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OBSTETRIC EMERGENCY DRILLS

Trainer's Manual

Improve the quality of care *for* women having obstetric emergencies

Institute for Clinical Effectiveness and Health Policy | Mother and Child Health Research Department

IECS INSTITUTE FOR CLINICAL EFFECTIVENESS AND HEALTH POLICY

Maternal Health Task Force

Introduction

This manual was developed by the Institute for Clinical Effectiveness and Health Policy (IECS) from Argentina as part of the Health Facility Networking for Maternal Health Project, supported by the Maternal Health Task Force at the Harvard T.H. Chan School of Public Health.

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Contents

Objective

This manual is intended for members of a quality improvement team from an obstetrics department in a facility that manages deliveries and receives emergency referrals. Its purpose is to teach a team to run obstetric emergency drills on a random schedule within the obstetrics unit, to help clinical staff evaluate and improve their responses to obstetric emergencies.

The objective of this manual is to describe the procedures and to provide the necessary tools to conduct obstetric emergency drills followed by de-briefing sessions to improve facility quality and emergency preparedness. This manual is not meant to provide clinical guidelines. Content of drill scenarios should be corroborated with evidence-based guidelines and facility protocols. The manual should be used as a training tool and a reference during implementation of obstetric emergency drills.

This manual is neither a "training of trainers" manual nor a participant manual for clinicians participating in obstetric emergency drills.

Description of obstetric emergency drills

An obstetric emergency drill is a method for practicing the management of an obstetric emergency in facilities where emergency obstetric care is delivered.

Luckily, devastating obstetric emergencies are rare. Without a way for clinicians to maintain knowledge and skills in managing obstetric emergencies, pregnant women are at risk of not receiving the care they need when they face life-threatening complications. Stepping outside of the classroom, obstetric emergency drills—simulations of managing a woman with the most common obstetric emergencies—allow nurses, midwives and physicians to gain and maintain knowledge, build skills and teamwork, and improve communication to safely manage these complications.

An obstetric emergency drill allows providers to practice applying their skills and knowledge to manage infrequent, but deadly, events in the same setting as they would manage a real emergency – in this case, their own facility.

The drill involves (1) a person who assumes the role of an obstetrics client experiencing an obstetric emergency and (2) health providers from the facility who simulate the emergency management of the obstetric complication as a team (including an obstetrician, a midwife, and a nurse). Participating personnel are not notified of the obstetric emergency drill in advance and have to react as if it were a **real** emergency.

Obstetric emergency drills should be conducted at a frequency that is appropriate for maintaining skills of clinical staff. This may be twice a quarter, once a quarter, or twice a year, depending on need. The first drill will be used to detect latent problems and to plan and implement corrective measures. The following drills will make it possible to evaluate if the corrective measures were effective and improve weaknesses in obstetric emergency management.

Rationale for conducting obstetric emergency drills

Simulation is a means of training to improve the management of obstetric emergencies. As in aviation and fire emergencies, the relatively low frequency and unpredictability of life-threatening obstetric emergencies makes simulation-based training the most appropriate method for training health providers in order to gain and maintain competence in managing obstetric emergencies.[1] This modality has proven effective in improving providers' knowledge, attitudes, and clinical skills. Drills are currently used to train providers in the management of obstetric emergencies in the United States[2] and United Kingdom[3], and the method presented in this manual has been successfully implemented in India and Ethiopia.

Obstetric emergency drills are scenario-based trainings conducted in 'real time' in the normal working environment. These drills aim to test both the local emergency response system and protocols that facilities have in place to manage obstetric emergencies. Drills can also be used to test professional teamwork dynamics and individual providers' skill and knowledge.[3,4] An additional advantage of using drills is their low cost compared to setting up sophisticated training centers, and thus may be more appropriate in low- and middle-income countries. The World Health Organization has recognized the development of locally effective and inexpensive solutions for training caregivers as a priority.[5,6]

THE ADVANTAGES OF CONDUCTING AN OBSTETRIC EMERGENCY DRILL

- Improved professional practice and teamwork
- Improved performance of the health service as a whole
- The identification of areas for quality improvement
- Facility readiness for obstetric emergencies

1. Tools for teaching and learning

1.1 How do we define learning in this context?

Learning implies some sort of transformation; it is the ability to do something that could not be done before. One source of evidence that something was successfully learned is the ability to demonstrate it; it is often said that the best way to learn something is by doing it. There are many examples of this kind of experiential learning, from learning to ride a bike and public speaking to writing a research paper or performing a clinical procedure.

Trainers must have a clear understanding of their teaching goals while performing an activity in order to facilitate a transformation of attitudes or behavior in participants. The key question in the design and implementation of obstetric emergency drills is, "Why do we do what we do?" The design of the training activity seeks to provide a space for self-reflection, self-evaluation and willingness to improve. It is not an activity that is meant to "certify" the ability of the participants to manage obstetric emergencies, but rather is meant to allow participants to gain and practice the skills that are needed to act effectively when rare events occur.

Trainers must have a clear understanding of their teaching goals while performing an activity.

Drills and debriefings are often meaningful learning experiences for participants because they require a high level of participation and introspection. Although each person learns differently, there are some features that are common to all learning experiences:

- A recognition of what one does not know, both current and previous ignorance
- A willingness to learn
- An obstacle to overcome
- Discomfort as one travels through the learning experience
- An increase in confidence at the end of the initial experience

1.2 What is teaching?

TEACHING BY DEMONSTRATING: THE TRADITIONAL MODEL

We can characterize this model with the following attributes:

- A clear transmission of concepts needed to ensure learning
- An emphasis on the content
- The trainer is the leader and is in charge of the teaching and learning process, the one who knows how things are done and who shows others how to do them
- The student is passive, receptive, and does not know the new concepts
- If the training process succeeds, it is the trainer´s achievement
- If the training process fails, it is the student's failure
- There is no room for error or for not knowing
- The ability to respond correctly is given great value

TEACHING BY FACILITATING: THE ALTERNATIVE MODEL USED IN OBSTETRIC EMERGENCY DRILLS

We can characterize this model with the following attributes:

- Acknowledging that people learn in different ways
- In all cases, learning involves four domains: cognitive, sensory, emotional, and intuitive
- The student is the leader and hero in the learning process
- The student plays an active role and brings in prior learning experiences. New learning builds on prior learning
- The trainer is at the service of the student
- The trainer´s role is to show how things are done and to facilitate the learning process
- The trainer's responsibility is to get to know the students and promote their transformation
- The ultimate goal is to guide the students to improve their behaviors and attitudes
- Students learn from their mistakes. Mistakes are seen as a valuable resource for learning
- Not knowing is valued as a starting point for learning something new
- The ability to ask questions is given great value

Working with drills requires that trainers adopt the "teaching by facilitating" paradigm. A key aspect of this model is symmetry with participants. To achieve this symmetry, it is always advisable to start the activity emphasizing that nobody is an expert in emergency obstetric care because they are rare events, so neither trainees nor trainers are experts.

1.3 The importance of observing

The human ability to observe is limited and is constructed from different life experiences. These experiences mark a tendency to observe or perceive certain phenomena and not others. However, we are often unaware of this and we think that "we see it all," "we see it as it is," and "we see it better than others." Nevertheless, no one sees it all and no one sees it as it is; that is why the sum of the different perceptions of team members is much richer than individual perceptions.

Our perceptions of the world and the interpretations we make of them determine our actions and the results we can achieve. We perceive an event and interpret it in a certain way, without realizing that there may be other ways to interpret the same event that could lead us to new actions and new results.

The shift from a model of a personal vision to a model with a team vision ensures the achievement of better results by creating an environment of cooperation instead of competition.

In working with drills, the ability to observe is a key component. Trainers should observe the actions that occur during the drill to facilitate a debriefing session afterward that will enrich participants' learning.

The trainers will observe the following:

- The area of the health facility where health care is delivered and, if appropriate, that equipment and supplies are available
- Who receives the obstetrics client and how they communicate with her
- The quality of communication with family members accompanying an obstetrics client
- If the patient history taking is adequate
- The adequacy and nature of the communication between clinical team members on duty
- If participants ask for help
- If the treatment the participants choose is appropriate
- If there is a team leader
- If the execution of clinical decisions is timely

In addition, as the team running the obstetric emergency drill, it is important to evaluate whether it is appropriate to conduct the drill at the time you have planned. For example, if there is a real emergency occurring or a waiting room full of women who need care, these things should take precedence over the planned drill.

Finally, trainers should observe their own performance during the drill and incorporate any necessary adjustments. For example, adjustment might be needed in the scenario script or in the performance of the actress as the obstetrics client.

1.4 The importance of listening

To listen is to perceive and to interpret. We perceive with all our senses, not just with our ears. We then form an explanation for the perceived phenomenon and finally, we act accordingly.

There are actions that are incomprehensible to some people because they have different perceptions of the same event or they attribute different explanations to that event. Interpretations or explanations are constructed from the accumulation of life experiences that influence the learning experience. For example, a pessimist tends to perceive and interpret things negatively, and the optimistic tends to perceive and interpret things positively.

From this vantage point, communicating effectively is a big responsibility and challenge.

The speaker speaks about what he/she considers important and about what he/she believes is important to the other. The listener hears what he/she considers important and what he/she believes is important to the other. Therefore, there is a dual responsibility in listening and in ensuring comprehension.

To minimize the risk of misunderstandings in communication, it is helpful to use reflective listening, that is, verifying and paraphrasing what was heard (saying in one's own words what was heard). Assuming that we understood a message that was not clear can lead to serious misunderstandings, which, in the case of obstetric emergencies, can be catastrophic.

Trainers should exercise their listening skills in the debriefings. When a participant says something that isn't clear, the trainer should ask him or her to clarify before making an assumption about the interpretation.

1.5 The freedom to ask questions

Asking questions allows the trainers to truly understand what happened during the drill from the participants' perspective. There are two types of questions:

- Open
- Closed

Open questions are those that seek to expand knowledge; they do not have a specific, "yes or no," or "correct" answer. These are examples of open questions: How did you feel? What do you think can improve this exercise? What would you change? What do you think about the communication with the obstetrics client and her family?

Closed questions are those that seek to confirm or refute a hypothesis, and generally have "yes" or "no" answers. For example: Did you feel good? Did the care provided need improvement? Was the obstetrics client given the right treatment?

In general, during debriefings, we favor/prioritize the use of open questions for two reasons:
- We seek to obtain the most information possible
- We seek to foster a climate where people do not feel evaluated and participate freely

However, there are times when it may be essential to use closed questions, for example, to confirm something that may have been ambiguous or simply to verify consensus.

1.6 The importance of giving and receiving feedback

Feedback is a useful tool to improve performance and verify the perceptions of both the trainer and participant. At the same time, it is important to remember that feedback is an opinion, or an interpretation, not a fact.

When the trainer gives feedback, the participant will perceive and interpret the feedback with his/her own subjectivity. This means that the participant should communicate his/her interpretation of the feedback to ensure it is communicated and received.

Points for trainers to consider while giving and receiving feedback:
- Trainer's feedback is an opinion (interpretation) of the participants' behavior, and should always starts with "I think ..." or "I perceive you ..."
- Feedback should not be given without the consent of the other person, but rather should be requested or offered
- Feedback should always be respectful and caring
- Giving feedback is a skill and, as such, requires practice

In the debriefing it is very important to observe, ask questions, and respectfully say things that might result in improvements by either reinforcing a positive behavior or suggesting an improvement for an inadequate behavior.

It is advisable to start the feedback with phrases like:
- I thought...
- I'd like to know what you saw, what I saw...
- I found in this exercise...
- In emergency care recommendations around the world, it is recommended...

With this method of feedback we achieve two objectives:
1. Participants are open to listening and are not defensive since they do not feel attacked, which can happen when trainers comment directly on participants' performance.
2. Participants have the chance to observe an external authority modeling the desired behaviors and procedures (i.e., feedback and training is not based on the trainer's opinions, but is supported by global emergency care guidelines).

1.7 Other teaching and training resources

- World Health Organization. (2005). Effective Teaching: A Guide for Educating Healthcare Providers. Geneva, Switzerland.
- Jhpiego. (2010). Training Skills for Health Care Providers. Baltimore, MD, USA.
- JHPIEGO. (2004). Guidelines for assessment of skilled providers after training in maternal and newborn healthcare. Baltimore, MD, USA.
- Jhpiego. (2011). Simulation Training for Educators of Health Care Workers: Guide for Facilitators. Baltimore, MD, USA.
- Jhpiego. (2011). Simulation Training for Educators of Health Care Workers: Guide for Learners. Baltimore, MD, USA.

2. What is needed to implement obstetric emergency drills

2.1 Appropriate facility environment and consent

Obstetric emergency drills can be adjusted for a variety of settings, however experience has shown that they are optimal in institutions that have a large volume of deliveries (at least 500 a year) and that provide care based on well-defined emergency obstetric care (EmOC) guidelines. Before implementing obstetric emergency drills, please use the guide in Annex 1 to conduct a facility assessment and review section 1, "Tools for teaching and learning." Use the results of the facility assessment to create a capacity-specific drills implementation plan.

Before instituting an obstetric emergency drills program, it is important to obtain permission/consent from the facility to conduct and film the drills.

2.2 Implementation team/trainers

In order to implement the use of drills, a team is needed to assess facility readiness, engage with facility stakeholders to garner support for the implementation, teach health providers how to participate in an obstetric emergency drill and conduct the drills. Ideally, the implementation team (or trainers) will be composed of three health professionals:

- An obstetrician
- A midwife
- A nurse

Conduct a facility assessment and use those results to create a capacity-specific drills implementation plan.

In settings where all three clinical professionals do not attend births, please include a member of each clinical profession that makes up the maternal health team. If three members are not available, this should not prevent you from conducting drills.

At least one trainer should be female to promote gender equity and, in the case that another actress cannot be found, act in the role of the obstetrics client.

QUALIFICATIONS AND REQUIREMENTS OF TRAINERS

- Trainers should be clinical providers with at least three years of experience (or if less than three years, the most experienced clinician) on the obstetrics ward in the facility where the drills will be conducted
- Trainers should know and adhere to the emergency obstetric care practices recommended by the most current evidence-based guidelines and the National Ministry of Health (or equivalent), which includes practices for postpartum hemorrhage and hypertensive disease
- Trainers should have standardized EmOC training before leading the drill training
- Trainers should be competent in the local language and dialect
- Trainers should have excellent communication skills with the ability to observe, ask questions, and communicate respectfully about any issues that may arise during the drill
- Trainers should have excellent interpersonal skills with the ability to establish good relationships and teamwork
- Trainers should be present at all stages of conducting the drills

NOTE: Trainers can be replaced by other personnel from the facility depending on who is involved in pregnancy care at the setting and the pool of providers available.

TRAINERS' ROLES

The team of trainers running the drills is comprised of three people who each play a different role during the drill: (1) an actress playing an obstetrics client, (2) a director, and (3) an observer. If desired, the team of trainers may have a fourth member, who can play the role of a "family member" who gives additional information on the obstetrics client's background.

Actress/Obstetrics client

The drill should be conducted with an actress in the role of the obstetrics client suffering an obstetric emergency. The actress is a member of the implementation team; she needs to learn the scenario script to know the symptoms in detail and must have a very good knowledge of the emergency or complication. As the questions asked by the providers are not planned, she needs to know how to answer each question, even if the question is not in the scenario script.

The actress dramatizes/role plays the emergency and manages the time elapsed during the drills. She can modify her performance to influence the actions of the trainees. Female nurses, obstetricians, or midwives can play the role of the actress.

Director

A drill director provides the team with information on the obstetrics client's status (e.g., blood pressure, cervical exams) needed to guide their decisions and actions. The director follows the scenario script; however, his/her input will depend on the decisions and actions of the drill participants. For example, if the drill participants measure the obstetrics client's blood pressure, the director informs them of the values, but if they do not measure it, this information is not provided. In addition, his/her tone of voice can be modulated to add realism to the situation.

Observer

While the drill is ongoing, an observer records what happens during the drill, using a detailed checklist that will be also used to guide the debriefing session (Annex 3 and 5).

The observer's role/job is to watch the entire scene and fill out the checklist to record the performance/actions of the participant team.

After the drill, the implementation team (director, actress, and observer) meets alone for a couple of minutes to go through the checklist before sharing feedback with drill participants.

Recommendations for the observer: The observer should familiarize him/herself with the checklist before the drill and fill it out completely during the drill. If needed, the observer can take time between the drill and debriefing to make final notes. During the debriefing, the observer should review his/her responses as the video plays.

Recommendations for trainers: The team should prioritize the most critical aspects of the emergency response as evaluated on the observer's checklist for discussion in the debriefing session.

2.3 Obstetric emergency drill participants

The team that participates in the drill and role plays the emergency response should consist of members of the obstetrics team in the facility. The number of participants may vary among different health care facilities, as it is recommended that the usual number of health providers on the obstetrics team at the facility assist the obstetrics client during the drill. Obstetricians, midwives, and nurses should all take part as if it were a real emergency. During the drill, participants should perform the role they would play in a real emergency, consistent with their scope of practice. Participants are not chosen for this team, they are the providers on duty when the drill is initiated.

3. How to do obstetric emergency drills

3.1 Overview

Before each drill, the trainers must clarify to the participants (health providers who will assist the obstetrics client) that the measures to be taken with the obstetrics client should be real up to a certain limit (invasive procedures simulated, not done). The drill ends when the obstetrics client has been treated and a clinical outcome has been reached, as determined by the drill director.

A debriefing session with the staff should be held immediately after the drill ends. The debriefing session is the most important part of the drill as it allows staff to discuss positive and negative elements of their own performance and of the team as a whole during the drill. The debriefing includes a systematic discussion of the key events, and of the responses that should have taken place. Plans must be made to correct any problems that may have been detected.

3.2 The scenario script

This manual contains examples of two different scenario scripts (Annex 2 and 4), one for post-partum hemorrhage and one for preeclampsia/eclampsia. Additional scripts can be developed to design drills for other obstetric and newborn emergency scenarios according to facility guidelines.

The script describes the development of the emergency scenario in detail. The script also contains a detailed clinical evolution and correct timing for each event. The actress and director must be familiar with the script and be prepared to vary their responses according to the actions of the participants.

The script will be developed according to the facility's availability of equipment and supplies, physical layout, and the goals for the drill. It is suggested that facilities use the drill scripts provided, but they may be adapted according to the most up-to-date evidence and the facility's guidelines and resources. These scripts serve as a guide on how to conduct drills and are not meant to provide clinical guidelines. A script can be developed for any emergency scenario and should be adjusted to the local setting. The script should specify the role of each trainer on the implementation team. In addition, it should consider the participants and the duration of the drill.

3.3 Supplies needed for the obstetric emergency drill

The following materials are needed to conduct the drill. For the drill, the participants will need to have access to all the resources/supplies that would be needed during a real obstetric emergency. The list below can be used as a guide of the essential supplies needed for the exercise:

1. Bed
2. Small table to hold all medical supplies
3. Self-inflating resuscitation bag/oxygen mask or oxygen cannula
4. Sterile IV cannula/IV catheter
5. Sterile needles
6. Sterile syringes
7. IV line/tubing
8. Saline solution and/or Lactated Ringer's solution
9. Gloves
10. IV/IM and oral drugs that may be needed during an emergency: e.g., in ampoules (hydralazine, labetalol, magnesium sulfate, oxytocin, diazepam, ergotamine, etc.), in pill form (nifedipine, misoprostol, etc.)

11. Fetoscope
12. Stethoscope & sphygmomanometer
13. Thermometer
14. Oral airway
15. Foley catheter
16. Gauze
17. Alcohol or other antiseptic
18. Micropore tape or similar
19. Mock placenta (if you have a birthing simulator the placenta might be useful for the post-partum hemorrhage drill) and cloth to tie it to the obstetrics client's abdomen.
20. Camcorder (or another way to record a video) and computer or screen to display the video

Drills end when the obstetrics client has been treated and a clinical outcome has been reached.

3.4 Step-by-step process

This section provides a detailed step-by-step description of how an obstetric emergency drill should be/is organized and conducted.

1. *Inform/get authorizations from all staff* at OB department, hospital authorities and other potentially involved departments such as laboratory, ultrasound, anesthesia, neonatology, hematology, operating room, etc.
2. *Prepare the materials for the obstetric emergency drill:* scripts, observer checklist, camcorder (video recorder), and computer (or other screen) to display the video
3. *Select an appropriate time to conduct the drill:* Ensure that the drill will not conflict with actual clinical work, and make preparations for postponing or abandoning a drill in a real emergency.
4. *Establish a fiction contract with participants*
   - The fiction contract is a joint verbal agreement between trainers and participants. In it the trainers acknowledge that the drill cannot be exactly like real life but agree to make it as real as possible. Drill participants agree to do their best to act as if everything were real. Trainers need to explain that participants should not talk to the director of the drill, whose role is simply to inform them of the obstetrics client's clinical signs and symptoms during the drill.
   - Participants often worry that drills are designed to expose their weaknesses or to humiliate them. To counter these notions, trainers should clearly convey that they assume the participants have good intentions and are trying to do their best but will likely make mistakes along the way – which is perfectly okay because the drill debriefing session is a good place to talk about improving our practice. The focus is on learning, not catching people in a mistake.
   - It is also important to highlight that invasive procedures should not actually be performed. The drill has to be safe for the obstetrics client, who is an actress. The measures to be taken with the obstetrics client should be real up to a limit, i.e., IV: tubing ready but no IV stick; blood draw: Tourniquet on and needle ready but blood not drawn, etc. If equipment is limited in the facility, participants may mimic or pretend to use medical equipment without compromising the ability to use it for a real case.
   - Trainers should inform participants that a debriefing session will be conducted after the drill and ask their permission to video record the drill, clarifying that the only purpose of filming the drill is to use that video for the debriefing session. In order to maintain confidentiality, the video can be deleted at the end of the drill in the presence of the participants.
5. *Conduct the drill:* To conduct the drill, the team should use the postpartum hemorrhage and eclampsia scenarios and scripts (Annex 2 and 4).
6. *Debrief after the drill*: Trainers and participants should discuss how the drill went and what areas should be improved. See section 4 (below) for more detail.

4. Debriefing session

The debriefing session is a conversation to review the obstetric emergency drill that just took place. In the debriefing session, which should take place immediately following the drill, the participants and trainers will watch the entire recording of the drill and then explore and analyze their actions and thought processes, team communications and interactions, emotional states, and other information to improve the participants' performance in real emergency situations. If it is needed or requested by the participants, the entire recording may be watched again or specific sections may be reviewed.

The trainers will facilitate the debriefing session using the debriefing guide (Annex 3 and 5). The observer should base his or her comments to the participants on the information recorded in the observer's checklist (Annex 3 and 5). When trainers foster high participant engagement, this yields better retention, deeper learning, and increased likelihood of the transfer of new or reinforced knowledge, skills, and attitudes to health care personnel.

OBJECTIVES OF THE DEBRIEFING SESSION: SELF-REFLECTION

For participants (health care personnel):

- To identify performance gaps and understand why they happened
- To propose solutions in order to improve performance in a real emergency situation
- To identify best practices and enhance their use

4.1 Four key elements of a debriefing[7]

1. Establish and maintain an engaging learning environment
2. Structure debriefing in an organized way
3. Provoke engaging discussions
4. Identify and explore performance gaps (difference between the desired performance and the actual performance)

KEY ELEMENT 1: ESTABLISH AND MAINTAIN AN ENGAGING LEARNING ENVIRONMENT

Trainers reinforce the concept that the focus is on learning and not catching people in a mistake and try to create an environment where participants feel safe to share their thoughts and feelings about the drill. The following are positive behaviors trainers can use in leading the debriefing session:

- Stating something like, "Mistakes are puzzles to be solved, not crimes to be punished"
- Stating that the trainer understands that participants are trying to accomplish something positive, even when they make mistakes
- Expressing some kind of basic assumption that participants are intelligent, well-trained, and are trying to do their best
- Showing genuine curiosity by eliciting participants' thoughts
- Asking open questions that encourage participants to explore their thinking
- Critiquing the behavior, NOT the person

Negative behaviors to avoid:

- Teasing or ignoring participants' expressions of anxiety
- Making demeaning comments about participant's competency
- Asking and answering one's own questions
- Talking over participants' remarks
- Using sarcasm or irony in discussions

KEY ELEMENT 2: STRUCTURE DEBRIEFING IN AN ORGANIZED WAY

The debriefing has three phases:

1. Eliciting participants' reactions
2. Analysis and generalizing
3. Summary

Eliciting participants' reactions

Participants must be encouraged to express their initial emotional reactions to the drill. If the trainers listen with interest, a sense of safety is created. The trainers may ask questions that invite participants to express their initial reactions and emotions.

Analysis and generalizing

The objective of this phase is to allow participants to voice their concerns, reflect on what they thought and felt, and discuss what happened during the drill. The trainers should use the observer's checklist to analyze the participants' management of the obstetrics client. Feedback is then given to the participants from the trainers and suggestions for improving obstetric emergency care are given. (See Annex 3 and 5)

Summary of lessons learned

The objective of this phase is to review salient points and to summarize lessons learned. As a first step, participants are invited to summarize what they have learned. Questions that may help them summarize their experience:

- "What went well?"
- "Given similar circumstances, what might you do differently next time?"
- "What lessons will you use in your practice?"

The focus of the drills is to learn and create a safe environment for participants to share their thoughts and feelings.

After this, the trainer must summarize learning points, especially any important points that participants did not cover.

KEY ELEMENT 3: PROVOKING ENGAGING DISCUSSIONS

The purpose of debriefing is to get participants to focus on important lessons and learning opportunities and generate in-depth discussion. Good debriefings require participants to apply, analyze, synthesize, and evaluate information. Participants must be encouraged to personally reflect on their approach to clinical practice.

The following dimensions are important tips for trainers to create an engaging discussion:

- Use concrete examples as the basis for inquiry and discussion
- Ask questions based on observed actions and results
- Reveal your own reasoning and judgments

Trainers should reveal their own reasoning or rationale for pursuing a line of questioning, and do so in a way that is curious and respectful for the participant. Ideally, the assumptions or conclusions made by the persons conducting the debriefing are communicated so that they are shared for future adjustment.

In other words, trainers should view their own conclusions with healthy skepticism and assume the participant is well-intentioned.

Facilitating discussion through verbal and non-verbal techniques

Trainers usually use verbal and non-verbal techniques both consciously and unconsciously during debriefing. The following are positive behaviors to include:

- Eliciting and utilizing differing viewpoints to enrich understanding of a topic
- Asking people who are quiet substantive questions about the drill
- Listening carefully to participants' remarks without interrupting
- Using body language such as head nods, eye contact, posture, facial expressions, etc.
- Involving everyone; not allowing one or two people to dominate the discussion

Recognizing and managing the participant who becomes upset

It is important to recognize when someone becomes upset, state this as an observation and respectfully check with the participant whether this observation is accurate.

The trainer should then try to re-establish equilibrium, from normalizing the behavior ("We have done this drill several times and almost everyone handles it the same way you did"), allowing other participants to defend the upset participant, etc.

KEY ELEMENT 4: IDENTIFY AND EXPLORE PERFORMANCE GAPS (DIFFERENCE BETWEEN THE DESIRED BEHAVIOR AND THE ACTUAL BEHAVIOR)

The trainers should describe performance gaps, that is, the difference between the actual behavior and the optimal behavior. Debriefings should provide participants concrete feedback about performance, and try to identify the causes of the gaps. Exploring the reasons for participants' behavior as observed versus as expected is a distinctive feature of a good debriefing.

4.2 Tips for the debriefing session

General tips:

- Follow a method
- Include all the participants
- Ask open questions and wait for answers
- Use positive language—not criticisms—to communicate proposed improvements
- Utilize the recorded drill session to clarify any uncertainty about what happened
- Empower the participants to analyze their performance
- Identify comparisons to real world situations

4.3 Debriefing step-by-step

Use the "Observer debriefing guide and checklists" in Annex 3 and 5 to evaluate the drill and lead the debriefing session.

General tips for the implementation team/trainers

1. Break the ice: Create a context for learning
2. Identify participants' expectations. Establishing a good relationship with participants is critical to program success
3. Flatten hierarchy and generate symmetry, for example, by using the following phrases: "The situations you have encountered here in the ward are valuable and will enrich this training," or "As a team of trainers, we are always learning from the experiences shared by the teams we train." Share an experience when you learned from your own mistakes
4. Ask with curiosity to know how participants think
5. Use humor as a resource
6. Encourage reflection during debriefing to see what went right, what could have been done better and what should not be done
7. Use all your senses to take in what happens during the drill
8. Be aware of your own interpretations as trainers; these interpretations can hinder communication with participants
9. Ask participants for their feedback
10. Ask all the members of the team for their feedback to improve performance in future drills. Give and receive honest and respectful feedback
11. Enjoy it!

Annex 1: Facility Readiness Assessment

A. Key informant interview guide

Section I: Background information of key informant

Instructions for the interviewer: Fill out this form for each person you interview

A	Date of interview	
B	Time interview began	
C	Time interview ended	
D	Duration of interview (minutes)	
E	Name of hospital/health center	
F	Position/specialty	
G	Age of respondent	
H	Gender of respondent	Male ☐ Female ☐
I	Name of interviewer	
J	Additional observations and remarks	

Section II: Explanation and assessment of implementation feasibility

Introduction: "We would like to ask for your opinion regarding the feasibility of setting up obstetric emergency drills at your hospital/health center. We would appreciate it if you can give us your honest opinion regarding any factors that could influence the success of implementing obstetric emergency drills in your facility. We would also like your advice about how to implement the drills. I will show you an example of a drill and written explanation so we can discuss it."

Instructions for the Interviewer:

- Provide and explain the handout below, "Description of Obstetric Emergency Drills," to the key informant (hospital/health center director)
- Show the key informant a visual example of drills using the powerpoint presentation example (or other descriptive material)
- Use the questions below (Q1-Q12) to discuss the feasibility of implementing drills at the facility

Overview: Obstetric emergency drills to improve the quality of care of women having obstetric emergencies

An **obstetric emergency drill** is a method of practicing well-organized, coordinated management of an obstetric emergency by health care personnel.

We plan to conduct drills at a frequency that is appropriate for maintaining skills of clinical staff. This may be twice a quarter, once a quarter, or twice a year, depending on need. The first drill will be used to detect latent problems and to plan and implement corrective measures. The following drills will make it possible to evaluate if the corrective measures were effective and improve weaknesses in obstetric emergency management.

How an obstetric emergency drill is done

1. The drill will be prepared in advance and authorizations from the hospital will be obtained before implementing it.
2. The drill should not be scheduled, but should happen unexpectedly, like a real emergency, with an **actress** in the role of an obstetrics client suffering an obstetric emergency and a companion that can provide information about what happened before arrival.
3. The health service has to react assuming it is a real situation. This means that all members of the health care team should participate in the drill (i.e. physician, midwife, nurse, etc.). The measures to be taken with the obstetrics client should be real up to a limit (i.e. IV tubing ready but no IV stick; blood draw: tourniquet on and needle present but blood not drawn; etc.).
4. A drill director provides the needed information of the obstetrics client's status (i.e. blood pressure, cervical exams) anytime it is requested. For blood analysis, a sample of fake blood should be used to "send" to the lab (don't actually send to the lab) or the drill director should provide the participant with simulated lab results for the obstetrics client.
5. During the drill, an observer takes notes on the performance of each drill participant.
6. The drill ends when the actress/obstetrics client has been adequately treated, as determined by the drill director.
7. A debriefing session with the staff is held immediately after a short break after the drill. Participants will be invited to discuss positive and negative points about their individual and collective performance during the drill. This should be followed by a systematic discussion of the key events and responses that should take place during an obstetric emergency.
8. Plans are made to correct any problem detected during the drill.

Key Informant Interview Questions

Q1. The "Overview: Obstetric emergency drills to improve the quality of care of women having obstetric emergencies" (questions on previous page) shows the way an obstetric emergency drill is implemented. What do you think about the possibility of implementing this methodology at your hospital/clinic?

Q2. If you had to implement or run an obstetric emergency drill, how would you do it?

Q3. Which health workers should participate in the drill?

Q4. What are the challenges you may have in this process? What do you suggest to resolve these challenges/problems?

Q5. Do you think it will be feasible to conduct the debriefing sessions immediately after the drill? Why or why not? What would be the challenges? (Probes: Is there institutional support? Will health care personnel on the drill team be able to take time away from patient care?)

Q6. In general, do you think that the hospital/health center staff will accept this training strategy? Why or why not? What will be the challenges? Is there anything you can/would suggest to make it more acceptable?

Q7. What number of drills do you think are acceptable and feasible to do in the first six months of implementation?

Q8. Would you like to add something else that we haven't discussed yet regarding the feasibility of implementing the drills or the acceptability by the hospital staff and leadership?

Introduction: "Next I will ask you about the availability of human resources and equipment and supplies that may impact the development of the obstetrics emergency drills program."

Q9. Please give me details about the availability of the following resources at your facility:

- Communication: Does the hospital have telephone communication available? YES ☐ NO ☐
  - Does it usually work properly? YES ☐ NO ☐
- Clean water: Is clean water available in the emergency or labor and delivery room? YES ☐ NO ☐
- Transport: What is the average time it takes an ambulance to transport an obstetrics client in need of emergency care to the hospital/facility?

- Human Resources: Are doctors/midwives/nurses available 24 hours a day, 7 days a week at the hospital/health center? YES ☐ NO ☐

- Laboratory: Is a lab facility and blood bank available 24 hours a day, 7 days a week at the hospital/health center? YES ☐ NO ☐
  Can the laboratory facilities test for:
  - Hemoglobin/hematocrit YES ☐ NO ☐
  - Syphilis YES ☐ NO ☐
  - HIV YES ☐ NO ☐
  - Blood group and Rh YES ☐ NO ☐
- Anesthesiology: Does the facility have on-site anesthesiology 24 hours a day, 7 days a week in case a Cesarean section or hysterectomy is indicated? YES ☐ NO ☐
- Neonatology: Does the facility have on-site neonatology service 24 hours a day, 7 days a week? YES ☐ NO ☐
  - If not, is there any personnel trained in essential newborn care 24/7? YES ☐ NO ☐

Q10. To your knowledge, are the following medical supplies regularly available in your facility: stethoscope, blood pressure cuff, magnesium sulfate, saline solution, etc.? (This is an exploratory list, not a definite one.)

Q11. Does the hospital/health center have clinical guidelines for the management of postpartum hemorrhage and hypertensive disorders? YES ☐ NO ☐

- If so, are these guidelines regularly updated or revised? YES ☐ NO ☐
- If not, what strategies do you use in this facility to sustain a standard level of performance?

Q12. Does the hospital/health center have regular training for the management of postpartum hemorrhage and hypertensive disorders? If yes, can you please describe the training and give me your opinion about it?

Thank You!

B. Facility Checklist

Facility Assessment Checklist in Obstetric Emergency Care

Page 1 of 2

Hospital/health center name:

A. Client Transport: For each of the following, check if available daily for deliveries

	Yes	No
1. Wheel chair, trolley, or stretcher		
2. Person to transfer obstetrics client		

B. Equipment: Check if facility has the following equipment functioning daily

	Yes	No
1. Sterilization equipment		
2. Oxygen tanks with facemask, cylinder carrier, and key		
3. Resuscitation bag and mask		
4. Blood pressure cuffs		
5. Stethoscopes		
6. Thermometer (rectal or axillary)		
7. IV tubing		
8. Needles/catheters		
9. Sterile gloves		
10. Sterile gauze		
11. Examination table		
12. Waiting room with seats		

C. Medications: Check if facility has the following medications available daily

	Yes	No
1. Antibiotics		
2. Magnesium sulfate		
3. Misoprostol		
4. Uterotonics (oxytocin/ ergometrine)		
5. Blood products		
6. Anti-convulsants		
7. Anti-hypertensives		
8. Antiseptic solution		

Facility Assessment Checklist in Obstetric Emergency Care

Page 2 of 2

Hospital/health center name:

D. Labor/Delivery Room: For each of the following, check if available daily for deliveries

	Yes	No
1. Sufficient sterilized delivery sets		
2. Sterilized gloves, gowns, gauze		
3. Clean linen sets		
4. Sterilized forceps set		
5. Vacuum extractor		
6. Laceration repair pack		
7. Suction apparatus with suction tube		
8. Oxygen cylinder w. face-mask, cylinder carrier and key		
9. Light		
10. Emergency drugs for postpartum hemorrhage and preeclampsia/eclampsia e.g. magnesium sulfate (within expiration limits)		
11. Antiseptics		
12. Blood pressure cuff, stethoscope, thermometer, IV fluids, stands, needles and cannulae		
13. Mucus extractor for neonates		
14. Appropriate bed, chair or equipment to facilitate positioning for labor and delivery		
15. Scale for weighing newborn		
16. Ambu (self-inflating) resuscitation bag for newborn		
17. Hazardous waste bin		
18. Sharps disposal container		

E. Personal Protective Equipment (PPE)/ Scrub Room: Check if the facility has the following supplies available daily

	Yes	No
1. PPE gown		
2. PPE caps and masks		
3. Operating theatre shoes/ shoe covers		
4. 24-hour running water		
5. Wash basin with elbow, knee, or foot tap for scrubbing hands		
6. Scrub brushes and soap		
7. Wall clock		

F. Laboratory/Blood Bank: Check if the facility has the following supplies available daily

	Yes	No
1. Donor blood analysis: Blood type, cross matching and re-agents for screening syphilis, hepatitis, HIV and other blood borne pathogens		
2. Blood collection items and bags		
3. Centrifuge and test tubes		
4. Microscope		
5. Register for recording abnormal lab results		
6. Refrigerator		

Annex 2: Postpartum hemorrhage scenario

1. **Introduction of the trainers and participants**
   (training team and health care personnel of the hospital/health center)

2. **Establish a "Fiction Contract" (agreement that the obstetric emergency drill is a simulation) with participants.**
   Before starting the drill, set some premises and give guidelines for how to develop the drill program.

2.1 Set basic assumptions

- Acknowledge that emergency situations are infrequent
- State that you are aware that participants (health care personnel of the hospital/health center) are very capable, have good intentions, and are trying to do their best. Since emergency situations are not common, no one is an expert in these situations
- Highlight the importance of practicing how to respond in obstetric emergency situations
- Trainers should inform participants that a debriefing session will be conducted after the drill and ask their permission to video record the drill, clarifying that the only purpose of filming the drill is to use that video for the debriefing session
- Do not tell the participants which complication the actress will role play during the drill. Mention only that it will be an obstetric emergency

2.2 Give guidance for drill development

- Participants need to make an effort to pretend that the emergency situation is really happening, and to act as if it were a real emergency. Participants agree to do their best to act as if everything were real
- The participants must act according to what is presented in the script
- Invasive procedures should not be performed. The drill has to be safe for the obstetrics client, who will be an actress
- The measures taken with the obstetrics client should be real up to a limit, for example:
  - IV tubing ready but no IV stick (just place the IV tubing and tape)
  - Blood draw: Tourniquet on and needle ready but blood not drawn
- Explain the roles of the training team: actress, observer, director, and companion (if present)
- Stress that participants may not talk to the drill director (part of the trainer team), but may speak to the emergency coordinator or leader (part of the participant team)

3. **Set goals and objectives:**
   - Participants recognize/identify changes in obstetrics client's signs and symptoms
   - Participants promptly recognize the probable diagnosis of postpartum hemorrhage (diagnosis not given prior to drill)
   - Participants use best available evidence (ideally consistent with their facility's guidelines) for postpartum hemorrhage diagnosis and treatment
   - Participants understand the importance of good teamwork in management of postpartum hemorrhage
   - Tasks are delegated to different participants to be performed simultaneously

4. **Designate the location of the obstetric emergency drill**
   - Obstetrics ward and/or delivery room

5. **Present a clinical case:**
   - Maya is a 30 year old woman, G3P2, healthy. She comes to the emergency ward after having just had a term vaginal delivery at her home; however, her placenta is not yet delivered. She did not have any complications during her antenatal care visits. She has two girls: 2 years and 1 year of age. She arrives with her husband and a community health worker. (Adjust scenario to context as necessary).

Note: To give more realism to the scene, the actress can prepare in advance an antenatal care card with information regarding her "pregnancy". This card may help the provider to better contextualize the clinical case. She can also use a fake placenta.

In addition, this scenario details management of uterine atony only. Other causes of postpartum hemorrhage exist, such as trauma, retained placenta, etc., and require slightly modified management. To run drills on these scenarios, please use the best available evidence and your facility protocols.

Details on ANC card, if used in setting, include:
- Age: 30 years
- G3P2 (2 previous vaginal deliveries without complications)
- Address: (Insert a context appropriate address)
- LMP: (Insert appropriate date based on gestation)
- EDD: Not recorded
- Laboratory tests: HIV negative, VDRL Negative, Hepatitis B Negative, Hemoglobin: 11grams, Blood type: A, Rh-positive

6. Drill script for postpartum hemorrhage

Obstetrics Client	Participants (Obstetrics team on duty)	Director
Arrives to emergency ward in a state of anguish and despair: • "Is everything all right?" • "What about the placenta?" • "What are you going to do to me?"	Participants should each perform tasks simultaneously throughout the drill: • Take patient history • Assess symptoms • Check her vital signs (blood pressure, pulse, temperature) • Do abdominal examination • Do pelvic examination • Admit woman to obstetric ward • Try to calm the client down and give her emotional support	**Patient history:** • Placenta not delivered **Gives data on vital signs if the team checks them:** • Blood Pressure (BP): 100/60mmHg • Pulse: 104 beats/minute • 36.7°C **Abdominal palpation:** Uterus is at the level of the umbilicus **Pelvic examination:** • Placenta not delivered • Placenta is felt in the vagina
3–4 minutes later		
Maya is very anxious: • "What is happening to me? I am dripping something." • "What are you doing to me?" • "Am I losing too much blood?"	• Explain to obstetrics client that her placenta must be delivered • Deliver placenta using IV/IM oxytocin (10 IU) with controlled cord traction[6◊] • Inform obstetrics client what is happening	**Announces:** "Delivery of the placenta completed. Placenta and membranes complete. There is a large amount of vaginal bleeding." (If providers usually quantify blood, give a specific amount that is lost.)
• "Aww! Aww! What is happening to me? I am very tired." • "I feel dizzy…" • "Am I still bleeding? I feel like I need air…" **If someone from the team performs a uterine massage, the obstetrics client says:** "… It hurts a little… what are you doing to me? Aww! Aww! Slowly! Please doctors!"	Participants do the following simultaneously while explaining to obstetrics client what is happening and providing reassurance: • Call for additional help • Notify OB/GYN or midwife • Notify aesthesiologist of severe bleeding, if not yet informed Another participant begins initial management of postpartum while first calls for help: • Start at least one IV line, preferably two (at least 18 gauge, ideally 16 or 14 gauge) • After placing first IV, administer intravenous oxytocin[6,8*] (10-40 IU in 500-1000mL of normal saline), start at rate of 500 mL/hr and titrate to uterine tone, run continuously[8]	**Informs**: "Woman sweating a lot, looks pale and has severe bleeding – two pads soaked in less than five minutes."

CONTINUED

Obstetrics Client	Participants (Obstetrics team on duty)	Director
	• Provide vigorous fundal massage[6,8 †] • Administer Methylergonovine 0.2mg intramuscularly per protocol, if no hypertension, Raynaud's phenomenon, or scleroderma. If obstetrics client responds well, can repeat does every two hours, if does not, move on to other uterotonic[8] • Place 2nd IV • Connect intravenous (IV) fluid (isotonic crystalloids)[6‡] and adjust rate to treat hypovolemia After uterotonic administered: • Check vital signs (BP, pulse, RR)[8] • Check level of consciousness (LOC)[8] • Give oxygen (10 to 15 liters/minute) via face mask, or what's available in the setting[8] • Prepare supplies for inserting a urinary catheter • Insert urinary catheter[8,9] • Call blood bank and order 2 units of blood (packed red blood cells, if available)[8] • Keep patient warm[8] During initial management of post-partum hemorrhage, physician or midwife does an abdominal examination and then asks for needed instruments and does a pelvic examination to search for causes of bleeding[8]	**Vital signs if the team checks them**: • BP: 80/50mmHg • Pulse: 128 beats/minute • Respiratory rate: 32 breaths/minute **Reports findings in the physical exam**: • Cervical examination reveals no tears • No signs of retained placental products • Lots of blood clots in the bed • Abdominal exam: uterus is soft, large
• "I'm so dizzy, I don't hear well... Doctor, I feel I am going to faint. Doctor! Doctor! What is happening to me? ..."	• Make a diagnosis: uterine atony • Continue to check vital signs and level of consciousness every five minutes[8]	**Informs:** "Major bleeding does not stop. The woman is pale." **Vital signs if the team checks them**: • BP: 70/40mmHg • Pulse: 148 beats/minute

CONTINUED

Obstetrics Client	Participants (Obstetrics team on duty)	Director
Maya loses consciousness while initial management is being done	**Advanced treatment is initiated:** • Administer additional uterotonic drugs[6]. If oxytocin not available or ineffective, use intravenous ergometrine, oxytocin-ergometrine fixed dose, or a prostaglandin (including sublingual misoprostol 800 µ)[6,8‡] • Participants do not delay the following while waiting for utero-tonics to work - Insert intrauterine balloon tamponade (if available) [6,8◊] - Provide bimanual uterine massage/compression[8◊] • Draw labs: complete blood count, platelets, comprehensive metabolic panel, arterial blood gas, coagulation panel **Until appropriate surgical care is available:** • Initiate external aortic compression[6◊] • Initiate use of non-pneumatic anti-shock garments as a temporizing measure[6**] • If uterotonics fail, or trauma is suspected, recommend using tranexamic acid[6,8††] (4 g in 50 mL of saline IV over 1 hour, followed by maintenance IV infusion of 1 g/hour for 6 hours[8]) • Administer 2 units of blood (preferably packed red blood cells [PRBC])[8] • Inform relatives that obstetrics client is having severe bleeding • If other measures have failed and if the necessary resources are available, perform uterine artery embolization.[6,8◊] If not available, prepare for surgical care.	
2 MINUTES LATER		

CONTINUED

Obstetrics Client	Participants (Obstetrics team on duty)	Director
Maya is still unconscious	• Continue oxytocin and crystalloids infusion • Transport patient to operating room† • Keep patient warm • Order more blood - After first 2 units of PRBC, use 4 units of fresh frozen plasma (FFP) and 1 unit of apheresis platelets for every 4–6 units of PRBC[8]	**Vital signs if the team checks them**: • BP: 70/30mmHg • Pulse: 155 beats/minute
	• Continue to monitor vital signs every 5 minutes[8] • Repeat lab draws every 30–60 minutes: complete blood count, platelets, comprehensive metabolic panel, arterial blood gas, coagulation panel • First line conservative surgery: Uterine artery ligation[8] • Definitive surgery: Hysterectomy[8] • If companion or family present at the health facility, the health providers should inform them about the clinical situation and decision	
DRILL ENDS WHEN SURGICAL DECISION IS MADE. **Note: Drill team may transfer the obstetrics client to the operating room and finish the drill there or stabilize and refer the obstetrics client to another facility and the drill will end in that situation.** **Please enact drills according to your facility's guidelines on postpartum hemorrhage management. The Maternal Health Task Force does not provide clinical guidelines.**		

* Strong recommendation, moderate-quality evidence
† Strong recommendation, very-low-quality evidence
‡ Strong recommendation, low-quality evidence
◊ Weak recommendation, very-low-quality evidence
** Weak recommendation, low-quality evidence
‡‡ Weak recommendation, moderate-quality evidence

Annex 3: Postpartum hemorrhage scenario: Observer debriefing guide and checklists

Observer Debriefing Guide

When	Objective	Sample statements and questions
Immediately following the drill	This is a brief moment to explore and share initial feelings.	"How did you feel during the drill?"
While watching the video	Participants identify gaps in knowledge, practice, and memory while they view their personal and team performance during the drill.	"There is always a gap between what we actually did and what we remember we did. Let's watch the video and see what happened."
After watching the video	Elicit participants' initial reactions to watching the drill recording.	"How did you feel after seeing yourself in this video?" Depending on the answers, reinforce positive behaviors and identify gaps in practice and/or knowledge.
	Acknowledge self-reflection when it is shared.	"Great job using self-reflection and self-evaluation. The ability to do this is necessary for learning during the drill!"
After self-reflection, review each checklist by topic	Conduct the debriefing, topic-by-topic using the guides below: 1. Communication with the obstetrics client 2. Communication among drill participants 3. Teamwork: Organization and leadership 4. Calling for help 5. Diagnosis and treatment 6. Resources	Each topic is raised, explored, critiqued, and summarized before proceeding to the next topic. Go through all the missed and completed items in order on the checklists, step-by-step. Ideally, once an item is closed, it should not be reopened. See topic guides for example questions.
After each topical checklist is reviewed	Elicit feedback from the entire group to explore more deeply what they think and feel about the drill.	"And others… how do you feel about what he said…?" "Did anyone see it differently?" "If you could do it again, what would you do differently?"

When	Objective	Sample statements and questions
After each topical checklist is reviewed	Introduce new concepts	The debriefing is meant as a conversation, a dialogue. Not only does it allow the group to question their actions, but it is also an opportunity to introduce new concepts. Example: Leadership • "In an obstetric emergency situation, the leader is the person who coordinates all the actions, observes the whole scene from a distance and verifies that instructions are being carried out. The leader is not necessarily a physician."
At the end of discussion/ Conclusion	Participants: • Express what they have learned Trainers: • Reinforce good practice • Synthesize areas for improvement • Thank participants	"What lessons have you learned after participating in this drill?" Example of closure/concluding statements: • "Based on what we saw and our analysis, this group carried out all the necessary steps to resolve the emergency well and called for help quickly. However, we noticed it was difficult to access the operating room because (give example, such as the room was on a different floor, in another building, or blocked by something, etc.)." • "We believe that communication could be improved by calling out the person's name when giving instruction. In addition, we believe the team should designate a leader who will direct them during an emergency." • "We appreciate the team's willingness to participate in this activity in a spirit of self-reflection and self-evaluation."

Observer Checklists by Topic

1. Communication with the obstetrics client

Trainers' observations during the drill	Yes	No	Sample questions and conclusions
Participants ask obstetrics client's name			"How do you feel about your communication with the obstetrics client?"
Participants introduce themselves, stating their names and profession			
Participants call the obstetrics client by her name			
Participants gave the obstetrics client emotional support			
Participants explained to the obstetrics client her clinical status			"After watching this video, what would you change regarding your communication with the obstetrics client, if anything?"
Other positive actions/comments			
Other areas for improvement/comments			**Possible conclusion:** "As we could all see, the obstetrics client was greeted in a respectful way, which was very good. We agreed that there are some things that could have been done better, like asking the obstetrics client for more information about her clinical background and giving her information on the procedures and her prognosis. This is important to ensure that the obstetrics client feels supported and comfortable."

Observer Checklists by Topic

2. Communication among obstetric emergency drill participants

<table>
<tr><th>Trainers' observations during the drill</th><th>Yes</th><th>No</th><th>Sample questions and conclusions</th></tr>
<tr><td>When giving instruction, participants call each other by name</td><td></td><td></td><td rowspan="4">"How do you feel about the communication among the team members?"

"After seeing the video, what would you change regarding the communication between team members, if anything?"

Possible conclusion:
The original team members communicated the condition of the obstetrics client to team members who arrived later. However, as we could see in the video, it was not clear to whom some instructions were given. In this kind of situation, it is important to be very clear when giving instructions. Each instruction should be directed to a specific person. If a drug is indicated, the exact dose should be specified aloud, and the person preparing and administering the drug should repeat back the drug name, dose and route. It is very important to close the communication loop in this way so that the team leader can verify that all instructions are carried out.

Example:
Airplane pilots always double check with the co-pilot that procedures are completed. If the pilot says, "Are the motors on?"" the co-pilot will check and then respond, "Yes, the motors are on."</td></tr>
<tr><td>Participants close the communication loop</td><td></td><td></td></tr>
<tr><td>Participants use clarity when giving each other instructions</td><td></td><td></td></tr>
<tr><td colspan="3">Other positive actions/comments</td></tr>
<tr><td colspan="3">Other areas for improvement/comments</td></tr>
</table>

Observer Checklists by Topic

3. Teamwork: Organization and leadership

Trainers' observations during the drill	Yes	No	Sample questions and conclusions
Participants share tasks evenly, there is no overlap and no one is left without a concrete task to do			"How do you feel about how well the team worked together?"
Participants work in an organized manner			
Participants identify an emergency coordinator or leader			
Other positive actions/comments			"How did you feel about the leadership provided during the drill?"
Other areas for improvement/comments			**Possible conclusion:** You have mentioned that at the beginning when there were only two providers working with the obstetrics client, you were working well together. However, once the obstetrician arrived, there were some difficulties deciding who was coordinating the emergency response. During an emergency, the leader is the person who organizes and coordinates the actions. This person is not necessarily a doctor. He or she maintains a certain degree of distance from the events in order to observe the whole picture, instruct the team and verify that all the necessary actions are carried out. We can use the example of an orchestra conductor to show the role of the leader. All the musicians are experts and possess specialized skills and the orchestra conductor helps them organize and coordinate the symphony.

Observer Checklists by Topic

4. Calling for help

Trainers' observations during the drill	Yes	No	Sample questions and conclusions
Participants call for help/ back-up (for example, call for an obstetrician, nurse, midwife, anesthesiologist)			"What did you think, or how did you feel about the decision to call for help?"
Participants call for help in a timely manner			"Do you think you called for help at the right time? Too soon? Too late?"
Other positive actions/comments			
Other areas for improvement/comments			**Possible conclusion:** As you mentioned, the nurse called the midwives in a timely manner, immediately after the first sign of alarm. However, the nurse at the delivery room could not be reached immediately, as needed. It is important to explore strategies that you could implement to ensure that help arrives immediately in case of an emergency.

Observer Checklists by Topic

5. Diagnosis and treatment

	Trainers' observations during the drill	Yes	No	Sample questions and conclusions
General Management	**Appropriate history taking**			"What do you think/how do you feel about the diagnosis and treatment? Were the correct decisions made? Why or why not?"
	Vital signs measurement every 5 minutes			
	Check level of consciousness every 5–10 minutes			
	Abdominal examination			
	Pelvic examination			
	Admit obstetrics client to obstetrics ward			
	Deliver placenta using IV/IM oxytocin (10 IU) with controlled cord traction			
	Early diagnosis of uterine atony			
	Place two peripheral IV lines			
Specific Management	**Administer intravenous oxytocin (10–40 IU in 500–1000mL of normal saline), start at rate of 500 mL/hr and titrate to uterine tone, run continuously**			"What do you think/how do you feel about the drug treatment of postpartum hemorrhage?"
	Provide vigorous fundal massage			
	Administer Methylergonovine 0.2 mg intramuscularly per protocol			
	Connect intravenous (IV) fluid (isotonic crystalloids) and adjust rate to treat hypovolemia			
	Give oxygen (10-15 liters/minute) via facemask			
	Insert urinary catheter			
	Call blood bank, order 2 units blood			
	Keep patient warm			

Observer Checklists by Topic

5. Diagnosis and treatment (CONTINUED)

	Trainers' observations during the drill	Yes	No	Sample questions and conclusions
Specific Management	If oxytocin not available or ineffective, use intravenous ergometrine, oxytocin-ergometrine fixed dose, or a prostaglandin (including sublingual misoprostol 800 µg)			
	Insert intrauterine balloon tamponade (if available)			
	Provide bimanual uterine massage/ compression			
	Draw labs: complete blood count, platelets, comprehensive metabolic panel, arterial blood gas, coagulation panel			
	Initiate external aortic compression			
	Initiate use of non-pneumatic anti-shock garments as a temporizing measure			
	If trauma suspected, give tranexamic acid (4 g in 50 mL of saline IV over 1 hour, followed by maintenance IV infusion of 1 g/hour for 6 hours)			
	Administer 2 units of blood (preferably packed red blood cells [PRBC])			
	Perform uterine artery embolization if available			
	Timely decision to perform a surgical procedure			
	Transport patient to operating room			
	Order more blood: After first 2 units of PRBC, use 4 units of fresh frozen plasma (FFP) and 1 unit of apheresis platelets for every 4-6 units of PRBC			
	Repeat lab draws every 30-60 minutes: complete blood count, platelets, comprehensive metabolic panel, arterial blood gas, coagulation panel			

Observer Checklists by Topic

6. Human resources and equipment

	Trainers' observations during the drill	Yes	No	Sample questions and conclusions
Human Resources	**All necessary personnel are present and participating during the emergency**			"What did you think about the availability of human resources during the drill?"
Supplies	**Were all the necessary supplies available? If not, what was missing?**			
	Was there a postpartum hemorrhage kit available?			
				"What do you think about the availability of necessary supplies? Did you have all the supplies you needed? If not, which ones were missing? Are they often missing?"
				"How difficult or easy could you access the supplies?"
				"Do you have postpartum hemorrhage kits available?"

Annex 4: Eclampsia scenario

1. **Introduction of the trainers and participants**
   (training team and health care personnel of the hospital/health center)

2. **Establish a "Fiction Contract" (agreement that the obstetric emergency drill is a simulation) with participants.** Before starting the drill, set some ground rules and give guidelines for how to develop the drill program.

2.1 Set basic assumptions

- Acknowledge that emergency situations are infrequent
- State that you are aware that participants (health care personnel of the hospital/health center) are very capable, have good intentions, and are trying to do their best. Since emergency situations are not common, no one is an expert in these situations
- Highlight the importance of practicing how to respond in obstetric emergency situations
- Trainers should inform participants that a debriefing session will be conducted after the drill and ask their permission to video record the drill, clarifying that the only purpose of filming the drill is to use that video for the debriefing session
- Do not tell the participants which complication the actress will role play during the drill. Mention only that it will be an obstetric emergency.

2.2 Give guidance for drill development

- Participants need to make an effort to pretend that the emergency situation is really happening, and to act as if it were a real emergency. Participants agree to do their best to act as if everything were real
- Drill participants must act according to what is presented in the script
- Invasive procedures should not be performed. The drill has to be safe for the obstetrics client, who will be an actress
- The measures taken with the obstetrics client should be realistic to a certain extent, for example:
  - IV tubing ready but no IV stick (just place the IV tubing and tape)
  - Blood draw: Tourniquet on and needle ready but blood not drawn
- Explain the roles of the training team: actress, observer, director, and companion (if present)
- Stress that participants may not talk to the drill director (part of the trainer team), but may speak to the emergency coordinator or leader (part of the participant team)

3. **Set goals and objectives:**
   - Participants recognize/identify changes in obstetrics client's signs and symptoms
   - Participants promptly recognize the probable diagnosis of eclampsia
   - Participants use the eclampsia algorithm for diagnosis and treatment
   - Participants use best available evidence (hopefully consistent with their facility's guidelines) for preeclampsia/eclampsia diagnosis and treatment
   - Participants understand the importance of good teamwork in the management of eclampsia
   - Tasks are delegated to different participants to be performed simultaneously

4. **Designate the location of the obstetric emergency drill**
   - Obstetrics ward and/or delivery room

5. **Present a clinical case:**
   - Asha is a 21 year-old woman, G1P0, in good health. Gestational age: 37 weeks. She comes to the emergency ward. She did not have any complications during her antenatal care visits. She arrives with a community health worker. (Adjust scenario to context as necessary)

Note: To make the scene more realistic, the actress can prepare in advance an antenatal care card with information regarding her fake pregnancy. This card may help the provider to better contextualize the clinical case.

Details on ANC card, if used in setting, include:
- Age: 21 years
- Address: (Insert an appropriate address based on location)
- LMP: (Insert appropriate date based on gestation)
- EDD: Not recorded
- Investigations: HIV negative, VDRL Negative, Hepatitis B Negative, Hemoglobin: 11grams, Blood type: A, Rh-positive
- Exam during the last antenatal visit: Blood pressure: 120/90mmHg, Pulse: 78 beats/minute, respiration: 20 breaths/minute

6. Drill script for preeclampsia/eclampsia

Obstetrics Client	Participants (Obstetrics team on duty)	Director
Asha is worried and in pain. She is seen in the emergency or admission room. • "I am not feeling well" • "I have a headache and I feel like I'm going to vomit" • "The pain started last night and won't go away" • "I have abdominal pain right below my right ribs" (if the participant asks her) • "It's getting hard to breathe" • "The waters have not broken" (if participant asks her) • "I feel the baby's movements have decreased since this morning" (if participant asks her)	• Take history - Age, gravida, parity, gestational age • Ask her how she is feeling/ assess symptoms • Assess vital signs • Monitor fetal heart rate (FHR) • Call the appropriate health care personnel to evaluate the obstetrics client • Provide diagnosis: Severe preeclampsia[10,11] • Decide to admit Asha	**Gives data from assessment::** • Gestational age: 37 weeks • Age: 21 years • Gravity: 1 Parity: 0 • Legs swollen **Gives data on vital signs if the team checks them:** • Blood pressure: 162/112mmHg • Pulse: 130 beats/minute • Respirations: 32 breaths/minute • Oxygen saturation: 88% • FHR: 148 beats/minute
• "Can you give me something for the headache?"	**Initiate immediate treatment of severe preeclampsia and complete initial assessment:** • State need for both IV anti-hypertensives to lower blood pressure[10,11,12†] and IV/IM magnesium sulfate to prevent seizure/eclampsia[11,12◊] - Explain to client her condition and the plan of care - Provide reassurance • Place client in left lateral position[12] • Place IV • Administer IV antihypertensive according to evidence-based guidelines:[12†] - Labetalol (contraindicated if client has asthma, heart disease or congestive heart failure)[10,11], or - Hydralazine, or - Nifedipine[10,11] • Draw labs: CBC (complete blood count) with platelet count, AST (Aspartate Aminotransferase), ALT (Alanine Aminotransferase), Creatinine, bilirubin, LDH (Lactate dehydrogenase), uric acid, and glucose[11]	

Obstetrics Client	Participants (Obstetrics team on duty)	Director
• Hyperreflexia (if participant checks patellar reflex)	• Perform general physical examination (check patellar reflex) • Perform abdominal examination (Evaluate for contractions) • Perform pelvic examination	**Abdominal examination:** • Cephalic presentation • No contractions **Pelvic examination:** • Cervix closed
2 minutes later		
While the health providers are preparing the magnesium sulfate or if participants did not identify the necessity of magnesium sulfate, Asha has a convulsion	• Turn client into lateral "recumbent" position[11] • Maintain airway, open airway with jaw thrust, insert oral airway only if necessary[11] • Provide supplemental oxygen (10 liters/minute by rebreather face mask)[11] • Shout for help to get all available health care personnel, notify anesthesiologist and neonatology[11] • Prepare and administer loading dose of IV/IM magnesium sulfate according to evidence-based guidelines[10,11,12*] • Start continuous maintenance dose of IV magnesium sulfate[11] • Protect client from injury and falls but do not restrain movements. Place padding under head if needed[11] • Note duration of convulsion, body parts involved, level of consciousness	
1–2 minutes later		
The convulsion stops. Asha is unconscious	• Continue to assess vital signs every five minutes (blood pressure, pulse, and FHR)[11] • Assess level of consciousness • Continue oxygen and maintenance of airway[11] • Administer another IV hypertensive, follow evidence-based guidelines for repeat dosing until blood pressure is within normal range[11] • Continue to see that she is in left lateral position	• No contractions • No bleeding • No leakage of amniotic fluid **Blood Pressure** • If antihypertensive drug was given: 150/110mmHg • If antihypertensive drug was NOT given: 180/110 mmHg • Pulse: 104 beats/minute • Respiratory rate: 18 breaths/minute • FHR: 100 beats/minute

Obstetrics Client	Participants (Obstetrics team on duty)	Director
	• Insert an indwelling urinary catheter • Group leader verifies blood samples were sent to the lab, and that neonatology and an anesthesiologist are aware of the situation • Send labs: magnesium level, liver enzymes, kidney function, etc.[11] • Continue with magnesium sulfate (maintenance dose for at least 24 hours after last seizure)[13]	
The obstetrics client starts to recover consciousness	Providers must decide to end pregnancy by inducing labor or delivering by caesarean section once the obstetrics client is stabilized[12†] Drill ends when decision to deliver client is made or when the decision is made to refer her to a higher center if the anesthesiologist and pediatrician are not reachable or facility cannot support that level of care (she is not yet in active labor)	**Blood Pressure:** • If antihypertensive drug was given: 140/90mmHg • If antihypertensive drug was NOT given: 180/110 mmHg • Pulse: 90 beats/minute • Respiratory rate: 16 breaths/minute • FHR: 110 beats/minute
Drills end when delivery decision is made or decision is made to refer obstetrics client. Note: If time permits, also assess preparation and transfer for either surgery or referral. Please enact drills according to your facility's guidelines on eclampsia management. The Maternal Health Task Force does not provide clinical guidelines.		

◊◊ Strong recommendation, high-quality evidence
* Strong recommendation, moderate-quality evidence
† Strong recommendation, very-low-quality evidence
‡ Strong recommendation, low-quality evidence
◊ Weak recommendation, very-low-quality evidence
** Weak recommendation, low-quality evidence
‡‡ Weak recommendation, moderate-quality evidence

Annex 5: Eclampsia - Observer's debriefing guide and checklists

Observer Debriefing Guide

When	Objective	Sample statements and questions
Immediately following the drill	This is a brief moment to explore and share.	"How did you feel during the drill?"
While watching the video	Participants identify gaps in knowledge, practice, and memory while they view their personal and team performances during the drill.	"There is always a gap between what we actually did and what we remember we did. Let's watch the video and see what happened."
After watching the video	Elicit participants' initial reactions to watching the drill recording.	"How did you feel after seeing yourself in this video?" Depending on the answers, reinforce positive behaviors and identify gaps in practice and/or knowledge.
	Acknowledge self-reflection when it is shared.	"Great job using self-reflection and self-evaluation. The ability to do this is necessary for learning during the drill!"
After self-reflection, review each checklist by topic	Conduct the debriefing, topic-by-topic using the guides below: 1. Communication with the pregnant woman 2. Communication among drill participants 3. Teamwork: Organization and leadership 4. Calling for help 5. Diagnosis and treatment 6. Resources	Each topic is raised, explored, critiqued, and summarized before proceeding to the next topic. Go through all the missed and completed items in order on the checklists, step-by-step. Ideally, once an item is closed, it should not be reopened. See topic guides for example questions.
After each topical checklist is reviewed	Elicit feedback from the entire group to explore more deeply what they think and feel about the drill.	"And others... how do you feel about what he said...?" "Did anyone see it differently?" "If you could do it again, what would you do differently?"

Observer Debriefing Guide

When	Objective	Sample statements and questions
After each topical checklist is reviewed	Introduce new concepts	The debriefing is meant as a conversation, a dialogue. Not only does it allow the group to question their actions, but it is also an opportunity to introduce new concepts. Example: Leadership • "In an obstetric emergency situation, the leader is the person who coordinates all the actions, observes the whole scene from a distance and verifies that instructions are being carried out. The leader is not necessarily a physician."
At the end of discussion/ Conclusion	Participants: • Express what they have learned Trainers: • Reinforce good practice • Synthesize areas for improvement • Thank participants	"What lessons have you learned after participating in this drill?" Example of closure/concluding statements: • "Based on what we saw and our analysis, this group carried out all the necessary steps to resolve the emergency well and called for help quickly. However, we noticed it was difficult to access the operating room because (give example, such as the room was on a different floor, in another building, or blocked by something, etc.)." • "We believe that communication could be improved by calling out the person's name when giving instruction. In addition, we believe the team should designate a leader who will direct them during an emergency." • "We appreciate the team's willingness to participate in this activityin a spirit of self-reflection and self-evaluation."

Observer Checklists by Topic

1. Communication with the obstetrics client

Trainers' observations during the drill	Yes	No	Sample questions and conclusions
Participants ask obstetrics client's name			"How do you feel about your communication with the obstetrics client?"
Participants introduce themselves, stating their names and profession			
Participants call the obstetrics client by her name			
Participants gave the obstetrics client emotional support			
Participants explained to the obstetrics client her clinical status			"After watching this video, what would you change regarding your communication with the obstetrics client, if anything?"
Other positive actions/comments			
Other areas for improvement/comments			**Possible conclusion:** "As we could all see, the obstetrics client was greeted in a respectful way, which was very good. We agreed that there are some things that could have been done better, like asking the obstetrics client for more information about her clinical background and giving her information on the procedures and her prognosis. This is important to ensure that the obstetrics client feels supported and comfortable."

Observer Checklists by Topic

2. Communication among obstetric emergency drill participants

<table>
<tr><th>Trainers' observations during the drill</th><th>Yes</th><th>No</th><th>Sample questions and conclusions</th></tr>
<tr><td>When giving instruction, participants call each other by name</td><td></td><td></td><td rowspan="4">"How do you feel about the communication among the team members?"

"After seeing the video, what would you change regarding the communication between team members, if anything?"

Possible conclusion:
The original team members communicated the condition of the obstetrics client to team members who arrived later. However, as we could see in the video, it was not clear to whom some instructions were given. In this kind of situation, it is important to be very clear when giving instructions. Each instruction should be directed to a specific person. If a drug is indicated, the exact dose should be specified aloud, and the person preparing and administering the drug should repeat back the drug name, dose and route. It is very important to close the communication loop in this way so that the team leader can verify that all instructions are carried out.

Example:
Airplane pilots always double check with the co-pilot that procedures are completed. If the pilot says, "Are the motors on?"" the co-pilot will check and then respond, "Yes, the motors are on."</td></tr>
<tr><td>Participants close the communication loop</td><td></td><td></td></tr>
<tr><td>Participants use clarity when giving each other instructions</td><td></td><td></td></tr>
<tr><td colspan="3">Other positive actions/comments</td></tr>
<tr><td colspan="3">Other areas for improvement/comments</td></tr>
</table>

Observer Checklists by Topic

3. Teamwork: Organization and leadership

Trainers' observations during the drill	Yes	No	Sample questions and conclusions
Participants share tasks evenly, there is no overlap and no one is left without a concrete task to do			"How do you feel about how well the team worked together?"
Participants work in an organized manner			
Participants identify an emergency coordinator or leader			
Other positive actions/comments			"How did you feel about the leadership provided during the drill?"
Other areas for improvement/comments			**Possible conclusion:** You have mentioned that at the beginning when there were only two providers working with the obstetrics client, you were working well together. However, once the obstetrician arrived, there were some difficulties deciding who was coordinating the emergency response. During an emergency, the leader is the person who organizes and coordinates the actions. This person is not necessarily a doctor. He or she maintains a certain degree of distance from the events in order to observe the whole picture, instruct the team and verify that all the necessary actions are carried out. We can use the example of an orchestra conductor to show the role of the leader. All the musicians are experts and possess specialized skills and the orchestra conductor helps them organize and coordinate the symphony.

Observer Checklists by Topic

4. Calling for help

Trainers' observations during the drill	Yes	No	Sample questions and conclusions
Participants call for help/ back-up (for example, call for an obstetrician, nurse, midwife, anesthesiologist)			"What did you think, or how did you feel about the decision to call for help?"
Participants call for help in a timely manner			"Do you think you called for help at the right time? Too soon? Too late?"
Other positive actions/comments			
Other areas for improvement/comments			**Possible conclusion:** As you mentioned, the nurse called the midwives in a timely manner, immediately after the first sign of alarm. However, the nurse at the delivery room could not be reached immediately, as needed. It is important to explore strategies that you could implement to ensure that help arrives immediately in case of an emergency.

Observer Checklists by Topic

5. Diagnosis and treatment

	Trainers' observations during the drill	Yes	No	Sample questions and conclusions
General Management	**Appropriate history taking**			"What do you think/how do you feel about the initial assessment and diagnosis? Were the correct decisions made? Why or why not?"
	Assess vital signs			
	Monitor fetal heart rate (FHR)			
	Call appropriate health care personnel to evaluate obstetrics client			
	Provide diagnosis of severe pre-eclampsia			
	Decide to admit obstetrics client			
Specific Management	**State need for both IV antihypertensives to lower blood pressure and IV/IM magnesium sulfate to prevent seizure/ eclampsia**			"What do you think/how do you feel about the treatment and continued examination?" Were the correct decisions made? Why or why not?"
	Place client in left lateral position			
	Place IV			
	Administer IV antihypertensive according to evidence-based guidelines: **• Labetalol, or** **• Hydralazine, or** **• Nifedipine**			
	Draw labs: CBC, platelets, AST, ALT, creatinine, bilirubin, LDH, uric acid, glucose			
	Perform general physical examination (check patellar reflex)			
	Perform abdominal examination (evaluate for contractions)			
	Perform pelvic examination			

Observer Checklists by Topic

5. Diagnosis and treatment (CONTINUED)

	Trainers' observations during the drill	Yes	No	Sample quesions and conclusions
Specific Management	**Measures taken during convulsion**			"What do you think/how do you feel about the measures taken during the convulsion?"
	Turn client into lateral "recumbent" position			
	Maintain airway, open airway with jaw thrust, insert oral airway only if necessary			
	Provide supplemental oxygen (10 liters/minute by rebreather face mask)			
	Shout for help to get all available health care personnel, notify anesthesiologist and neonatology			
	Prepare and administer loading dose of IV/IM magnesium sulfate according to evidence-based guidelines			
	Start continuous maintenance dose of IV magnesium sulfate			
	Protect client from injury and falls but do not restrain movements. Place padding under head if needed			
	Note duration of convulsion, body parts involved, level of consciousness			
	Measures taken after the convulsion			"What do you think/how do you feel about the measures taken after the convulsion?"
	Continue to assess vital signs every five minutes (blood pressure, pulse and fetal heart rate [FHR])			
	Assess level of consciousness			
	Continue oxygen and maintenance of airway			
	Administer additional IV hypertensive dose, follow evidence-based guide-lines for repeat dosing until blood pressure is within normal range			

Observer Checklists by Topic

5. Diagnosis and treatment (CONTINUED)

	Trainers' observations during the drill	Yes	No	Sample quesions and conclusions
Specific Management	**Continue to see that she is in left lateral position**			"What do you think/how do you feel about the decision to deliver the client?"
	Insert an indwelling urinary catheter			
	Group leader verifies blood samples were sent to the lab, and that neonatology and an anesthesiologist are aware of the situation			
	Send labs: magnesium level, liver enzymes, kidney function, etc.			
	Continue with magnesium sulfate (maintenance dose for at least 24 hours after last seizure)			
	Use facility diagnosis and treatment algorithms			
	Timely decision to deliver the client			

Observer Checklists by Topic

6. Human resources and equipment

	Trainers' observations during the drill	Yes	No	Sample questions and conclusions
Human Resources	**All necessary personnel are present and participating during the emergency**			"What did you think about the availability of human resources during the drill?"
Supplies	**Were all the necessary supplies available? If not, what was missing?**			"What do you think about the availability of necessary supplies? Did you have all the supplies you needed? If not, which ones were missing? Are they often missing?"
	Was there a preeclampsia/ eclampsia kit?			
				"How difficult or easy was it to access the supplies?"
				"Do you have preeclampsia/eclampsia kits available?"

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