this fall into?

    a. Direct maternal death

    b. Indirect maternal death

    c. Coincidental cause of death

11. A 30-year-old woman (38 weeks pregnant), underwent a caesarean section for foetal distress. She had just had a full meal and died on the theatre table because of aspiration following anaesthesia. What ICD-MM group does this fall into?

    a. Other obstetric complications

    b. Coincidental causes

    c. Unanticipated complication of management

12. A 16-year-old girl who was being treated for a high fever died suddenly after reaching the facility. She had taken an herbal medication 2 days earlier, following unprotected intercourse 2 weeks after her last menstrual period. How should the provider document this death?

    a. Coincidental cause of death

    b. Indirect maternal death

    c. Not a pregnancy-related death

13. Pre-eclampsia has been determined to be a leading cause of maternal mortality in Facility X. Which of the options below is an appropriate action that an MPDSR committee could implement to improve the quality of care for women with pre-eclampsia in this facility?

    a. Take action against the provider who was on duty at the time of the two most recent maternal deaths caused by pre-eclampsia

    b. Ensure availability of magnesium sulphate in the emergency area at all times

    c. Immediately refer women who present with pre-eclampsia to another facility

14. What is the primary responsibility of the facility MPDSR committee?

a. To review and develop response actions following maternal and perinatal deaths

b. To penalise the provider involved in the maternal death

c. To complete and send reports on maternal deaths to the district managers

15. How often should the facility MPDSR committee meet?

a. When two or more similar maternal deaths are recorded

b. Once or twice a year, depending on facility size

c. After a maternal death or periodically, even if there is no death

16. Which types of maternal death are included in the ICD-MM classification system?

a. Direct, coincidental, unspecified

b. Direct, indirect, coincidental

c. Direct, unspecified, indirect

17. Which of the following is NOT one of the guiding principles of the response portion of MPDSR?

a. Monitoring the implementation of actions/responses identified during the death review

b. Prioritising actions/responses based on avoidable factors identified during the death review

c. Not establishing a timeline for response actions

18. Which of the following options includes examples of the three types of delay in the Three Delays Model?

a. Waiting too long to seek care because of the financial implications, the length of time it takes to reach care because of poor roads, and timeliness of care because of understaffed facilities

b. Receiving services at a busy facility, the time it takes to properly diagnose the root cause of an illness, and the time it takes medication or treatment to take effect

c. The time it takes to find an affordable health care provider, the length of time it takes a provider to reach the patient, and the recovery time needed after a surgical procedure

19. What is an important function of a civil registration and vital statistics system?

a. Registration of only births

b. Registration of only deaths

c. Registration of births and deaths

20. Monitoring and analysing trends in maternal deaths and the findings of death reviews should be done at the following level:

a. Community and facility levels only

b. Community, facility, subnational and national levels

c. Subnational level only

Day 3/Session 5: Workshop Wrap-up and Closing Ceremony

Session Plan

Duration: 50 min

Session Objectives: By the end of this session, learners will be able to:

- Describe how they will apply the knowledge and skills obtained during the workshop
- Provide feedback on the workshop

Advanced Preparation
• Paste photos (of the Individual Learning Plan, group work, etc.) into the PowerPoint as desired • Prepare Certificates of Completion for each learner • Print copies of the Workshop Evaluation Form

Methods and Activities	Materials/Resources
Introduction (5 min) • Share with learners that they have come far since the beginning of the workshop! • In this session, learners will reflect on their experience.	• MDSR Day 3 Session 5.pptx
Discussion (5 min) • Revisit parking lot and Individual Learning Plan. • Ask learners to share a learning objective where they rated their competency low, but now feel competency in that same learning objective. • Ask learners to share how they will apply knowledge gained throughout the workshop. • Wrap up the session by asking the group if they have any questions or concerns regarding the workshop.	
Workshop Evaluation (10 min) • Ask for feedback on the workshop and for suggestions for improving the workshop for future groups. • Ask learners to complete the Workshop Evaluation Form.	• Workshop Evaluation Form.docx
Closing Ceremony (30 min) • Present learners with individual certificates of completion. • Closing remarks from leadership, Ministy of Health representatives or other senior participants.	• Certificates of Completion

MPDSR Capacity-Building Workshop Evaluation Form

Instructions: Please rate the MPDSR workshop using the following scale:

1-Agree 2-No Opinion 3-Disagree

Course Component	Course Rating
The workshop objectives were clearly presented	1---------- 2----------3
The training was presented in a helpful sequence	1---------- 2----------3
The workshop was well-balanced between presentations and practice exercises	1---------- 2----------3
The length and timing of sessions was appropriate for the workshop	1---------- 2----------3
The workshop enhanced my understanding of the goals of MDSR	1---------- 2----------3
The workshop enhanced my understanding of the Six-Step Mortality Audit Cycle	1---------- 2----------3
I feel confident about my skills in identifying maternal deaths	1---------- 2----------3
The workshop improved my ability to differentiate between direct and indirect obstetric deaths	1---------- 2----------3
The workshop improved my ability to complete maternal death review forms accurately	1---------- 2----------3
The workshop improved my ability to prepare a case summary	1---------- 2----------3
After the workshop, I feel confident assigning the cause of maternal death using the ICD-MM	1---------- 2----------3
The workshop enhanced my understanding of creating/strengthening an MDSR/MPDSR team	1---------- 2----------3
I feel confident about my ability to develop MDSR/MPDSR responses	1---------- 2----------3
I feel confident about my ability develop a process for tracking an MDSR response	1---------- 2----------3
After the workshop, I am comfortable identifying trends and commonalities within a collection of maternal death data	1---------- 2----------3

Please provide any additional feedback on the structure and content of the workshop.

Appendix A: Facilitator Profile

MPDSR facilitators play a key role in providing training and as well as ongoing supporting to district and facility MPDSR teams. They help ensure that facility MPDSR teams continue to function properly.

They should be:

- Experienced nurses, midwives, obstetricians, paediatricians or regional/district trainers
- Experienced in conducting MPDSR meetings, working on quality improvement activities and reviewing and analysing maternal and newborn health data
- Excellent communicators and facilitators
- Willing to work as a team member and accept the role of MPDSR facilitator

Appendix B: Training Preparation Checklist

A reference checklist for trainers, programme managers and others working to organise MPDSR capacity-building workshops.

Task	Responsible	Remarks	Status (Completed/Not Completed)
Advance preparation 2–3 months before the workshop			
Meet with national and subnational health authorities			
Begin gathering relevant country-specific MPDSR documents (MPDSR policies, guidelines, HMIS summary forms, MPDSR forms, etc.)			
Identify potential learners (See recommended participants for suggestions)			
Identify workshop venue that is comfortable and accommodates chairs and tables and has electricity; there should also be plenty of space for breakout sessions and set up of meals (Identify a back-up plan in case there is a power outage)			
Send a "save the date" message to the learners with workshop objectives and information about the venue			
Send invitation to invitees with high-level agenda/workshop objectives, start time for the first meeting and other relevant information; plan to obtain any Ministry of Health signatures or approvals that might be needed before invitations are sent to learners			
Go through session plans in detail and prepare and practice for facilitation			
Determine if per diem will be paid to learners			
Advance preparation 1–3 weeks before the workshop			
Order catering (lunch/tea and coffee breaks) for the workshop			
Ensure that all training supplies have been purchased			
Ensure all training-related documents are printed (i.e., Facilitator and Learner Guides) and that you have a laptop and projector to show slide presentations or videos			
Day before workshop			
Reconfirm the number of workshop participants, print name badges and attendance sheets			
Load all videos and presentations onto the computer that will be used for projection			

Task	Responsible	Remarks	Status (Completed/Not Completed)
Transport all material to the training venue			
Set up the workshop venue for the first session			
Verify with caterer order and plans for tea breaks and lunch			
Ensure that tea/snacks have been arranged			
Ensure payment of per diem to learners, if applicable			
Day of workshop			
Ensure attendees sign the attendance sheet			
Assign a note taker(s) for the day			
Ensure payment of per diem to learners, if applicable			
Debrief with co-facilitators after each session			
After the workshop			
Finalise any payments for the venue and meals			
Send thank you to workshop participants and workshop support staff			
Develop preliminary plan for supportive supervision visits to facility MPDSR committees			
Draft workshop report and share with relevant stakeholders			

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Maternal and Child Survival Program

MDSR Workshop Certificate

PARTICIPANT NAME

Is awarded this certificate for his/her successful completion of the Maternal Death Surveillance and Response Capacity Building Workshop.

Month Day, Year
City, Country

_____

Program Director Name
Title
Program