



Republic of Rwanda
Ministry of Health



Guidelines for basic and comprehensive emergency obstetric and newborn care

2020



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EXECUTIVE SUMMARY

High impact interventions, including implementation of Emergency Obstetric and Neonatal Care (EmONC) alongside high political commitment, have helped Rwanda to be one of the nine countries which achieved the Millennium Development Goals (MDGs) related to the reduction of maternal and Neonatal deaths. The Maternal Mortality Ratio declined from 1071 per 100,000 live births in 2000 to 210 per 100,000 live births in 2015, while Neonatal mortality declined from 37 per 1,000 live births to 20 per 1,000 live births during the same time frame.

Even though significant improvements have been made in the area of women and children's health, the country still bears a heavy burden of high neonatal and maternal mortality rates due to direct causes; with postpartum haemorrhage accounting for 39% of the total direct causes, followed by uterine rupture due to obstructed labor (15%), abortion complications (12%) and pre-eclampsia/eclampsia (9%). As per the same source, the main causes of neonatal death were preterm birth complications (36%), intrapartum complications leading to birth asphyxia (34%), neonatal abnormalities (12%) and neonatal infections (11%).

Excluding maternal and neonatal deaths, the perinatal mortality rate remains high, with 29 deaths per 1,000 pregnancies as per the Demographic Health Survey (DHS) 2015. Therefore, strengthening the Basic and Comprehensive Emergency Obstetric and Neonatal Care could help accelerate the triple goal of reduction of maternal and Neonatal deaths and still births, with the aim of achieving of the Sustainable Development Goals in the country. The targets set for maternal mortality ratio is less than 70 deaths per 100,000 live births while that neonatal mortality is less than 12 per 1,000 live births, by 2030.

The original EmONC training was introduced in Rwanda in 2005 with the initial duration of 15 days, including 7 days of theory, 3 days of clinical practice on mannequins and 5 days of practice in clinical settings. In the following years, 2 days were added to the period of practice in clinical settings to total 17 days.

In 2016, a new approach termed Low Dose High Frequency (LDHF) training was introduced prior to mentorship program in health centres to reach out to health care providers for in-service training, with a reduction in the number of days spent out of the clinical practice area and to better meet the learning needs of health care providers.

Briefly, the guideline describes the components and quality of EmONC training, which is competency based and quality focused. It goes beyond bringing together health care providers for classroom and clinical practice for several days, to take into account the role of post training follow-up. In addition, it ensures that trainees from both in-service and pre-service settings are trained by qualified facilitators in appropriate classrooms and clinical settings, for an adequate amount of time, using evidence-based training materials and approaches.

RATIONALE

To guide all organizations and institutions conducting EmONC training courses on EmONC training and organization, EmONC functions and system levels, and service organizations including staffing equipment and commodities. It also describes monitoring and evaluation of EmONC services.

To serves as a reference document to all people providing training related to Emergency Obstetric and Neonatal care, with the ultimate goal of improving maternal and Neonatal health.

CHAPTER 1: EMONC TRAINING ORGANIZATION

1.1 Training goal and objectives

The goal of EmONC training is to ensure that health facilities have competent providers who can offer quality EmONC services. By the end of their training, trainees should achieve the following specific objectives and competencies:

- Identify the evidence basis for EmONC interventions
- Demonstrate understanding of clients' rights including provision of respectful care to clients and their families
- Utilize positive interpersonal communication techniques with clients and their families
- Demonstrate competency (first on anatomic models, then with clients) in EmONC essential signal functions.
- Demonstrate understanding and practice of clinical decision making process
- Formulate action plans describing how they will act as role models and work to institutionalize evidence based EmONC knowledge and skills in their own health facilities.

1.2 Pre-training preparation

The preparation of the training is vital to its success. The EmONC training preparation should start at least three months before the training and should include several activities as follows:

1.2.1 Selection of trainees

The selection of participants for training should be based on the following criteria:

- Health care providers working in maternity services, including medical doctors, midwives, nurses and anesthesia providers.
- Medical doctors, nurses, clinical officers, midwives and anesthesia providers working as faculty members or tutors in a school of medicine or midwifery or nursing.

While for B-EmONC it is possible to select at least one health care provider per facility, the best way for C-EmONC is to select a team of three to four health care providers per hospital. The suggested composition of the team is as follows: one medical doctor, two midwives/nurses and one anesthesia provider.

The ideal number of trainees is between 16-20, depending on the number of clinical sites available and the caseload at each site.

1.2.2 Selection of facilitators

Being a proficient medical doctor, midwife, nurse, clinical officer or anesthesia provider is not enough to qualify as an EmONC facilitator. EmONC facilitators must meet the following requirements:

- Qualification as a midwife, nurse, clinical officer, medical doctor, or anesthetist trained in EmONC
- Certified as EmONC facilitator
- Currently working in a facility that delivers EmONC services or has regular opportunities to maintain clinical skills.

For a B-EmONC training course with 16-20 trainees, a minimum of four facilitators is needed for the knowledge update component. Since each team of three to four trainees should be supervised by a facilitator during the clinical skills standardization portion of the course (including work with anatomic models), an additional three facilitators will be needed. These facilitators will remain with the teams throughout the clinical portion of the course. These facilitators become critically important if the practicals take place in a very busy hospital, where a few facilitators cannot adequately supervise all the learner teams when they are working with clients. For a C-EmONC training course, it is advisable to have an additional obstetrician for sites with many surgical cases.

1.2.3 Selection of clinical sites

This task is of paramount importance because it will ultimately determine the skills and attitudes learners will see modeled during the training. The following criteria can be used to select clinical sites:

- Ensure the clinical site's staff own the approach to ensure smooth training.
- Clinical site staff must be willing to go through targeted on the job technical and skills updates to be able to model best practices.
- Evidence based clinical standards should be in place at the site (e.g. respectful care, use of infection prevention practices, use of partograph and active management of third stage of labor).

Adequate caseloads that are appropriate to the training (especially surgical cases for C-EmONC) are needed because learners need to be exposed to as many cases as possible. B-EmONC training sites should have at least 8 deliveries per 24 hours and C-EmONC sites should have at least 10 deliveries and two to three cesarean sections per day. When the caseload is lower than this, night shifts can be

organized, or the length of the practice can be extended, so that all learners have the opportunity to achieve competency.

1.3 EmONC training content

For any EmONC training (classic training or Low Dose High Frequency), the teaching methodology should be knowledge update, demonstration and validation of trainees using mannequins to be competent, and practicals in clinical settings.

With regards to content, **Basic Emergency Obstetric and Newborn Care (B-EmONC) Training** should cover the following topics:

- Background of EmONC
- Woman centred care/Respectful maternity care
- IPC (Infection prevention control)
- Rapid assessment
- Bleeding in early pregnancy and management
- Post abortion care
- Bleeding in late pregnancy and management
- Obstetrical Shock management
- Pre-eclampsia and eclampsia
- Labour monitoring and partograph
- Management of premature labour
- Abnormal labour and dystocic presentations
- Cord prolapse
- Normal delivery
- Immediate post-partum care and essential Neonatal care
- Neonatal resuscitation/Helping Babies Breathe (HBB)
- Post-partum haemorrhage and management
- Fever during pregnancy and after birth
- Adult resuscitation

Additional topics:

- Shoulder dystocia
- Vaginal breech delivery
- Assisted delivery (vacuum)

Comprehensive Emergency Obstetric and Newborn Care (C-EmONC) Training should also include:

- Obstetric Surgery (including C/Section, laparotomy for ectopic pregnancy, B-Lynch, tubal ligation, spinal and general anaesthesia in obstetrics)
- Blood Transfusion

The number of days of classic training is 14 days including 3 days of theory and demonstrations, 2 days of practice and validation on mannequins, 2 days of Post Abortion Care (PAC), 6 days of practice in clinical settings and 1 day of action planning and closing. The details of the training program are attached as annex 1.

1.4 Post training follow-up

After EmONC training the trainees develop an action plan, including at least three skills, and after a period of three months a team of facilitators will conduct a post training follow up to evaluate implementation, progress of action plans, successes and challenges faced.

During follow up visit, the activities are organized as follows:

- Assessment of the trainees' action plan implementation, including successes and challenges
- Knowledge assessment for each trainee, using the same questionnaire as those used during training
- Case study on the use of partograph and PPH
- Assessment of skills and attitude with clients using checklist
- Verification of each trainee's clinical experience logbook
- Debriefing meeting with the trainees and health facility managers
- Discussion of the next steps to ensure that as many elements as possible of EmONC continue to be practiced in the facilities.

CHAPTER 2. CLINICAL SKILLS STANDARDIZATION

2.1 Classroom practice

Clinical skills standardization begins in the classroom, as learners use evidence-based, standardized checklists to become competent in specific skills using anatomic models. Learners must be judged competent in all skills before proceeding to the clinical setting to care for clients.

Depending on the number of learners and the level of skills they bring to the training, clinical skills standardization may require up to two days to complete for all learners. “Stations” are set up for each skill that learners will master (e.g., Neonatal resuscitation, normal birth, active management of third stage of labour (AMTSL), immediate Neonatal care, suturing, and so on). After each skill is demonstrated by facilitators, learners practice in pairs at the station using checklists. Each learner is then assessed by the facilitators for competency in the skill using models. Anyone who does not attain mastery of the skill in simulation continues to practice until competent.

Stations for B-EmONC skills assessment and mastery (for midwives, doctors and nurses) in the classroom:

- Normal delivery, including AMTSL and immediate Neonatal care
- Management of severe pre-eclampsia and eclampsia using MgSO₄
- Repair of episiotomy and vaginal and cervical lacerations
- Post abortion care and manual vacuum aspiration (MVA)
- Vacuum-assisted vaginal delivery
- Management of postpartum hemorrhage (PPH), including manual removal of the placenta, bimanual compression of the uterus and condom uterine tamponade
- Normal Neonatal examination
- Neonatal resuscitation
- Breech delivery (Mauriceau-Smellie-Veit and Loveset maneuvers) (optional)

Facilitators must make sure that all learners have mastered these skills in simulation before they move to the practicum at the clinical site(s).

Stations for C-EmONC skills assessment (for providers who perform surgery) in the classroom include:

- All skills stations listed for B-EmONC
- Cesarean section
- Laparotomy
- Tubal ligation
- Craniotomy (optional)

Facilitators must make sure that all learners have mastered these skills in simulation before they move to the practicum at the clinical site(s).

Stations for C-EmONC skills assessment (for anesthetists) in the classroom:

- Adult resuscitation and intubation
- Cardiopulmonary resuscitation
- Spinal anesthesia
- Advanced Neonatal resuscitation

Facilitators must make sure that all learners have mastered these skills before moving to the practicum at the clinical sites.

2.2 Clinical practicum and follow up of trainees during the training

During the practicum, facilitators divide learners into groups of three or four, with no more than four learners per facilitator, and develop rotation schedules in ANC, maternity (triage/admission, labor, and birth areas, if separate), inpatient antepartum, and immediate postpartum/Neonatal. It is important to have a room where anatomic models and supplies can be available for continued practice and where case studies, “partograph rounds”, and role plays can be carried out at times when the service is not busy. Each learner must have a logbook for recording daily activities (Annex 4).

Continual assessment of learners during their clinical work is essential to ensure that each one has an opportunity to practice various skills with clients. Facilitators should meet daily with each learner to assess their progress and challenges, and to ensure that each has adequate clinical experience and coaching to become competent in as many skills as possible. These meetings usually take place at the end of the day. Facilitators should also meet daily as a group to discuss the general progress of learners and any specific issues that arise during the training.

2.3 Last day of training

On the last day of the training, learners and facilitators meet again in the classroom. Some important activities take place during the day:

- Learners complete a written knowledge assessment covering the best practices addressed during the training. They should score at least 85%; if they do not, they should be coached and then take the assessment again. They should continue to retake the assessment until they reach the required score.
- Depending on the setting, learners may need to participate in clinical simulations with models so that their competency in key skills can be assessed. They should be coached until they reach a minimum score of 85% for each skill.
- Each team of learners (if possible) or each individual learner (if the team members come from different facilities) will develop an action plan to implement in the three months following the training. Action plans ensure that learners continue to use their new skills and teach them to colleagues, thereby improving the quality of services at their facilities. Usually, learners are asked to select up to three clinical practices that they want to improve at their facility and delineate the steps they will take to achieve the improvements. See Annex 5 for a sample action plan.
- Facilitators and learners discuss next steps, and facilitators share information about:
 - The use of the logbooks to record all the skills performed by the learners after the training and before the follow-up visit;
 - The implementation of the action plans;
 - The follow-up visit (including, if possible, dates and process); and
 - Evaluation of the training.

Learners share their feelings and feedback about the training. Each learner fills out an anonymous questionnaire assessing several components of the training, including the objectives, methodology, content, logistics, and so on. Appendix E provides an example of a training evaluation questionnaire.

2.4 Follow-up of the training

Follow-up and supportive supervision are key to helping providers solve problems and apply new practices on the job. Using performance standards (harmonized and standardized with training materials) within a post-training follow-up approach or supportive supervision system can also support performance improvement.

Before leaving the training site, learners will develop action plans in which they will select three or four skills they have acquired and put them into practice in their workplaces. Follow-up takes place from six

weeks to three months after the training, so learners will have had time to practice their new knowledge and skills and put their action plans into effect. They will then have the opportunity to discuss their successes and challenges with a facilitator. If the caseloads in the learners' health facilities are low, it may be better to regroup all learners in a busy health facility for two to three days to conduct the follow-up visit.

An innovative way to follow up learners, either before or after the first visit, is by using mobile phone technology in a structured way. Options include sending regular SMS messages to remind learners to use key best practices; texting questions for them to answer to test their retention of knowledge; text message groups to facilitate group communication; and scheduling short phone calls to each team every few weeks to ascertain successes and challenges and provide coaching even before the actual visit. This form of early and ongoing communication is being used successfully in many countries; it helps to ensure that the follow-up visit is used to address the most important issues raised during the initial follow up.

When conducting a follow-up visit, facilitators should organize their activities as follows:

- Assessment of the learners' action plan implementation, including successes and challenges encountered
- Knowledge assessment for each learner using questions similar to those used in the training
- Case studies on partograph and PPH
- Assessment of skills and attitudes with clients (ideally) or anatomic models (if there are no clients) using checklists
- Review of each learner's clinical experience logbook
- Debriefing with the facility management team
- Discussion of next steps to ensure that as many elements as possible of B-EmONC and/or C-EmONC continue to be practiced in the facility

For more detailed information on how to conduct follow-up of providers, you may wish to consult Jhpiego's *Guidelines for Assessment of Skilled Providers after Training in Maternal and Neonatal Health*, available at: www.jhpiego.org/files/GdlnsSkillProvEN.pdf

2.5 Anatomic models needed

At a minimum, models for childbirth (for practicing AMTSL, immediate Neonatal care, and PPH treatment) and Neonatal resuscitation should be made available for B-EmONC training. Models for lumbar puncture and airway management can be added for C-EmONC training.

2.6 Job aids

The following job aids are especially useful during training. If possible, each facility represented at the training should have copies of them.

2.6.1 Job Aids in the EmONC Toolkit

- Steps to Perform AMTSL (poster)
- Steps to Perform MVA (poster)
- Algorithm for Management of Preeclampsia/Eclampsia (poster)
- Dilution and Mixing of MgSO₄ (poster)
- Algorithm for Management of PPH (poster)

2.6.2 Other Job Aids

- Positions for Laboring Out of Bed Tear Pad Cascade Healthcare Products
- Action Plan Poster
- Helping Babies Breathe Action Plan
- Large laminated WHO Modified Partograph
- (Facilitators can make this by enlarging a printed partograph to about 1 meter x 1 meter and laminating it.)
- Wall chart to demonstrate cervical dilatation
 - (Facilitators can make this on flipchart paper by drawing circles from 1 cm to 10 cm in diameter.)

CHAPTER 3: MONITORING AND EVALUATION OF EMERGENCY OBSTETRIC AND NEONATAL CARE SERVICE PROVISION

The EmONC monitoring framework is aligned to the HSSP-4 and the new 2018/2024 MNCH strategic plan, in accordance with existing national health information systems. Indicators in the different national health information systems including HMIS/DHIS-2, mHealth, electronic medical records and other systems will be used to implement the EmONC framework.

Use of these EmONC indicators to assess needs helps programme planners to identify priorities and interventions. Regular monitoring of the indicators alerts managers to areas in which advances have been made and those that need strengthening. Close attention to the functioning of key services and programs can substantially and rapidly reduce maternal mortality in developing countries. This section describes indicators that can be used to access, monitor and evaluate the availability, use and quality of EmONC services.

3.1 Description of EmONC indicators

3.1.1 Collecting data for the indicators

Constructing the EmONC indicators proposed in this guideline requires data on the population, expected deliveries, and health facility deliveries.

3.1.2 Preparation

Most of the data necessary for calculating routinely monitored indicators will be collected from all health facilities through registers/Electronic Medical records (EMR) and reported in HMIS. Data necessary for Indicators monitored periodically will be collected during mentorship and supervision and EmONC assessments. Some indicators will be analyzed at a central level, while others may be analyzed at health facility level.

3.1.3 Indicators to be collected routinely

A. Indicators critical on availability of EmONC services

- % of health centres providing all 7 basic EmONC signal functions
- % of hospitals providing all 9 EmONC signal functions

By WHO EmONC standards, the availability of EmONC services is measured by the number of facilities that perform the complete set of signal functions in relation to the size of the population. When staff have carried out the seven signal functions of basic EmONC in the 3-month period before the assessment, the facility is a fully functioning basic facility. The facility is classified as functioning at the comprehensive level when it offers the seven signal functions plus surgery (e.g. caesareans) and blood transfusion.

For a population of 500,000 people there should be four health facilities providing a complete set of 7 basic EmONC functions. The number of EmONC facilities required to treat complications depends on where the facilities are located, where people live and the size and capabilities of the facilities.

Considering coverage of health facilities in Rwanda (over 500 health facilities for a population of 12,000,000), availability of B-EmONC health facilities should not be an issue if all health centres in Rwanda (over 500) were to be providing the 7 signal EmONC functions.

Additional Indicators on availability of EmONC services.

- % of health centres that did not experience stock out of parenteral uterotonic drugs (oxytocin) in the last 3 Months
- % of health centres without stock-out of magnesium sulphate for pre-eclampsia/eclampsia in the last 3 months
- % of health centres that performed assisted vaginal delivery using vacuum extraction in the last 3 months
- % of health centres performed manual vacuum aspiration (MVA) in the last 3 months

B. Indicators of utilization of EmONC services

- 1) Percentage of all births in an area that take place in EmONC health facilities (basic or comprehensive).

Utilization indicators aim to determine whether women are using the EmONC facilities, identified by indicators 1 (Availability of EmONC services) and 2 (Geographical distribution of EmONC facilities), and serve as a crude indicator to measure use of obstetric services by pregnant women. The optimal long-term objective is that all births take place in (or very near to) health facilities in which obstetric complications can be treated when they arise.

According to Rwanda DHS-214/2015, 91% of women deliver in health facilities, and the target is to maintain deliveries in health facilities at above 95%.

Regular/routine monitoring and use of EmONC utilization data can give health managers, administrators and health care providers a rough idea of the extent to which pregnant women are using the health system, especially when combined with information on which facilities provide EmONC.

- Reminder that this number may be obtained from registers for normal vaginal births, assisted vaginal deliveries and caesarean sections in the facility, if these are recorded separately.

2) Number of women with direct obstetric complications who are treated in EmONC health facilities (Met need for EmONC)

The template containing major obstetric and neonatal complications will be posted and displayed in maternity to be immediately filled on every case identified. This will facilitate monthly data compilation and use.

- Remember to count the number of women with obstetric complications and not the number of obstetric complications.

If one patient has two diagnoses, select the more serious one.

Met need is an estimate of the proportion of all women with major direct obstetric complications who are treated in a health facility providing EmONC (basic or comprehensive). The direct obstetric complications included in this indicator are haemorrhage (antepartum and postpartum), prolonged and obstructed labour, postpartum sepsis, complications of abortion, severe pre-eclampsia and eclampsia, ectopic pregnancy and ruptured uterus.

3) Caesarean Section as a proportion of all births

The proportion of births by caesarean section is an indicator of provision of life-saving services for both mothers and Neonates. It measures access to and use of a common obstetric intervention for preventing complications such as obstetric fistulae and birth asphyxia.

The numerator is the number of C/Sections performed in the facilities for any indication during a specific period, and the denominator is the number of expected deliveries in the whole catchment area, not just in institutions, for the same time period.

Acceptable levels: Both very low and high rates of C/Section can be dangerous. The range of 5-15% is no longer considered. The caesarean section should have a relevant indication. The caesarean section should be performed when necessary. There is no empirical evidence for an optimum percentage range of caesarean section; a detailed analysis of the indications for caesarean sections would be worthwhile.

A uterine scar increases the risk of uterine rupture in future pregnancies. To evaluate if caesarean sections performed are necessary, one approach is to look at the proportion performed for absolute maternal indications, which would almost certainly lead to the woman's death if untreated, another approach is to identify caesarean sections that are performed for maternal and fetal indications, and the third approach is to link the indications with characteristics of the women (parity, previous obstetric history, the course of labour and delivery, gestational age etc.). This approach sorts women into 10 groups (Robson classification) and helps to identify woman who had caesarean sections for reasons other than acute emergency.

A common misunderstanding of this indicator is that it refers to the proportion of deliveries in a hospital that are performed by caesarean section, the "Institutional caesarean section rate". This indicator is difficult to interpret but can give a view on caesarean sections performed in EmONC facilities.

- Remember to count all emergency caesarean sections and all planned or scheduled caesarean sections.
- Count caesarean sections performed for neonatal as well as maternal reasons

C. Indicators on Quality of EmONC services

C.1 Indicators to be collected routinely

Training, supervision, mentorship and leadership by senior clinicians and others are important in maintaining standards. National societies of obstetrics and gynecology should encourage the use of evidence-based protocols. In facilities at all levels, routine clinical audits can be used to monitor

change, improve practice and maintain a good quality of care; several tools exist to facilitate this process.

1) Proportion of maternal deaths due to direct obstetric causes

WHO defines a maternal death as “The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration or site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental causes.

Causes related to pregnancy or its management are classified as direct obstetric cause while those aggravated by pregnancy are classified as indirect causes.

- count all maternal deaths that occurred in the facility in different services, including those who died at admission
- Maternal deaths occurred enroute to a higher level facility will be reported by the referring health facility

2) Number of fresh stillbirths and very early neonatal deaths ≥ 2.5 Kg

Refer to the definitions of fresh stillbirths and very early neonatal deaths above

3) Proportion of deaths due to indirect causes in EmONC facilities

Direct causes of death are those resulting from obstetric complications of the pregnant state (pregnancy, labor, and puerperium), from interventions, omissions, incorrect treatment, or from a chain of events from any of the above, while indirect causes of death result from previous existing disease or disease that developed during pregnancy, which was not due to direct obstetric causes, but which was aggravated by the physiologic effects of pregnancy.

In Rwanda according to results from maternal deaths audit, deaths due to indirect causes represent 25.7% of maternal deaths, with malaria as the leading cause (7.5%), followed by non-obstetric infection, such as pneumonia, and other sepsis (4.5%).

4) Maternal case fatality rate due to major obstetric complications (Direct obstetric case fatality rate).

After determining the availability and use of services, the next concern is quality of care. The set of EmONC indicators includes the direct obstetric case fatality rate as a relatively crude indicator of

quality. This should be supplemented with more detailed assessments. The direct obstetric case fatality rate should be calculated for all hospitals. The maximum acceptable level is less than 1%.

Maternal deaths may notoriously be underestimated because of misclassification or underreporting, sometimes out of fear of rebuke or reprisal. Both deaths and complications should be thoroughly sought in all wards where adult women are admitted, not only the obstetric ward. In addition, cause-specific fatality rates will be calculated for each of the major causes of maternal death. Cause-specific case fatality rates will indicate where progress will have made. Aggregate direct obstetric case fatality rates will also be calculated.

5) Intra-partum and very early neonatal death rate

Intra-partum and very early neonatal death rate is a proportion of births that result in a very early neonatal death or an intrapartum death (fresh stillbirth) in a facility. This indicator sheds light on the quality of intra-partum care for fetuses and Neonatal delivered in health facilities. Infants with birthweights under 2.5 kg are excluded from the numerator and denominator whenever the data permits, as low birthweight infants have a high fatality rate in most circumstances.

The operational definitions for this indicator include the following components, as defined by Lawn and colleagues:

- Stillbirths occurring intrapartum or fresh stillbirths: infants born dead after more than 24 weeks of gestation without signs of skin disintegration or maceration; the death is assumed to have occurred less than 12 hours before delivery; excludes those born with severe, lethal congenital abnormalities.
- Early neonatal deaths related to intrapartum events - neonates born at term who could not be resuscitated (or for whom resuscitation was not available) or who had a specific birth trauma. The death must have occurred within 24 hours of delivery.

6) Perinatal mortality rate

The perinatal period commences at 22 completed weeks (154 days) of gestation, the time when birth weight is normally 500 grams, and ends at 7 completed days after birth. In our context, calculation of perinatal mortality rate will include still births with birthweight of at least 1,000 grams or at least 28 weeks of gestational age, according to recent WHO guidance for purposes of international

comparison of stillbirth, and early neonatal deaths with 500 grams/or 22 weeks of gestational age in the denominator.

7) Fresh still birth rate

The definition of stillbirth recommended by WHO for international comparison a baby is born with no sign of life at or after 28 weeks of gestation. The Every Neonatal Action Plan (ENAP) to end preventable death has set a stillbirth target of 12 per 1000 births or less by 2030. Globally, half of stillbirths occur in the intrapartum period (fresh stillbirth), representing the greatest time of risk. The estimated proportion of stillbirths which occur intrapartum varies from 10% in developed counties to 59% in developing countries.

C.2 Indicators to be collected during mentorship activities

- 8) The proportion of women who gave birth in a facility whose progress in labour was correctly monitored and documented with a partograph with a four-action line.
- 9) % of health facilities with written up-to-date clinical protocols on EmONC displayed in maternity and postnatal units.

D. Analysis

During analysis of availability of EmONC functions, it will be evaluated whether the signal function have been performed in the past 3 months, and if not, assess and document why it has not been performed.

Table 1: Emergency Obstetric and Neonatal Care Monitoring Framework

| Category of indicator | # | Indicator name | How is it calculated? (Numerator/Denominator) | Data source (How it will be measured?) | Level of measurement | Frequency (How often will it be measured?) | Comments (e.g. comprehensiveness/signal functions) |
|--------------------------------|-----|---|--|--|----------------------|--|---|
| Availability of EmONC services | 1 | % of hospitals able to perform all 9 EmONC signal functions | Numerator: Number of hospitals provided 9 EmONC signal functions during last 3 months. Denominator: All hospitals | HMIS | National | Quarterly | A health center is qualified as B-EmONC facility if it provided at least one of the seven signal functions within the last three months and hospital is qualified as C-EmONC facility if it provided at least one of the nine signal functions within the last three months |
| | 2 | % of health centers able to perform all 7 b-EmONC signal functions | Numerator: Number of health centers provided 7 EmONC signal functions during last 3 months Denominator: All health centers | HMIS | National | Quarterly | |
| | 2.1 | % of health centers that did not experience stock out of parenteral uterotonic drugs (oxytocin) | Numerator: Number of Health centers that did not have stock out of parenteral uterotonic drugs Denominator: Total number of health centers in country | HMIS/eLMIS | National | Quarterly | No health center should have stock out of oxytocin. The key lifesaving drugs for main complications can only be administered parenteral. Oxytocin is administered both to prevent and to treat postpartum haemorrhage |

| Category of indicator | # | Indicator name | How is it calculated? (Numerator/Denominator) | Data source (How it will be measured?) | Level of measurement | Frequency (How often will it be measured?) | Comments (e.g. comprehensiveness/signal functions) |
|-----------------------|-----|--|---|--|----------------------|--|---|
| | 2.2 | % of health centers that administer magnesium sulphate in pre-eclampsia/eclampsia | Numerator: Number of health centers administering magnesium sulphate during last three months to manage pre/eclampsia Denominator: Total number of health centers in country | HMIS | National | Quarterly | In case of eclampsia or pre-eclampsia every health center should administer pre-referral loading dose of magnesium sulphate and refer the client to high level health facility for further management |
| | 2.3 | % of health centers that perform assisted vaginal delivery using vacuum extraction | Numerator: Number of health centers that perform assisted vaginal delivery using vacuum extraction during last three months Denominator: Total number of health centers in country | HMIS | National | Quarterly | Using vacuum extraction is recommended for assisted vaginal delivery to manage prolonged labour |

| Category of indicator | # | Indicator name | How is it calculated? (Numerator/Denominator) | Data source (How it will be measured?) | Level of measurement | Frequency (How often will it be measured?) | Comments (e.g. comprehensiveness/signal functions) |
|-------------------------------|---|--|--|--|--------------------------|--|---|
| Utilization of EmONC services | 1 | % of births in emergency obstetrical care health centers | <p>Numerator: Total number of births in health facilities in the catchment area.</p> <p>Denominator: Expected births in the catchment area.</p> | HMIS | National District | Quarterly | The expected number of live births—is usually calculated from the best available data and by multiplying the total population of the area by the crude birth rate of the same area. It represents x of the population in the catchment area |
| | 2 | % of women with major direct obstetric complications who are treated in EmONC health facilities “Meet need in EmONC” | <p>Numerator: Number of women with major direct obstetric complications who are treated in EmONC health centers</p> <p>Denominator: expected number of women who would have major obstetric complications.</p> | HMIS | National District | Quarterly | All (100%) women with major direct obstetric complications should be treated in EmONC facilities. Women expected to develop obstetric complications represent 15% of all pregnant women. The direct obstetric complications included in this indicator are: haemorrhage (antepartum and postpartum), prolonged and obstructed labour, postpartum sepsis, complications of abortion, severe pre-eclampsia and eclampsia, ectopic pregnancy and ruptured uterus |

| Category of indicator | # | Indicator name | How is it calculated? (Numerator/Denominator) | Data source (How it will be measured?) | Level of measurement | Frequency (How often will it be measured?) | Comments (e.g. comprehensiveness/signal functions) |
|-----------------------|---|---|---|--|----------------------|--|--|
| Quality of care | 1 | Fresh still birth rate | Numerator: Total number of fresh still birth with ≥ 1000 grs or 28 weeks gestation and more x 1000 Denominator: Total births (live & still birth) | HMIS | National | Quarterly | Globally a half of stillbirths occur in intrapartum period (Fresh stillbirth), representing the greatest time of risk and varies from 10% in developed countries to 59% in developing countries. Definition recommended by WHO for international comparison a baby is born with no sign of life at or after 28 weeks of gestation. |
| | | | District | | | | |
| Quality of care | 2 | Intra-partum and very early neonatal death rate | Numerator: Fresh still births ≥ 2.5 Kg)+Neonatal death within 24 hours with ≥ 2.5 kg (death at birth included) Denominator: Total number of births (stillbirths and newborns with ≥ 2.5 Kg) | HMIS | National District | Quarterly | Intrapartum and very early neonatal deaths rate is a proportion of deaths that result in intrapartum and very early period. This indicates shed light the quality of care in intrapartum period for fetuses and newborn with ≥ 2.5 kg delivered in health facilities |

| Category of indicator | # | Indicator name | How is it calculated? (Numerator/Denominator) | Data source (How it will be measured?) | Level of measurement | Frequency (How often will it be measured?) | Comments (e.g. comprehensiveness/signal functions) |
|-----------------------|---|--------------------------|--|--|----------------------|--|---|
| | 3 | Perinatal mortality rate | Numerator: Number of perinatal deaths (foetal deaths with 1,000 grams and more or 28 weeks plus early neonatal deaths) "All still birth (fresh and macerated) + all early neonatal deaths(0 -7 days)" x1,000 Denominator: Total number of births "All births" | HMIS | National | Quarterly | Calculation of perinatal mortality rate will include still births with 1,000 grams/or 28 weeks of gestation age in the numerator according to recent WHO guidance for purposes of international comparison of stillbirth, and early neonatal deaths with 500 grams/or 22 weeks of gestational age in the denominator. |

| Category of indicator | # | Indicator name | How is it calculated? (Numerator/Denominator) | Data source (How it will be measured?) | Level of measurement | Frequency (How often will it be measured?) | Comments (e.g. comprehensiveness/signal functions) |
|-----------------------|-----|--|--|--|----------------------|--|--|
| | 4 | Maternal case fatality rate due to major obstetric complications | Numerator: All maternal death due to major obstetric complications Denominator: All obstetric complications notified in health facilities | HMIS | National | Quarterly | The direct obstetric case fatality rate is a relatively crude indicator of quality. Major Obstetric complications include Hemorrhage (ante-partum, intra-partum & Post-partum), prolonged or obstructed labour, post-partum sepsis, complications of abortion, pre-eclampsia/eclampsia, ruptured uterus, newborn distress. |
| | 4.1 | Cause-specific case fatality rates | Numerator: All maternal death due to specific obstetric complications in health facilities Denominator: | HMIS | National | Quarterly | Cause-specific case fatality rates will be calculated fo following major Obstetric complications: Obstetric Hemorrhage (disaggregated by ante-partum, intra-partum and post-partum), post-partum sepsis, complications of abortion |

| Category of indicator | # | Indicator name | How is it calculated? (Numerator/Denominator) | Data source (How it will be measured?) | Level of measurement | Frequency (How often will it be measured?) | Comments (e.g. comprehensiveness/signal functions) |
|-----------------------|---|-------------------------------|---|--|---------------------------------------|--|---|
| | | | All women admitted the same specific obstetric complication in health facilities | | District(Hospitals level) | | (severe bleeding and infection), pre-eclampsia/eclampsia , and ectopic pregnancy . Case fatality rate due to uterus rupture will be calculated separately |
| | 5 | Post C-section infection rate | Numerator: Number of women who developed post C-section infection Denominator: Total number of C-sections X1,000 | HMIS | National and District(Hospital level) | Quarterly | This indicator will inform quality of Caesarian section and implementation of IPC in hospitals |

| Category of indicator | # | Indicator name | How is it calculated? (Numerator/Denominator) | Data source (How it will be measured?) | Level of measurement | Frequency (How often will it be measured?) | Comments (e.g. comprehensiveness/signal functions) |
|--|---|--|---|--|----------------------|--|--|
| | 6 | % neonates inborn received in neonatal unit with normal temperature | Numerator: Number of neonates inborn admitted with normal temperature Denominator: All inborn neonates admissions in neonatal unit | Perinatal deaths audit report | District(Hospitals) | Quarterly | Normal temperature for a newborn is between 36.5 to 37.5 degrees Celsius). The calculation of this indicator will allow to appreciate how measures to prevent hypothermia are respected in different maternities |
| Other quality indicators which will be monitored during mentorship and supervision | | | | | | | |
| | | % of women administered immediate postpartum uterotonic (for PPH prevention) | Numerator: Number of women administered immediate postpartum uterotonic Denominator: Total number of births | Mentorship reports | | | |

| Category of indicator | # | Indicator name | How is it calculated? (Numerator/Denominator) | Data source (How it will be measured?) | Level of measurement | Frequency (How often will it be measured?) | Comments (e.g. comprehensiveness/signal functions) |
|-----------------------|---|---|---|--|----------------------|--|--|
| | | % of health facilities disaggregated by hospitals and health centres with written up-to-date clinical protocols on EmONC displayed in maternity and postnatal units | <p>Numerator: Number of health facilities disaggregated by hospitals and health centers with written up-to-date clinical protocols on EmONC</p> <p>Denominator: Total number of all health facilities disaggregated by hospitals and health centers</p> | Mentorship reports | | | |
| | | The proportion of women who gave birth in a facility whose progress in labour was correctly monitored and documented with a paragraph a | <p>Numerator: Number of women who gave birth in a facility whose progress in labour was correctly monitored</p> <p>Denominator: Total number of</p> | Mentorship reports | National National | Quarterly Quarterly | |

| Category of indicator | # | Indicator name | How is it calculated? (Numerator/Denominator) | Data source (How it will be measured?) | Level of measurement | Frequency (How often will it be measured?) | Comments (e.g. comprehensiveness/signal functions) |
|-----------------------|---|--|---|--|----------------------|--|--|
| | | four-action line | all women who gave births | | | | |
| | | The proportion of women who gave birth at health facilities without complications discharged after atleast 24 hours after delivery | <p>Numerator: Number of women who gave birth at health facilities without complications discharged after at least 24 hours after delivery</p> <p>Denominator: Number of women who gave birth at health facilities without complications</p> | Mentorship reports | National | Quarterly | Normally all women who gave birth without complications (for them and for their newborn) should stay at health facilities for atleast 24 hours because complications leading to deaths occur during 24 hours after births |

ANNEXES

Annex 1: ORGANIZATION OF MATERNITY SERVICES

Listed below are the components of maternity services that should be assessed and targeted for improvement in the clinical sites that are used for EmONC training. Included are points that should be highlighted during the discussion of woman-friendly services on the first day of training and throughout the training.

1. Staffing

- Services should be available 24 hours/day, seven days/week.
- Staff with B-EmONC skills should stay at the site during their assigned shifts. Staff with C-EmONC skills should be easily available by phone or other means, and able to be at the site within 20 minutes of being called.

2. Woman-friendly and family-friendly care

- Women and their families should always be greeted kindly and with respect, no matter how busy the service is. Every woman should feel as though she is receiving the highest quality care, even if labor and birth proceed normally.
- Women who present for care should undergo immediate rapid assessment and be triaged according to the findings of the assessment.
- Women have a right to:
 - privacy (curtains, if not a separate room);
 - know who is taking care of them (i.e., the provider's name and qualification);
 - consent to care by a student;
 - the presence of a family member/companion during labour;
 - information about what is happening and answers to questions;
 - information about all procedures and treatment options, and informed consent for each;
 - ambulate and eat/drink as desired if there are no contraindications;
 - assume the position of their choice for the birth;
 - breastfeed immediately after the birth;
 - receive advice and access to postpartum family planning; and
 - Remain with their baby throughout their stay at the facility.

3. Equipment/supplies

- A designated staff member on each shift will be responsible for checking/restocking all emergency equipment and trays per established guidelines and checklists.
- All staff members should have access to emergency equipment at all times (e.g. adult and neonatal Ambu bags and masks, IV solutions and administration sets, and medications such as oxytocin and magnesium sulfate).

4. Responsibility for client care

- To ensure continuity and increase accountability for each client's care, every client is assigned to a specific staff member (midwife, obstetrician, or nurse), and that staff member is responsible for coordinating all care. This includes maintaining the partograph and other documentation (i.e., delivery register, referral forms, operative notes, and so on).
- If the staff member cannot care for the client (because he or she is assisting at another delivery, or an emergency arises), the client's care should be turned over to another staff member.
- Midwifery, nursing and medical students are not counted as regular staff.
- Each student must be assigned to a regular staff member.
- Each staff member should supervise no more than two students at a time.
- Students can provide direct care to the woman/Neonatal, but only under the direct supervision of a regular staff member.
- If a physical assessment shows the client is progressing normally, staff can instruct family members about assisting with ambulation, nourishment and other comfort measures. Staff should continue to assess the woman and maintain the partograph and other documentation as needed.

5. Documentation

- The partograph will be used for every client once active labor has begun. Students may assist in gathering information for the partograph under the supervision of a regular staff member.
- If a client is not in active labor, an observation chart will be established and updated at least every four hours, or more often if the client's condition warrants.
- Specific documentation will be undertaken for women with complications. For example, documentation for pre-eclampsia/eclampsia includes vital signs (with respirations and reflexes), presence of convulsions, state of consciousness, presence of headache and abdominal pain, fetal heart rate and use of medications (time, dose and route).

6. Specific procedures

- Routine procedures such as cervical examinations, rupture of membranes and normal birth/Neonatal care/repair of minor lacerations should be carried out in the same room/bed throughout the client's care.
- Procedures such as MVA should usually be carried out in the delivery room, not the operating theater, so as to expedite the woman's care and counseling, and to keep the operating theater

open for urgent cases.

7. Neonatal resuscitation

- At least one resuscitation area will be readily accessible to all delivery areas. It will be set up for immediate use at all times. It should include
 - a table with a clean cover
 - gloves,
 - a radiant lamp or other means to warm the Neonatal
 - oxygen, if available
 - clean towels/cloths to dry the Neonatal
 - a suction device
 - an Ambu bag and Neonatal and premature-size masks
 - A clock with a second hand and a wall chart for Neonatal resuscitation (e.g., the Helping Babies Breathe job aid).

8. Hand-over at end of shift

- Healthcare providers leaving at the end of their shift will ensure that all materials, supplies and medications are replenished before they leave, and that the Neonatal resuscitation area is ready for use.
- Incoming healthcare providers will meet with the outgoing staff and receive client assignments and an update about the status of each client, using the partograph and/or other documentation as a guide.
- Incoming healthcare providers will immediately introduce themselves to their clients.

Annex 2: EMONC FUNCTIONS AND LEVEL OF PROVISION

1. INTRODUCTION

Emergency Obstetric and Neonatal Care (EmONC) is critical to reducing preventable maternal deaths. In Rwanda the top five direct obstetric causes of maternal death are haemorrhage, sepsis, unsafe abortion, hypertensive disorders and obstructed labour, which contribute to 80% of maternal deaths. (Maternal audit report audit 2018),

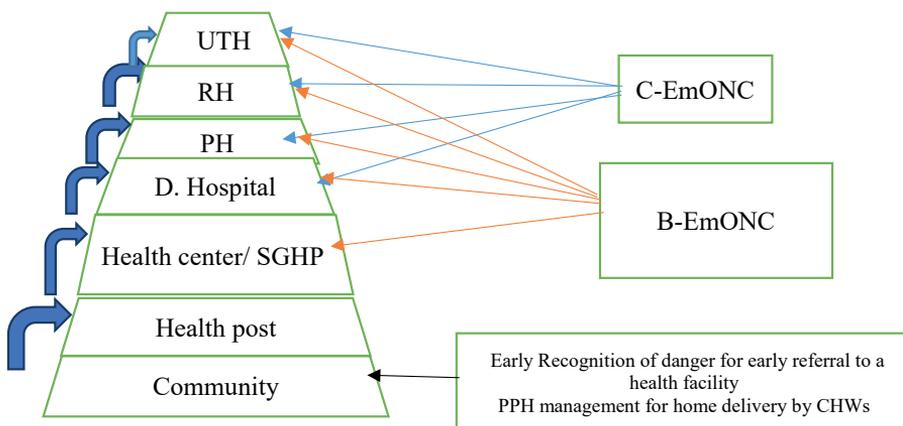
These can be addressed by access to quality care provided by a well-staffed, well-equipped EmONC health facility. In such facilities, Neonatal emergency care is also provided, including management of asphyxia and infections.

In case of complications, all women and Neonates should have rapid access to well-functioning emergency obstetric facilities meeting good quality-of-care standards.

In the context of Rwanda, Basic Emergency Obstetric and Neonatal Care (B-EmONC) are provided from the health centre level whereas Comprehensive Obstetric and Neonatal Care (C-EmONC) are provided from the district hospital level upwards.

This section describes EmONC signal functions, indications and level of service delivery across the Rwanda health system

2. PYRAMID OF EMONC SERVICE DELIVERY: RWANDA HEALTH REFERRAL SYSTEM



3. THE SIGNAL FUNCTIONS TO IDENTIFY B-EMONC AND C-EMONC

BASIC EMERGENCY OBSTETRIC CARE INCLUDES

1. Administration of IV antibiotics.
2. Administration of parenteral oxytocic / misoprostol
3. Administration of parenteral anticonvulsants
4. Performing manual removal of the placenta.
5. Performing removal of retained products of conception.
6. Performing assisted vaginal delivery (e.g. Vacuum extraction)
7. Performing Neonatal resuscitation (Helping Babies Breathe – HBB)

COMPREHENSIVE EMERGENCY OBSTETRIC CARE INCLUDES:

Basic Emergency Obstetric Care, and:

1. Administration of blood transfusion.
2. Obstetric Surgery, including
 - Cesarean section
 - Surgical treatment of ectopic pregnancy
 - B-Lynch suture
 - Tubal ligation (optional)

3.1 ADMINISTRATION OF IV ANTIBIOTICS

Prophylactic Antibiotics

At health centre level:

Allowed for:

- Manual removal of placenta
- Manual Vacuum Aspiration (MVA)
- Premature pre-labor rupture of membranes pre-transfer
- Placement of uterine balloon tamponade

At district, provincial, referral hospital level

Prophylactic Antibiotics are allowed in the same conditions as at health plus in cases of:

- repair of third and fourth degree tears
- caesarean section and aseptic obstetric surgery

Therapeutic antibiotics:

At health centre level

- For initial treatment of serious pelvic infections (e.g. uterus, fallopian tubes, ovaries) or upper urinary tract infections)
- Puerperal sepsis - for those women with signs of sepsis in labour/ following delivery

At district hospital, provincial, referral level

- All indications of obstetric infections

3.2 ADMINISTRATION OF UTEROTONICS (OXYTOCIN, MISOPROSTOL)

Oxytocin is the recommended uterotonic drug for the prevention and treatment of postpartum hemorrhage (PPH); when oxytocin is unavailable, the use of other uterotonics (misoprostol) is recommended.

At health centre level:

- Oxytocin:
 - Active management of the third stage of labor:
 - Pre-referral management of PPH:
 - Manual removal of placenta
- Misoprostol:
 - as an alternative and/or addition to oxytocin for PPH,
 - for medical management of abortion/ retained products of conception

At district, provincial, referral hospitals level

Administration of uterotonics is allowed in the same conditions as at health centres plus:

- Oxytocin (same as for health centres PLUS):
 - Retained placenta before attempting manual removal
 - Augmentation of labour:
- Misoprostol (same as for health centres PLUS):
 - for medical management of abortion / retained products of conception
 - for PPH, in addition to oxytocin
- Tranexamic Acid

Should be used in all cases of PPH regardless of cause of bleeding

3.3 ADMINISTRATION OF PARENTERAL ANTICONVULSANTS

Administration of magnesium sulphate

Magnesium sulphate is the drug of choice for preventing and treating convulsions in severe pre-eclampsia and eclampsia.

At health centre level:

- Administer a loading dose of magnesium sulphate then refer immediately.

At district, provincial, referral hospitals level

As above plus administration of maintenance dose for treatment of eclamptic seizures:

- Administer loading dose of magnesium sulphate 4g. An additional 2g dose can be repeated if seizures recur. Monitor for magnesium toxicity. Maintenance dose is 1g per hour for 24 hours. This should also be maintained for 24 hours post-delivery (or post last seizure, whichever is longer).
- Diazepam 5mg IV over 5 minutes can be used as alternative if magnesium sulphate not available or magnesium toxicity occurs (Loss of deep tendon reflexes, respiratory depression, and decreased urine output)

Administration of anti-hypertensives:

At health centre level:

- For Pre-eclampsia: give initial treatment for hypertension. Then refer to hospital.

At district, provincial, referral hospitals level:

- For Pre-eclampsia: Same as for health centres. Then recommended long term treatment for hypertension as per protocol.

3.4 PERFORMING MANUAL REMOVAL OF THE PLACENTA

At health centre level:

- If the placenta has not been expelled within 30 minutes after the birth of the baby, especially in cases of heavy bleeding, repeat the dose of oxytocin
- After 30 minutes attempt manual removal of the placenta
- If bleeding continues or placenta is not delivered successfully, refer (give prophylactic antibiotics)

At district, provincial and referral hospital level

- All indications at health centre level, for manual removal of placenta, also at district, provincial and referral hospital;
- Surgical removal of placenta can also be undertaken

3.5 PERFORMING REMOVAL OF RETAINED PRODUCTS OF CONCEPTION

At health centre level:

For removal of retained products of conception, **manual vacuum aspiration** is allowed at health centre for the following cases:

- Incomplete abortion and inevitable abortion before 13 weeks (for more than 14 weeks they should refer).
- Ensure adequate anesthetic and analgesia is given beforehand (e.g. lignocaine 2% paracervical block, pethidine)

At district, provincial and referral hospital level

Manual vacuum aspiration is allowed for all cases of retained products of conception when indicated.

Also allowed when indicated:

- Medical management of retained products of conception (misoprostol required).
- Dilatation and Evacuation (with paracervical block)

3.6 PERFORMING ASSISTED VAGINAL DELIVERY (VACUUM EXTRACTION)

At health centre level, vacuum extraction is allowed when:

- Fetal head is at least at 0 station.

At district, provincial, referral hospital level

- Vacuum extraction is allowed when fetal head is at Station 0 to 1/5 palpable above symphysis pubis.

3.7 PERFORMING NEONATAL RESUSCITATION

Resuscitation should be done at all levels

At health centre level, the Neonatal resuscitation performed is:

- Helping Baby Breathe (when no improvement with HBB they should refer)

At district, provincial and referral hospitals level:

- Helping Baby Breathe +
- Advanced neonatal resuscitation, including chest compression and adrenaline

3.8 PERFORMING OBSTETRIC SURGERY (CAESAREAN SECTION, LAPAROTOMY FOR ECTOPIC PREGNANCY, B-LYNCH SUTURE AND TUBAL LIGATION)

At district hospital, Caesarean section is allowed for:

- Primary c/s (unless they have a medical condition which cannot be managed safely at district hospital level, when they should be referred)
- C-section on uterus with up to 2 scars. Only an experienced obstetric surgeon should perform C-sections on women with 3 or more previous scars. These cases should, ideally, be performed as elective cases by a specialist. If not available then these patients can be referred.

Note: Be aware of all blood typing, blood availability before performing Caesarean section

3.9 BLOOD TRANSFUSION AT DISTRICT HOSPITAL

At district hospital

Blood transfusion is allowed but in case of massive transfusion (more than 4 units of RBC) and/or unstable patient then refer.

Annex 3: CASE DEFINITIONS OF OBSTETRIC COMPLICATIONS AND AT WHICH LEVEL IT SHOULD BE MANAGED

| Direct Obstetric Complication | Definition | Health Post | Health centre/SGHP | District hospital | Provincial hospital | Referral hospital |
|--|---|-------------|--------------------|-------------------|---------------------|-------------------|
| Hemorrhage: Antepartum, Intrapartum, | Any bleeding before labor and during labor: placenta praevia, abruptio placenta. | | | X | X | X |
| Postpartum | • Bleeding that requires treatment (provision of intravenous fluids and/or Blood transfusion) | | | | | |
| | • Retained placenta; | | X | X | X | X |
| | • Severe bleeding from lacerations (vaginal or perineal) | | | X | X | X |
| | • cervical tears | | | X | X | X |
| Prolonged / Obstructed labour | This is dystocia (abnormal labour) and will include: | | | | | |
| | • prolonged, established, first stage of labor (>20 hours) | | | X | X | X |
| | • prolonged second stage of labour (>12 hours) | | | X | X | X |
| | • CPD (Cephalopelvic disproportion) | | | X | X | X |
| | • transverse lies, | | | | | X |
| | • Brow/face presentation. | | | X | X | X |
| Woman with a previous caesarean section | | | | X | X | X |
| Trial of labour after previous caesarean | | | | X | X | X |

| Direct Obstetric Complication | Definition | Health Post | Health centre/SGHP | District hospital | Provincial hospital | Referral hospital |
|------------------------------------|--|-------------|--------------------|-------------------|---------------------|-------------------|
| Postpartum sepsis | A woman has a fever (temperature 38 ⁰ C or more) occurring <u>within</u> 24 hours of delivery (with at least two readings taken 2 hours apart) Other signs and symptoms that can be present: lower abdominal pain, purulent, offensive vaginal discharge (lochia), tender uterus. (Rule out malaria) | | X | X | X | X |
| Complications of abortion | • Hemorrhage due to abortion, which requires resuscitation with IV fluids and/or blood transfusion. | | | X | X | X |
| | • Sepsis due to abortion (this includes perforation and pelvic abscess).If septic or requires blood transfusion, should be referred to hospital after initial treatment / stabilization at health centre | | | X | X | X |
| Pre-eclampsia with severe features | Systolic BP > 160/110 and proteinuria (with or without signs and symptoms of end organ dysfunction OR Systolic BP > 140mmHG or Diastolic blood pressure 90mmHG or more after 20 weeks' gestation. plus Proteinuria or any signs and symptoms: headache, hyperlexia blurred vision, oliguria, | | X | X | X | X |
| | | | | X | X | X |

| Direct Obstetric Complication | Definition | Health Post | Health centre/SGHP | District hospital | Provincial hospital | Referral hospital |
|-------------------------------|--|-------------|--|-------------------|---------------------|-------------------|
| Eclampsia | epigastric pain, pulmonary edema. Initial treatment at HC, then refer Coma and Convulsions. Systolic BP>160mmHG or Diastolic blood pressure \geq 110 mmHg and proteinuria >3+ after 20 weeks' gestation. Other signs and symptoms of pre-eclampsia with severe features | | X (Initial treatment can be started before referral to DH) | | | |
| Ectopic Pregnancy | -Internal bleeding from a pregnancy outside the uterus. -Lower abdominal pain and shock possible from internal bleeding. -History of pregnancy. | | | X | X | X |
| Ruptured Uterus | -Uterine rupture with a history of prolonged/obstructed labor when uterine contractions suddenly stopped. -Painful abdomen. -Patient may be in shock from internal and/or vaginal bleeding. | | | X | X | X |

Annex 4: PRACTICUM LOGBOOK FOR NURSES/MIDWIVES AND DOCTORS (TO BE FILLED OUT DURING EMONC TRAINING)

| | DAY 1 | DAY 2 | DAY 3 | DAY 4 | DAY 5 | DAY 6 | DAY 7 | DAY 8 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Partograph | | | | | | | | |
| Normal delivery | | | | | | | | |
| Active management of third stage of labor | | | | | | | | |
| Episiotomy and/or repair of episiotomy/laceration | | | | | | | | |
| Newborn resuscitation | | | | | | | | |
| Vacuum-assisted delivery | | | | | | | | |
| Manual vacuum aspiration | | | | | | | | |
| Manual removal of the placenta | | | | | | | | |
| Bimanual compression of the uterus | | | | | | | | |
| Condom tamponade | | | | | | | | |
| Cesarean section* | | | | | | | | |
| Laparotomy for extra-uterine pregnancy* | | | | | | | | |
| Laparotomy for uterine rupture* | | | | | | | | |

*For obstetricians only

Annex 5: SAMPLE ACTION PLAN FOR LEARNERS

Learner Name: _____ Training Attended: __ Name of Facility: ___ Date: _

Based on what you learned during this training, please write down three things that you would like to change at your facility over the next year:

Goal #1 _____

Goal #2 _____

Goal #3 _____

List the actions/steps needed to achieve the goal, along with the date that each activity is completed. Include the names of colleagues who will assist you and list the specific tasks they are assigned.

Goal #1 _____

| ACTIVITIES/STEPS | DATE PLANNED | COLLEAGUES WHO WILL ASSIST AND THEIR ASSIGNED TASKS | DATE COMPLETED |
|------------------|--------------|---|----------------|
| | | | |
| | | | |
| | | | |

Goal #2 _____

| ACTIVITIES/STEPS | DATE PLANNED | COLLEAGUES WHO WILL ASSIST AND THEIR TASKS | DATE COMPLETED |
|------------------|--------------|--|----------------|
| | | | |
| | | | |
| | | | |

Goal #3 _____

| ACTIVITIES/STEPS | DATE PLANNED | COLLEAGUES WHO WILL ASSIST AND THEIR TASKS | DATE COMPLETED |
|------------------|--------------|--|----------------|
| | | | |
| | | | |
| | | | |

Annex 6: TRAINING EVALUATION QUESTIONNAIRE

| PLEASE EVALUATE THE FOLLOWING STATEMENTS | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
|--|----------------|-------|-----------|----------|-------------------|
| 1. For the work I do, the training was appropriate. | | | | | |
| 2. Training facilities and arrangements were satisfactory. | | | | | |
| 3. The facilitators/teachers were knowledgeable and skilled. | | | | | |
| 4. The facilitators/teachers were fair and friendly. | | | | | |
| 5. The training updated my knowledge and skills. | | | | | |
| 6. Training objectives were met. | | | | | |
| 7. Teaching aids were useful. | | | | | |
| 8. Practice in the clinical areas was important and helpful. | | | | | |

Please answer the following questions. Use the back for more writing space if needed.

1. What was the most useful part of the training course for you?
2. What, if any, part of the training course was not useful to you?
3. What suggestions do you have for improving the training course?
4. Other comments:

Annex 7: KNOWLEDGE UPDATE AND CLINICAL SKILLS STANDARDIZATION BASIC EMERGENCY OBSTETRIC AND NEWBORN CARE (BEMONC)

COURSE SCHEDULE (12 Days)

| DAY 1 | DAY 2 | DAY 3 | DAY 4 |
|--|---|---|---|
| <p>Opening Ceremony:</p> <ul style="list-style-type: none"> • Welcome & Introductions <p>Course Overview:</p> <ul style="list-style-type: none"> • Expectations participant/trainer • Group norms • Goals, objectives, schedule • Review of course materials <p>Pre-course knowledge assessment questionnaire</p> <p>Presentation and Discussion:</p> <ul style="list-style-type: none"> • Introduction to Maternal and Newborn Mortality in Rwanda • The Competency based training and how to use learning guides and checklists <p align="center">LUNCH</p> | <p>Presentation and Discussion</p> <p>: Hypertensive Disorders In Pregnancy</p> <p>Case Study: Pregnancy-induced hypertension + SDA (hypertension)</p> <p>Skill Demonstration and practice</p> <p>: Management of severe pre-eclampsia /eclampsia</p> <p>Illustrated lecture-discussion:</p> <ul style="list-style-type: none"> • Care during Labour and delivery <p>Skill practice: Assessment of woman in labour</p> <p align="center">LUNCH</p> | <p>Skill practice: Normal vaginal birth; immediate care of the newborn; AMTSL</p> <p>Skills practice: episiotomy & repair</p> <p>Presentation and Discussion:</p> <p>Prolonged labor</p> <p>SDA (video & action cards):</p> <p>prolonged labor</p> <p>Presentation & Video: Vacuum extraction</p> <p>Skill Demonstrations:</p> <p>Vacuum extraction using models</p> <p align="center">LUNCH</p> | <p>Agenda and opening activity</p> <p>Presentation Bleeding in 1st trimester bleeding and Post abortion care.</p> <p>Case Study: Vaginal bleeding in early pregnancy</p> <p>Video: MVA IPAS Video/SDA</p> <p>Skill Demonstration and Practice: MVA using model, post abortion family planning counseling</p> <p>Illustrated lecture-discussion:</p> <p>Vaginal bleeding in later pregnancy and labor</p> <p align="center">LUNCH</p> |

| | | | |
|--|--|---|--|
| <p>Agenda and opening activity Presentation and Discussion:</p> <ul style="list-style-type: none"> • Rapid initial assessment and managing emergencies: • Recognizing and managing "shock". <p>Skill demonstration: managing shock Illustrated lecture-discussion:</p> | <p>Exercise: using the partograph</p> <p>Illustrated lecture-discussion + SDA (videos & action card)</p> <p>Essential newborn care/neonatal resuscitation Video - normal birth</p> <p>CD ROM – AMTSL SDA video/action cards : neonatal resuscitation</p> <p>Skill Demonstration</p> <ul style="list-style-type: none"> • Normal delivery • AMTSL • Neonatal resuscitation | <p>Skill Practice: Participants practice vacuum extraction in pairs using model</p> <p>Presentation, Discussion, & Videotape: Breech delivery</p> <p>Skill Demonstrations: Breech delivery using models</p> <p>Skill Practice: Participants practice breech delivery in pairs using model</p> <p>Skills Evaluation Using Models</p> <p>Presentation: repair of genital tract tears</p> | <p>Presentation and Discussion: Vaginal bleeding after childbirth</p> <p>Case Studies: Vaginal bleeding after childbirth</p> <p>Skill Demonstrations: Bimanual compression of uterus, manual removal of placenta, aortic compression</p> <p>Skill Practice: Bimanual compression of uterus, manual removal of placenta using model</p> |
| <p>Review of the day's activity</p> | <p>Review of the day's activity</p> | <p>Review of the day's activity</p> | <p>Review of the day's activity</p> |
| <p>Reading Assignment: module-1&2</p> | <p>Reading Assignment: module-3</p> | <p>Reading Assignment: module-4</p> | <p>Reading Assignment: module-4</p> |
| <p>DAY 5</p> | <p>DAY 6</p> | <p>DAY 7</p> | <p>DAY 8</p> |

| | | | |
|---|--|--|---|
| <p>Presentation and Discussion:</p> <p>Case Studies: Vaginal bleeding after childbirth</p> <p>Nonpneumatic anti shock garment</p> <p>Skill Demonstrations: Bimanual compression of uterus, manual removal of placenta, NASG</p> <p>Skill Practice: Bimanual compression of uterus, manual removal of placenta using model, NASG</p> | <p>Agenda and opening activity Clinical Duty:</p> <p>Team 1: Emergency/High Dependency Area</p> <ul style="list-style-type: none"> • Early pregnancy bleeding • Shock <p>Team 2: Admission/Labor Room</p> <ul style="list-style-type: none"> • Severe PE/Eclampsia • Assessment of women in labour, use of partograph • Care of women in labor <p>Team 3: Delivery Room</p> <ul style="list-style-type: none"> • Normal delivery • Episiotomy and repair • Complicated delivery • Management of PPH • Newborn (NB) resuscitation <p>Team 4: Postpartum and NB Care</p> | <p>Agenda and opening activity Clinical Duty:</p> <p>Team 2: Emergency/High Dependency Area</p> <ul style="list-style-type: none"> • Early pregnancy bleeding • Shock <p>Team 3: Admission/Labor Room</p> <ul style="list-style-type: none"> • Severe PE/Eclampsia • Assessment of women in labor, use of partograph • Care of women in labor <p>Team 4: Delivery Room</p> <ul style="list-style-type: none"> • Normal delivery • Episiotomy and repair • Complicated delivery • Management of PPH • Newborn (NB) resuscitation <p>Team 1: Team 1 Postpartum and NB Care</p> | <p>Agenda and opening activity Clinical Duty</p> <p>Team 3: Emergency/High Dependency Area</p> <ul style="list-style-type: none"> • Early pregnancy bleeding • Severe PE/Eclampsia <p>Team 4: Admission/Labor Room</p> <ul style="list-style-type: none"> • Assessment of women in labor, use of partograph • Care of women in labor <p>Team 1: Delivery Room</p> <ul style="list-style-type: none"> • Normal delivery • Episiotomy and repair • Complicated delivery • Management of PPH • Newborn (NB) resuscitation <p>Team 2: Postpartum and NB Care</p> |
| <p>LUNCH</p> <p>Presentation and Discussion:</p> <p>Care of the woman in the postpartum period</p> <p>Role Play: Postpartum Care</p> <p>Illustrated lecture-discussion: Care of the sick newborn in postnatal period</p> <p>Case Study: Common newborn problems Skills Evaluation Using Models</p> <p>Illustrated lecture-discussion: Fever during pregnancy</p> <p>Presentation and Discussion: postpartum Fever</p> <p>Prevention of infection (SDA)</p> <p>Case Studies: Fever after childbirth</p> <p>Midcourse Knowledge Assessment</p> <p>Review of the day's activity</p> <p>Reading Assignment: module-5</p> | <p>LUNCH</p> <p>Clinical Duty Continues</p> <p>Clinical simulation - eclampsia</p> | <p>LUNCH</p> <p>Clinical Duty Continues</p> <p>Discussion: Lessons from clinical experience</p> | <p>LUNCH</p> <p>Clinical Duty Continues</p> <p>Discussion: Lessons from clinical experience</p> <p>Presentation & Discussion: Data collection and utilization of maternal and neonatal health service data</p> |
| <p>Reading Assignment: module-5</p> | <p>Review of the day's activity</p> <p>Reading Assignment: modules-5,6</p> | <p>Review of the day's activities</p> <p>Reading Assignment: module-6</p> | <p>Review of the day's activities</p> <p>Reading Assignment: Participants who scored less than 85% on the midcourse questionnaire should study</p> |

| DAY 9 | DAY 10 | DAY 11 | DAY 12 |
|--|---|--|--|
| <p>Team 4: Emergency/High Dependency Area</p> <ul style="list-style-type: none"> • Early pregnancy bleeding * Shock • Severe PE/Eclampsia <p>Team 1: Admission/Labor Room</p> <ul style="list-style-type: none"> • Assessment of women in labor, use of partograph • Care of women in labor <p>Team 2: Delivery Room</p> <ul style="list-style-type: none"> • Normal delivery • Episiotomy and repair • Complicated delivery • Management of PPH • Newborn (NB) resuscitation <p>Team 3: Postpartum and NB Care</p> <p>Postpartum exam Newborn care</p> | <p>Clinical Duty:</p> <p>Team 1: Emergency/High Dependency Area</p> <ul style="list-style-type: none"> • Early pregnancy bleeding • Shock • Severe PE/Eclampsia <p>Team 2: Admission/Labor Room</p> <ul style="list-style-type: none"> • Assessment of women in labor, use of partograph • Care of women in labor <p>Team 3: Delivery Room</p> <ul style="list-style-type: none"> • Normal delivery • Episiotomy and repair • Complicated delivery • Management of PPH <p>Team 4: Postpartum and NB Care</p> <ul style="list-style-type: none"> • Newborn (NB) resuscitation • Postpartum care • Newborn | <p>Clinical Duty:</p> <p>Team 2: Emergency/High Dependency Area</p> <ul style="list-style-type: none"> • Early pregnancy bleeding • Shock • Severe PE/Eclampsia <p>Team 3: Admission/Labor Room</p> <ul style="list-style-type: none"> • Assessment of women in labor, use of partograph • Care of women in labor <p>Team 4: Delivery Room</p> <ul style="list-style-type: none"> • Normal delivery • Episiotomy and repair • Complicated delivery • Management of PPH <p>Postpartum and NB Care</p> <p>Postpartum exam Newborn care</p> | <p>Agenda and opening activity</p> <p>Clinical check-out with clients for any remaining participants</p> <p>Group Work: Develop action plans</p> <p>Presentations: Action plans</p> <p>Next Steps: Log book, on-the-job learning</p> <p>Course Evaluation</p> <p>Course Summary</p> <p>Closing Ceremony</p> |
| <p>LUNCH</p> | <p>LUNCH</p> | <p>LUNCH</p> | <p>LUNCH</p> |
| <p>Clinical Duty Continues Discussion: Lessons from clinical experience</p> <p>Discussion with Trainers: Review individual progress with participants</p> | <p>Clinical Duty Continues Discussion: Lessons from clinical experience</p> <p>Clinical simulation –NB resuscitation</p> | <p>Discussion: Lessons from clinical experience</p> <p>Discussion with Trainers: Determine further individual learning needs of participants</p> <p>Discussion: Action plans</p> | |
| <p>Review of the day's activities</p> | <p>Review of the day's activities</p> | <p>Review of the day's activities</p> | <p>Review of the day's activities</p> |
| | <p>Reading Assignment: Review relevant sections of Manual.</p> | <p>Reading Assignment: Review relevant sections of Manual.</p> | <p>Reading Assignment: Review relevant sections of Manual</p> |

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