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# KENYA: ASSESSMENT OF HEALTH WORKFORCE COMPETENCY AND FACILITY READINESS TO PROVIDE QUALITY MATERNAL HEALTH SERVICES

QUALITY  
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OPERATIONS  
RESEARCH  
RESULTS

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# OPERATIONS RESEARCH RESULTS

# KENYA: ASSESSMENT OF HEALTH WORKFORCE COMPETENCY AND FACILITY READINESS TO PROVIDE QUALITY MATERNAL HEALTH SERVICES

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## ABBREVIATIONS

AMTSL	Active management of the third stage of labor
ECSA	East, Central and Southern Africa Health Community
MOH	Kenya Ministry of Health
OSCE	Objective structured clinical evaluation
QAP	Quality Assurance Project
UNFPA	United Nations Population Fund
UNICEF	United Nations Children’s Fund
URC	University Research Co., LLC
USAID	United States Agency for International Development
WHO	World Health Organization

## EXECUTIVE SUMMARY

Amid widespread recognition that too many women die in childbirth and that too many infants die as neonates, the U.S. Agency for International Development and the East, Central and Southern Africa Health Community (ECSA) commissioned three organizations in 2006 to gather information on the competency of birth attendants and the adequacy of their working environments to support quality labor, delivery, and immediate postpartum care in Kenya. The organizations—the Kenya Ministry of Health; the Quality Assurance Project; and the University of Nairobi—collaborated to design and conduct the assessment in November-December 2006.

They defined the study objectives as: 1) determine the current competency levels of the workforce attending women during labor, delivery, and the early postpartum period; 2) examine environmental and organizational factors that affect workforce productivity and performance; and 3) assess implications for regional training and performance improvement at the workplace. Selected to participate were 19 facilities (district hospitals, sub-district hospitals, and health centers) in two randomly selected districts each in three of Kenya's eight provinces; the provinces were purposively selected. (The data collection instruments and a list of the equipment and supplies needed to perform the assessment are included in the report appendices.)

As in previous work undertaken by the Quality Assurance Project in Benin, Ecuador, Jamaica, Rwanda, and Nicaragua, providers of maternal and neonatal care were given a written knowledge test and a skills test: The former had 50 questions to ascertain providers' knowledge in maternal and neonatal care. In the latter, observers watched providers performing maternal and neonatal care tasks on anatomical models. The observers used a checklist to assess tasks related to five topic areas: the active management of the third stage of labor (AMTSL), manual removal of the placenta, bimanual uterine compression, immediate newborn care, and neonatal resuscitation with ambu bag.

While the study results, conclusions, and recommendations may not be particularly surprising to readers familiar with health care in Africa, the details can guide decision makers on the way forward in reducing maternal and neonatal deaths. For example, hand washing skills were weaker than glove management, and AMTSL competency was higher than bimanual uterine compression. However, providers were strong in few skill areas. Similarly, the facility assessments found inconsistent presence of necessary infrastructure components, essential drugs and equipment, and facility capacity to provide comprehensive essential obstetrical care. While these issues are long recognized as needing attention, the study also found that personnel shortages were driven in part by poor distribution of certain types of providers among different types of facility.

The report concludes that health provider competency at performing basic, life-saving skills was quite low: The tendency to refer patients with complications was all too common. Exacerbating this problem, referral and counter-referral mechanisms were too weak to be reliable. Also, providers were pleased to receive the feedback and guidance from observers, suggesting to the authors that “minimal investment in training on specific strategies for preventing and managing life-threatening complications might significantly reduce maternal and neonatal mortality.” The fact that performance improved as providers progressed along the skills-testing pathway suggested “that a substantial improvement in postpartum monitoring might be achieved with a minimal investment in training and supportive supervision.”

The report recommended conducting safe delivery assessments in other ECSA member countries and working with Ministry of Health officials in member countries to design quality improvement interventions based on the results of this and future studies. Interventions should include competency-based training, supportive supervision, and coaching. The report's findings also called attention to the need to improve infrastructure, equipment, and supplies at a basic level and ensure availability of all necessary supplies and equipment to ensure safe deliveries in health facilities. Referral and counter-referral systems between

lower- and higher-level facilities and between service providers also need to be strengthened to ensure a continuum of care.

## **I. INTRODUCTION**

A recently released World Health Organization (WHO) report on human resources showed that Africa, which bears one-quarter of the world's burden of diseases, has just 3% of the world's health workers (WHO 2006). Also, health workers lack the vital drugs, supplies, and equipment needed for their tasks. In addition, they are challenged by limited knowledge and skills. These challenges have major implications for the region's capacity to provide quality maternal and newborn services.

## **II. SIGNIFICANCE TO REGIONAL POLICY, USAID EAST AFRICA'S WORK, AND PARTNERS' MANDATES**

Because delivery by a skilled birth attendant is crucial to the health of both women and newborns (WHO, UNICEF, UNFPA 2003; Thaddeus and Maine 1994; Donnay 2000; Graham, Bell, and Bullough 2001; and Liljestrand 2000), skilled attendance at delivery has become a proxy indicator for reducing maternal mortality (AbouZahr and Wardlaw). In Kenya, where the assessment reported here was carried out, WHO estimates that only 41.6% of mothers are delivered by a skilled attendant and as many as 1,000 mothers die for every 100,000 live births (WHO, UNICEF, UNFPA 2003 and 2004). Further, several studies show that even among health workers classified as "skilled birth attendants," competency levels are often quite low (Harvey et al. 2004 and 2007).

Thus, an assessment of skilled competency and health facility resources could have critical implications for training, curricula harmonization, and systems strengthening aimed at compliance with standards of care in the region.

The workforce competency and facility assessment described here was commissioned by the United States Agency for International Development (USAID) East Africa and the East, Central and Southern Africa Health Community (ECSA); it was carried out as a cooperative effort by the Kenya Ministry of Health (MOH); the Quality Assurance Project (QAP); and the University of Nairobi Department of Obstetrics and Gynecology. The assessment was done with the hope that its findings would contribute to the development and design of systems for quality improvement that foster a culture of quality and efficiency among staff. The findings can also serve as an advocacy tool for resource mobilization, policy development, and commitment to the design and implementation of quality improvement initiatives directed at maternal and neonatal health programs in ECSA member states.\*

## **III. STUDY OBJECTIVES**

The study had three objectives:

- 1) Determine the current competency levels of the workforce attending women during labor, delivery, and the early postpartum period;
- 2) Examine conditions at the workplace to determine environmental and organizational factors that affect workforce productivity and performance; and
- 3) Assess implications for regional training and performance improvement at the workplace.

## **IV. METHODS**

The study used a three-stage cluster-sampling scheme. To maximize geographic and socio-cultural variation and to produce a sample as close as possible to national representation, the study team used a

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\* ECSA member countries include Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe.

combination of purposive and random sampling. First, Nyanza, Coast, and Eastern provinces were selected purposively as study sites based on three criteria:

- 1) A large number of home deliveries despite relatively good access to health facilities;
- 2) A variety of cultural practices and geographic characteristics relatively representative of the country's diversity;
- 3) Locations with infrastructure sufficiently developed to permit completion of the field work within the available time (approximately three weeks).

Based on these criteria, Nairobi was excluded because its infrastructure is considerably more developed and its rate of institutional delivery considerably higher than elsewhere in the country. Similarly, the Rift Valley was excluded because its infrastructure is less developed and its rate of institutional delivery lower than elsewhere.

Next, for each province, two districts were selected by a random drawing from among all districts in each province. Gucha and Kiisi Districts were selected for Nyanza Province; Kwale and Kilifi for Coast Province; and Isiolo and Meru Central for Eastern Province. Finally, two district hospitals and three to five health centers in the catchment area of each hospital were selected purposively based on the judgment of co-investigators familiar with the different districts and advice from local collaborators in each district. In districts with only one district hospital, a sub-district hospital was selected. Criteria for selecting health facilities included average number of deliveries per month, average number of deliveries when the study would take place (November–December 2006), representativeness of the district in general in terms of health resources and access, and physical accessibility to the study team at the time of the study.

To assess competence, we measured both knowledge and skills. To assess for the former, we administered a 50-question test of clinical knowledge related to the management of normal labor and delivery and common obstetric complications plus immediate postpartum care for the mother and newborn. To assess skills, we asked participants to “perform” five sets of tasks related to five topic areas: active management of the third stage of labor, manual removal of the placenta, bimanual uterine compression, immediate newborn care, and neonatal resuscitation using an ambu bag. Participants performed these tasks on anatomical models while clinical specialists evaluated performance using a structured checklist. The method is similar to an objective structured clinical evaluation (OSCE), described elsewhere (Harvey et al. 2004 and 2007). Each of the five skill areas was observed separately, and observers gave feedback to each participant—noting, for instance, the need to inform the “woman” (anatomical model in our study) of the procedures being performed on her— after the participant performed each skill set.

To assess health facilities, we completed a 90-item checklist of human resource complement; infrastructure; processes of care; availability of essential drugs and equipment; hours and types of obstetrical services available; and neonatal and maternal complications, referral, and mortality statistics over the 12 months prior to the assessment. To the extent possible, observers collected information about the facility through direct observation or examination of records rather than reports provided by facility personnel.

Both personnel and facility assessment instruments are in Appendix A. The latter distinguished between information that was to be collected by direct observation and record review versus that through validated reports by facility personnel. Appendix B contains a list of equipment and supplies used in the study.

## V. RESULTS

### A. Skilled Birth Attendant Competency

The study assessed 119 providers. Experience ranged from one month to over 30 years; median length of service was 59.5 months (4.9 years). Table 1 provides details of provider characteristics.

**Table 1: Providers assessed, by selected characteristics (n=119)**

Years of experience	Number	(%)*	Provider type	Number	(%)*
< 1 year	14	12	Clinical officer	15	13
1–5 years	44	36	Registered nurse/midwife	6	5
6–10 years	27	23	Enrolled nurse/midwife	15	13
11–20 years	20	17	Community health nurse	75	63
> 20 years	14	12	Other	8	7
<b>Province</b>			<b>Health facility type</b>		
Nyanza	40	34	District hospital	33	28
Coast	38	32	Sub-district hospital	22	18
Eastern	41	34	Health center	63	53

\* Percentages may not always add up to 100 due to rounding.

#### 1. Knowledge test

On average, providers answered 63% of the knowledge test questions correctly.

#### 2. Skills assessment

Skills were assessed in the following order: active management of the third stage of labor (AMTSL), manual removal of the placenta, bimanual uterine compression, immediate newborn care, and neonatal resuscitation with ambu bag. Figure 1 provides a summary of skill scores by skill area. Average skills scores varied, but in every area except active management of the third stage of labor (slightly above 50%), providers completed fewer than half the necessary steps correctly. Figure 2 shows aggregate scores for certain practices; these scores were derived from scores for all skill areas. Collectively, providers earned a relatively high score for proper use and handling of gloves (84%) and a lower score for proper hand washing, done correctly by 60% of providers.

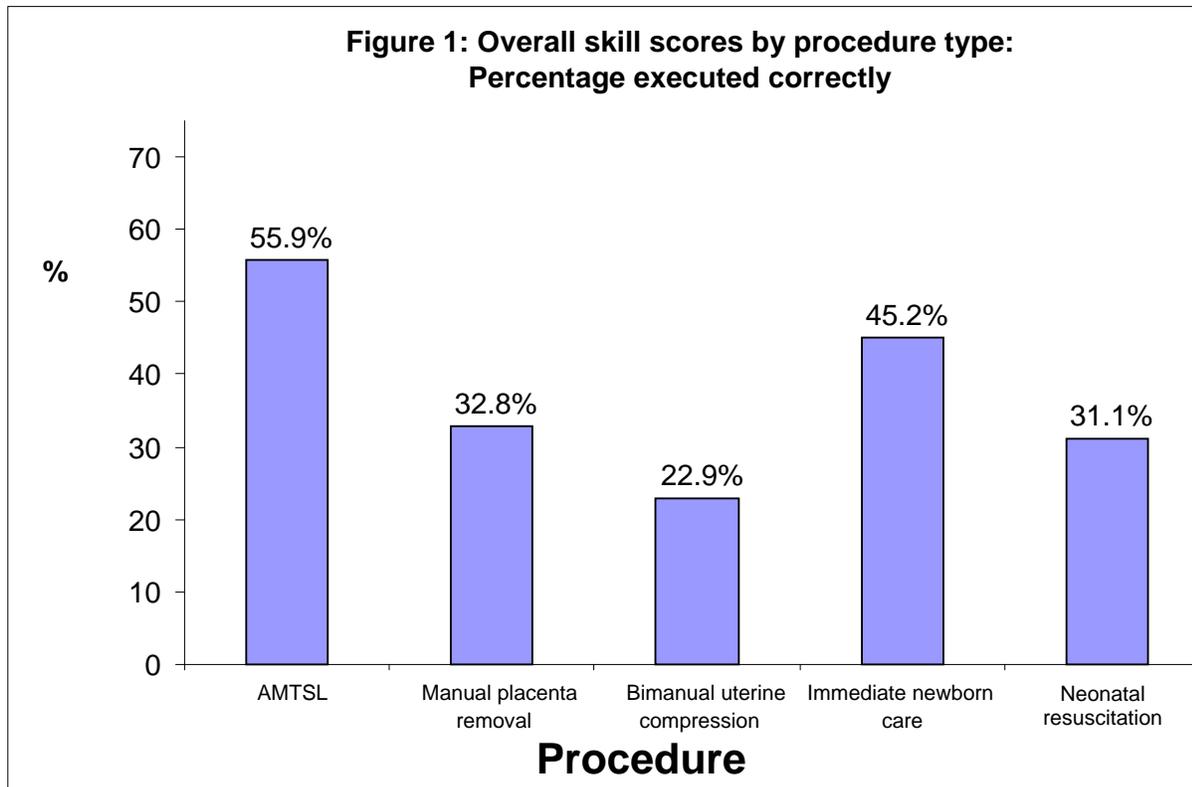
#### **Active management of the third stage of labor**

Most providers used Ergometrine rather than Oxytocin to initiate active management. Seventy-two percent (72%) prepared these uterotonics correctly, but only 5% administered them correctly and nearly two-thirds failed to mention that Ergometrine is contraindicated for hypertensive patients. Although Ergometrine is widely used in Kenya, the drug of choice for AMTSL is Oxytocin.

Only 47% of providers correctly performed controlled cord traction, and only 45% correctly performed counter traction. Most providers (92%) checked to see if the placenta was whole and intact and if the tissues were complete. Most (90%) also carefully examined and repaired tears or the episiotomy.

#### **Manual removal of the placenta**

The average score for manual removal of the placenta was 33%. Providers performed well (80% correct) at checking the placenta for completeness, but only 5% correctly palpated the interior of the uterus to ensure that all of the placental tissue had been removed. As with AMTSL, the score for examining the woman and repairing tears or the episiotomy was much higher (69% correct).



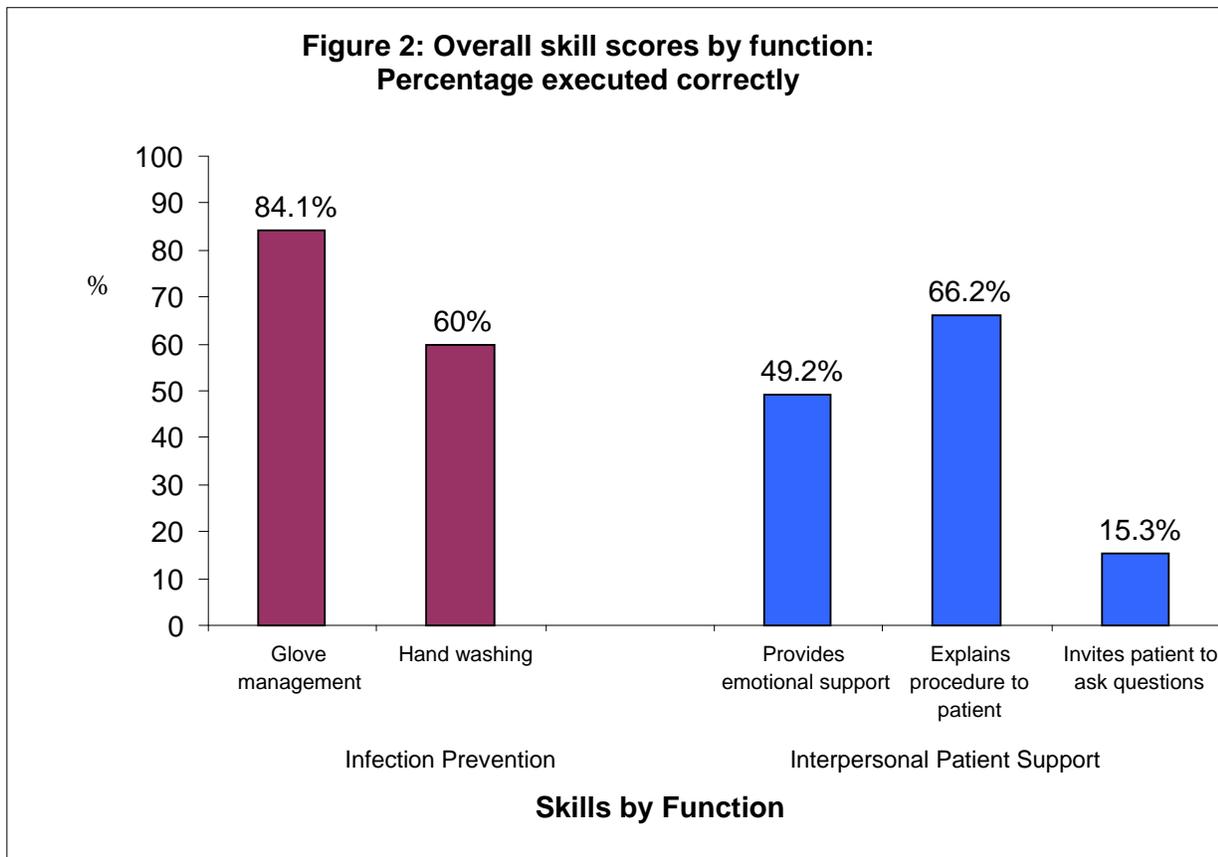
### ***Bimanual uterine compression***

Over half (53%) of the providers had a score of 0 on bimanual uterine compression, and the average score was 23%. They did better on post-procedure tasks than they had done at previous stations: 96% mentioned the need to monitor vital signs, but only 53% mentioned monitoring vaginal bleeding, and only 39% mentioned checking to make sure that the uterus remained firmly contracted. After having completed the AMTSL performance assessment, 28% mentioned monitoring of vaginal bleeding and 16% checking uterine tone. Following manual removal of the placenta assessment, these scores were 9% and 4%, respectively.

### ***Immediate newborn care***

Scores on immediate newborn care were the highest among all skills assessed, though observers documented some dangerous errors. Failure to check the newborn's respiration was relatively high (39%) as was failure to provide adequate thermal protection. Most providers (85%) failed to dry the newborn or did so incorrectly, and only 8% used a clean, dry towel to wrap the newborn after drying. Many (41%) failed to check the newborn's temperature prior to leaving the labor and delivery room.

The majority (94%) provided thorough information to the mother, including information about breastfeeding within the first hour after birth; 70% recorded relevant information regarding the mother and newborn in the medical record.



### ***Neonatal resuscitation with ambu bag***

Slightly less than half the providers correctly performed steps related to preparing an infant for neonatal resuscitation that included opening the airway (47% correct), covering the newborn below the chest (49% correct), and clearing the air passage with suction (44% correct). Only 8% of providers re-evaluated the newborn’s respiration as frequently as necessary, while only 21% adjusted the position of the mask and ambu bag before re-attempting resuscitation if the initial attempt was unsuccessful. Only 25% correctly evaluated the newborn after 30 seconds by watching respiration, heart rate, and coloring; only 14% correctly continued with ventilation at 40–60 compressions per minute after recognizing that the initial resuscitation attempt was not successful.

About half the providers correctly listed skin coloring as a qualitative criteria for evaluating the success of resuscitation. Very few identified the two most important quantitative criteria: a respiration rate above 30 per minute (17%) and a heart rate above 100 per minute (18%).

### ***Effect of Observer Feedback***

The trend toward improvement in “overall skill scores” from one set of skills to another is probably due to observer feedback at previous skill testing stations. Although rising scores are not consistent after each skills assessment and feedback, the rising trend suggests the potential advantage of training and supportive supervision.

For example, at the second skill station (manual removal of the placenta), 18% of providers mentioned informing the mother about the outcome; at the third (bimanual uterine compression), 33% did; and at the last (neonatal resuscitation), 92% did. This progressive improvement is most likely due to observer feedback at each station: A substantial improvement in postpartum monitoring and newborn care and

resuscitation could perhaps be easily achieved with a minimal investment in training and supportive supervision.

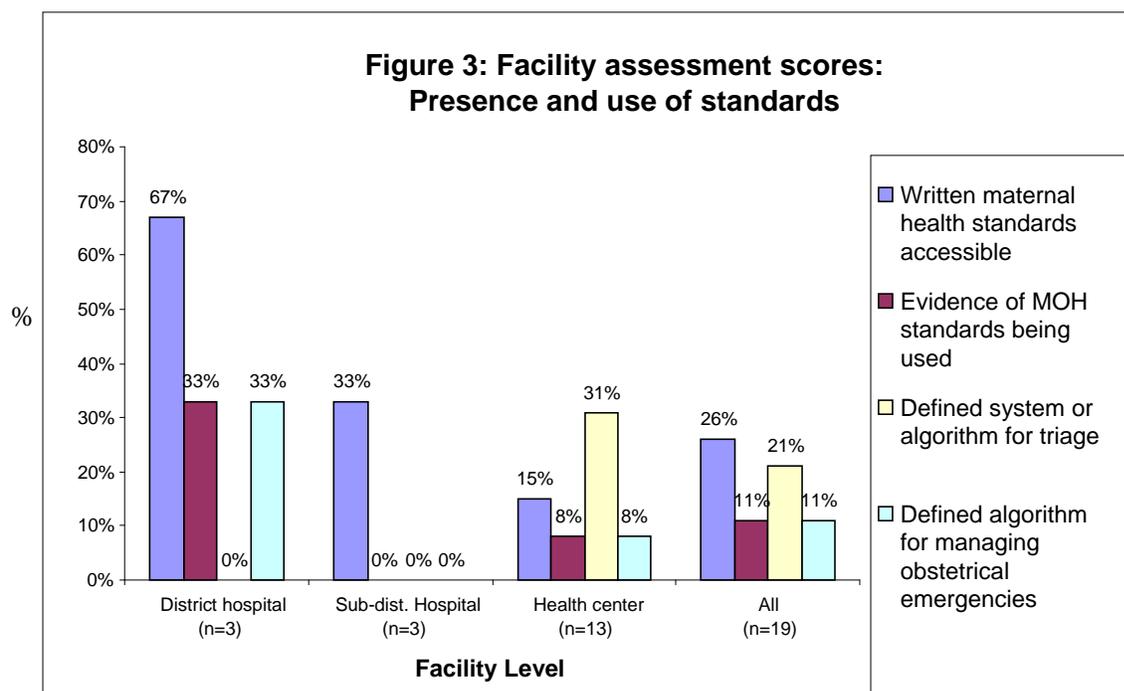
## B. Facility Assessment

The study assessed 19 facilities: three district hospitals, three sub-district hospitals, and 13 health centers. Table 2 lists study facilities by province and district.

**Table 2: Health facilities assessed by province and district**

Nyanza Province		Coast Province		Eastern Province	
Gucha District	Kisii District	Kwale District	Kilifi District	Isiolo District	Meru Central District
Gucha District Hospital	Keumbu Sub-district Hospital	Kwale Sub-district Hospital	Kilifi District Hospital	Isiolo District Hospital	Githongo Sub-district Hospital
Kenyanya Health Center	Ibacho Health Center	Kikoneni Health Center	Bamba Health Center	Merti Health Center	Gatimbi Health Center
Nyamache Health Center	Ibeno Health Center	Tiwi Rural Health Center	Vitengeni Health Center		Mikumbune Health Center
			Vipingo Demonstration Rural Health Center		Uruku Health Center

As seen in Figure 3, only five health facilities (26%) had written standards, and observers found evidence that these standards were actually being used in only two facilities (10.5%). The observer comment on one facility is illustrative: “The Kenya maternal health standards 2004 manual is buried in a storage closet in the maternity ward; one nurse has a copy at home.” Only four of the facilities assessed had a triage system in place, and only two had a defined algorithm for managing obstetrical complications.



## C. Personnel Complement

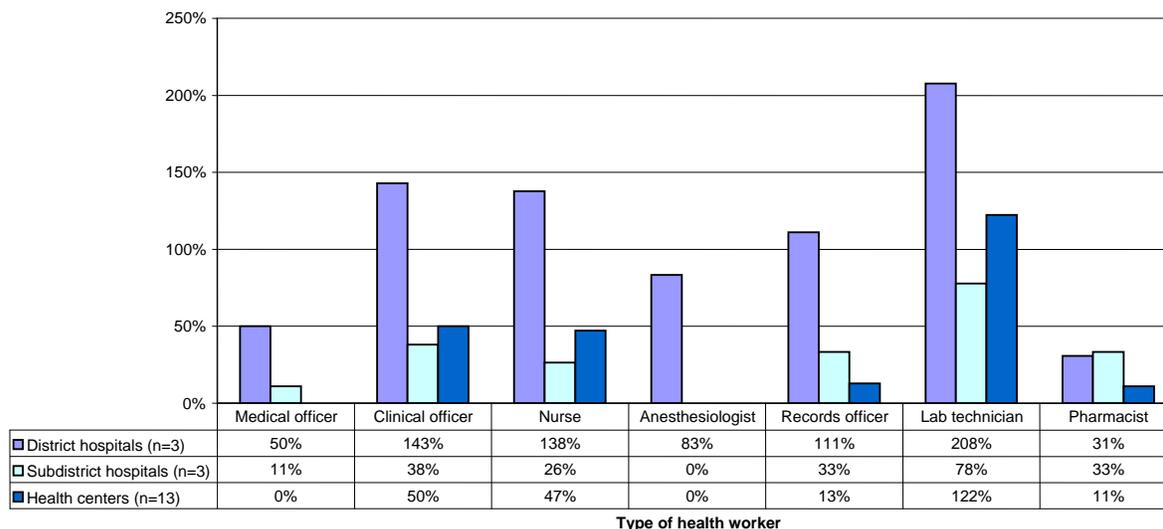
Health worker shortages are common in Kenya as in other African countries, and many assessed facilities had fewer health professionals than determined necessary by Kenyan national standards. The number of personnel required in each professional category can be calculated by multiplying the number required per facility of that type (i.e., district hospital, sub-district hospital, health center) by the number of facilities of that type sampled. The number of personnel reported as available in each professional category represents the sum of all personnel of that category in all facilities of that type. However, the staff is not necessarily evenly distributed across facilities, so some facilities in any given category may have more or fewer personnel of a given type than required by standards. As seen in Table 3, for example, Kenyan national standards call for a complement of nine medical officers in any district hospital, yet the three district hospitals assessed had a combined total of nine medical officers: a third the number required. Furthermore, two health centers had a medical officer, although none is required by the standards. Conversely, national standards call for 68 nurses per district hospital, meaning the three hospitals assessed should have had a combined total of 204. The real total was 281, nearly 140% of the number required. Meanwhile, the study's three sub-district hospitals, which also should have had a total of 204 nurses, had only 64: slightly more than 30% of the number required. Health centers faced a slightly smaller shortage of around 50%. Table 3 shows the total number of each category of health worker actually available in each type of facility assessed. Figure 4 shows the actual availability of health worker by type in each type of facility, expressed as a percentage of the number required by national standards.

**Table 3: Personnel complement by type of health facility: Required by Kenyan national standards and actually available**

Personnel complement		District hospital (n=3)	Sub-district hospital (n=3)	Health center (n=13)
<b>Medical officer</b>	Required	18	18	0
	Available (%)	9 (50%)	2 (11%)	2 (NA)
<b>Clinical officer</b>	Required	21	21	26
	Available (%)	30 (143%)	8 (38%)	18 (69%)
<b>Nurse</b>	Required	204	204	182
	Available (%)	281 (138%)	64 (31%)	92 (50%)
<b>Anesthetist</b>	Required	6	6	0
	Available (%)	5 (83%)	0 (0%)	0 (NA)
<b>Lab technician</b>	Required	9	9	13
	Available (%)	27 (300%)	7 (78%)	13 (100%)
<b>Pharmacist or pharmacy assistant</b>	Required	9	9	13
	Available (%)	4 (44%)	3 (33%)	2 (15%)

NA = not applicable.

**Figure 4: Health workers by professional level and facility type:  
Of total required by national standards, percentage available**



## D. Infrastructure

The study collected information on 14 different variables related to the infrastructure of the health facilities. Table 4 lists the number and percentage of facilities that were in compliance with national standards for each variable on the day of the observation.

**Table 4: Facilities in compliance with national infrastructure standards**

Component of infrastructure	Number of facilities in compliance	Percentage of facilities in compliance
Clean running water inside the facility	12	63
An accessible source for clean running water	14	78
Reliable light source by day	16	84
Reliable light source by night	16	84
Private exam area	17	89
Clean and functional latrines or toilets	5	28
Environment generally free of litter and medical waste	15	79
Rubbish pit or other appropriate waste-disposal system in place	10	53
Working placenta pit or incinerator	13	68
Working generator	6	32
Working telephone or radio transmitter	6	32
Working refrigerator	9	50
Ambulance or other vehicle available and in working order	7	37
If a vehicle is available and functioning, does it have gasoline?	6	32

## E. Essential Drugs and Equipment

Essential drug stocks varied considerably by type of drug. With regard to essential antibiotics, 16 of the 19 facilities (84%) had stocks of Ampicillin and Cotrimoxazole, 12 (63%) had Metronidazole, but only four (21%) had Cefazolin. In the realm of uterotonics, 12 facilities had Ergometrine, but only six (32%) had Oxytocin (mainly to treat postpartum hemorrhage) and none had Prostaglandin. Diazepam, an

anticonvulsant used for treating pre-eclampsia and eclampsia, was available in 16 facilities, but Magnesium Sulfate—a more effective, WHO-recommended drug—was available in only three (16%). Antimalarial stocks were generally high: All facilities had supplies of Sulfadoxine-Pyrimethamine (used for intermittent preventive treatment of malaria in pregnant women), 16 had Artemisinin combination therapy, and 17 (89%) had Quinine. Saline solution was available in 18 of the facilities (95%), but Dextrose in only 15 (79%). Antiretrovirals were in stock in 14 facilities (75%) and Tetanus Toxoid in 18. Among facilities that had each item on the essential drug list in stock on the day of observation, most reported having the drug in stock during the 30 days prior to the observation. However, many facilities had experienced stock-outs of certain drugs for 30 days or more in the previous year. For instance, Cotrimoxazole was in stock at 16 of the facilities on the day of observation, but among them, three had experienced stock-outs of 30–90 days during the previous year, and three others could not determine whether they had experienced stock-outs in the period. Similarly, of 17 facilities with Quinine in stock on the day of observation, three had experienced stock-outs for 31, 84, and 120 days, respectively; three others could not determine whether stock-outs occurred. Five facilities reported stock-outs of Artemisinin combination therapy for 240 or more days during the previous year. One facility had been out of Diazepam for the year prior to the study.

Supplies of essential equipment also varied. Taking all health facilities together, 12 of the assessed sites (63%) had a functioning ambu bag, though some were sized for older children or adults and would have been of limited use for neonatal resuscitation. Thirteen facilities (68%) had a working sphygmomanometer and 18 (95%) a working fetal stethoscope. Table 5 shows the availability of these instruments by facility type.

**Table 5: Availability of essential equipment by health facility type**

<b>Instrument</b>	<b>District hospital (n=3)</b>	<b>Sub-district hospital (n=3)</b>	<b>Health center (n=13)</b>
Ambu bag	3	1	8
Sphygmomanometer	2	3	8
Fetal stethoscope	3	2	13

## F. Facility Capacity

The study collected information on 10 different aspects of facility capacity; Table 6 lists the findings from these observations.

**Table 6: Facility capacity: Selected aspects of basic and comprehensive essential obstetrical care**

<b>Aspect assessed</b>	<b>No. facilities in compliance</b>	<b>% facilities in compliance</b>
Labor and delivery services 24 hours per day during the week days	17	90
Labor and delivery services 24 hours per day during the weekends	17	90
Operating facilities (sufficient to perform cesarean section)	3	16
Operating facilities function 24 hours a day, 7 days a week	2	11
Partograph forms are in stock	12	63
Clinical record review confirms partograph is being used	8	42
Active management practiced for ALL vaginal births (reported)	7	41
Clinical record review confirms AMTSL is being practiced	6	35
Blood available 24 hours a day, 7 days a week	3	16
Anesthesia available 24 hours a day, 7 days a week	2	11

## VI. CONCLUSIONS

In general, the competency of health personnel at performing basic, life-saving skills was quite low. Many providers reported that their practice was to refer a patient to the next highest level of care as soon as any complication arose. This could indicate that health personnel refer complicated cases to avoid having women die in their facility.

Many providers expressed great satisfaction at having received feedback and guidance from observers. The few minutes of feedback observers were able to provide each participant is far from sufficient to constitute “training,” but participant response to this feedback does suggest that a minimal investment in training on specific strategies for preventing and managing life-threatening complications might significantly reduce maternal and neonatal mortality.

All providers began their skills assessment either with AMTSL or with immediate newborn care. Observers in both of these skill areas provided feedback about the importance of postpartum and post-procedure monitoring. That performance of skill steps improved in subsequent stations may not be surprising. The fact that we observed such a trend toward improved performance does suggest that health personnel respond well to supportive supervisory feedback.

Some areas of particular weakness observed in the skills assessments were (1) postpartum and post-procedure monitoring and (2) the use of Oxytocin for AMTSL.

Referral is an important mechanism for ensuring access to care not available at a lower level facility, and counter-referral ensures continued care at such facilities and even at the community level. However, this study found no organized and sustainable referral and counter-referral systems. Facility staff frequently use their own cell phones and airtime, if and when they have them, for referral communications.

## VII. RECOMENDATIONS

Based on the results of this assessment, the study team makes four principal recommendations:

1. Conduct safe delivery assessments in other ECSA member countries.
2. Work with appropriate Ministry of Health officials in member countries to design quality improvement interventions based on the results of this and future studies. Interventions should include competency-based training, supportive supervision, and coaching.
3. Work to improve infrastructure, equipment, and supplies at a basic level and ensure availability of all necessary supplies and equipment.
4. Strengthen referral and counter-referral systems between lower- and higher-level facilities and between service providers to ensure a continuum of care.

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## **Appendix A: Study Instruments**

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## **Appendix B: List of Equipment and Supplies Needed to Perform Assessment**

List of Equipment and Supplies Needed to Perform Assessment.....	41
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**QAP MATERNAL HEALTH EVALUATION**  
**KNOWLEDGE SURVEY: OBSTETRIC AND NEONATAL CARE**

**3. You diagnose a woman who gave birth at home with endometritis and you treat her with the appropriate IV (intravenous) antibiotics. After two days of antibiotic treatment, her temperature returns to normal. It remains normal for two more days of antibiotic treatment (4 days total). You decide to:**

- A. Continue the antibiotics for another 24 hours since it was a home birth.
- B. Discontinue the antibiotics after 7 days.
- C. Discontinue the IV antibiotics immediately and prescribe oral antibiotics for 3 more days (7 days total).
- D. Discontinue all antibiotic treatment.

**4. Postpartum treatment of endometritis should include:**

- A. Ampicillin IV *or* Gentamicin IV *or* Metronidazole IV.
- B. Ampicillin IV *and* Gentamicin IV *and* Metronidazole IV.
- C. A combination of oral antibiotics.
- D. Broad spectrum antibiotics.

**5. Which of the following processes will help to reduce risk of infection in both mother and child?**

- A. Perform frequent vaginal examinations.
- B. Rupture the membranes as soon as possible during the initial part of the birth.
- C. Routinely catheterize the bladder before birth.
- D. Reduce prolonged labour.

**6. Postpartum treatment of endometritis should include antibiotics that are effective against:**

- A. Gram-positive, gram-negative, and anaerobic bacteria.
- B. Gram-positive, gram-negative, and anaerobic bacteria and malaria.
- C. Only gram-positive bacteria.
- D. Only anaerobic bacteria.

**7. A puerperal infection can be diagnosed when:**

- A. The woman claims tiredness.
- B. There is an increase in the woman's temperature ( $>38^{\circ}\text{C}$ ) and pulse rate.
- C. The woman complains of being hot.
- D. There is no increase in temperature, but the pulse rate increases.

**8. Which two organisms commonly cause puerperal sepsis?**

- A. *Campylobacter jejuni* and *Gonococci*
- B. *Staphylococci* and *Mycobacterium tuberculosis*
- C. *Gonococci* and *Staphylococci*
- D. *Chlamydia* and *Helicobacter pylori*

**9. Which of the following is the best way to prevent sepsis in both the mother and child?**

- A. Administer intravenous antibiotics.
- B. Use sterile or high-level disinfected sheets during birth.
- C. Wash the vulva and perineum with antiseptic solution.
- D. Wash your hands appropriately.

**10. If the placenta has not delivered after 30 minutes of active management and the uterus is well contracted:**

- A. Intramuscular Ergometrine should be applied to stimulate contractions.
- B. Manual extraction of the placenta should be attempted.
- C. Immediate curettage should be done.
- D. Local heat should be applied.

**QAP MATERNAL HEALTH EVALUATION  
KNOWLEDGE SURVEY: OBSTETRIC AND NEONATAL CARE**

**11. One must suspect cervical, vaginal, or perineal tears when there is immediate postpartum haemorrhage and:**

- A. The placenta is **complete** and the uterus well-contracted.
- B. The placenta is **incomplete** and the uterus is well-contracted.
- C. The placenta is **complete** and the uterus is atonic.
- D. The placenta is **incomplete** and the uterus atonic.

**12. When manually extracting the placenta, if the placenta does not separate from the uterine surface with gentle lateral movements by the fingertips:**

- A. Uterine inversion should be suspected.
- B. Placenta accreta should be suspected.
- C. Abruption placenta should be suspected.
- D. Uterine rupture should be suspected.

**13. A woman in shock may have:**

- A. Low blood pressure.
- B. Weak and rapid pulse.
- C. Cool and pallid skin.
- D. Accelerated respiration.
- E. All of the above are correct.

**14. If you suspect shock in a pregnant woman, you should immediately seek help, monitor her vital signs, and quickly:**

- A. Place the woman on her side.
- B. Keep her warm without overheating her.
- C. Elevate her legs.
- D. Only A and B.
- E. Only B and C.
- F. A, B, and C.

**15. The placenta is delivered 15 minutes after the birth of the baby. The first thing you should do upon the expulsion of the placenta is:**

- A. Administer Oxytocin IM.
- B. Assure that the placenta and membranes are intact.
- C. Check blood pressure.
- D. Assure that the uterus is firmly contracted.

**For questions 16-20: If the answer is true, circle the "T." If the answer is False, circle the "F."**

**You suspect a case of placenta previa. It is necessary to follow these next steps:**

<b>16.</b>	Have the patient lie down with her feet elevated (Trendelenburg position).	T	F
<b>17.</b>	Check her vital signs.	T	F
<b>18.</b>	Palpate the vagina to confirm diagnosis.	T	F
<b>19.</b>	Monitor the uterine activity and fetal heart rate.	T	F
<b>20.</b>	Administer an enema.	T	F

**QAP MATERNAL HEALTH EVALUATION  
KNOWLEDGE SURVEY: OBSTETRIC AND NEONATAL CARE**

- 21. One hour following birth, a woman has a cervical tear repaired. Afterward, her haemoglobin is found to be 10g/dL and her vital signs are stable. Which is the most appropriate plan for her?**
- A. Begin a blood transfusion, monitor her vital signs for 24 hours, encourage her to breastfeed, and administer prophylactic antibiotics.
- B. Discharge her.
- C. Monitor her vital signs and bleeding for 24 hours, begin iron sulfate and folic acid supplements, and encourage her to breastfeed.
- D. Continue administering Oxytocin for 24 hours, monitor her vital signs, and encourage her to breastfeed.

- 22. A woman in labour has dilated to 9 cm and you find thick meconium in the amniotic fluid. What actions should you take before the birth?**
- A. Check the fetal heart rate every 15 minutes and prepare for neonatal resuscitation if it becomes necessary.
- B. Check the fetal heart rate every 30 minutes and prepare for neonatal resuscitation if it becomes necessary.
- C. Nothing. Thick meconium is normal.
- D. Prepare for a caesarean section as soon as possible.

- 23. The first step in thermal protection of newborns is:**
- A. Completely dry the baby immediately following birth.
- B. Completely dry the baby after the umbilical cord has been cut.
- C. Cover the baby with clean and dry clothing immediately following the birth.
- D. Cover the baby with clean and dry clothing after the umbilical cord has been cut.

- 24. In the case that a newborn is born hypoxic and you have no oxygen available:**
- A. You cannot begin neonatal resuscitation.
- B. You should determine the Apgar score before initiating neonatal resuscitation.
- C. In most cases you can perform neonatal resuscitation without oxygen.
- D. You cannot perform neonatal resuscitation unless there is a paediatrician available.

- 25. When advising the mother about breastfeeding, a competent health care provider should tell her to:**
- A. Avoid giving the newborn too much colostrum.
- B. Establish a breastfeeding schedule, this way the baby has time to sleep.
- C. Give the baby water after breastfeeding.
- D. Breastfeed as often as the baby demands and for as long as he/she wishes to feed.

- 26. The correct way to maintain the baby's air passage open is:**
- A. Maximum possible hyperextension of the neck.
- B. Face down and neck slightly extended.
- C. Face up and neck slightly extended.
- D. Breathing first through the nose and then through the mouth.

- 27. The most important clinical finding to begin neonatal resuscitation is:**
- A. Heart rate of 110 per minute.
- B. Weak respiration.
- C. An Apgar score of 7 soon after birth.
- D. A Silverman Andersen score of 2.

**If the answer is true, circle the "T." If the answer is false, circle the "F."**

- 28. The Apgar is the most important criterion by which to begin resuscitation.**

T

F

**QAP MATERNAL HEALTH EVALUATION**  
**KNOWLEDGE SURVEY: OBSTETRIC AND NEONATAL CARE**

**29. The vital signals include the following:**

- A. Blood type, blood pressure, pulse, and urinalysis.
- B. Pulse, blood pressure, blood type, and respiration.
- C. Temperature, fetal heart rate, contractions, and blood pressure.
- D. Pulse, respiration, temperature, and blood pressure.

**30. If the cervix is dilated 4 cm and the labour is progressing normally, you should check the woman's uterine activity every:**

- A. 15 minutes.
- B. 30 minutes.
- C. 60 minutes.
- D. At least 3 times until complete dilation is reached.

**31. Every time you check a pregnant woman's uterine contractions, you should measure:**

- A. Frequency, intensity, and duration.
- B. Intensity, pain, and duration.
- C. Cervical dilation, frequency, and intensity.
- D. Duration, cervical dilation, and frequency.

**32. Before the cervix is completely dilated, the fetal heart rate should be measured every:**

- A. 5 minutes.
- B. 15 minutes.
- C. 30 minutes.
- D. 60 minutes.

**33. After each vaginal exam, the following information should be recorded on the partograph:**

- A. Cervical dilation.
- B. Fetal heart rate.
- C. Descent of the fetal head.
- D. Molding of the fetal skull.
- E. A and C are correct.
- F. A and D are correct.

**34. What effects may a woman who is positioned on her back experience during labour?**

- A. Improved blood circulation for the mother and baby.
- B. Poor circulation for the mother and baby, reduced fetal heart rate, and the possibility of fetal asphyxia.
- C. Less painful contractions of shorter duration.
- D. Improved blood circulation for the mother, but a slight increase in the risk of fetal distress.

**35. A fetal heart rate that falls below 100 could indicate fetal distress if:**

- A. It occurs during a contraction and then rapidly increases to basal levels in 11 to 18 seconds.
- B. It remains below 100 bpm 30 seconds after the end of the contraction.
- C. Both A and B are correct.
- D. Both A and B are false.

**36. When you offer the pregnant woman HIV testing services, you should:**

- A. Advise her and allow her to decide whether or not to take the HIV test.
- B. Advise her to obtain permission from her husband before deciding to take the HIV test.
- C. Perform the HIV test without informing the patient.
- D. Tell the patient that she should take the HIV test for the baby's benefit.

**QAP MATERNAL HEALTH EVALUATION**  
**KNOWLEDGE SURVEY: OBSTETRIC AND NEONATAL CARE**

**37. Active management of the third stage of labour should be performed:**

- A. On all women with a previous history of postpartum haemorrhage.
- B. Only on primiparous women.
- C. Only on multiparous women.
- D. On all women regardless of parity.

**38. The steps in active management of the third stage of labour should be performed in the following order:**

- A. (1) Controlled cord traction with counter-traction to the uterus to deliver the placenta, (2) uterine massage after the placenta is delivered, and (3) IM administration of Oxytocin.
- B. (1) IV administration of Oxytocin, (2) cord clamping and cutting, and (3) uterine massage after the placenta is delivered.
- C. (1) Cord clamping and cutting, (2) controlled cord traction, and (3) IM Ergometrine administration.
- D. (1) Intramuscular injection of Oxytocin, (2) controlled cord traction with counter-traction to the uterus to deliver the placenta, and (3) uterine massage after placenta is delivered.

**39. During the first 2 hours following the birth, the health care provider should:**

- A. Measure the mother's heart rate and pulse once and insert a catheter to empty bladder.
- B. Measure the mother's heart rate and pulse and check the uterine tone every 15 minutes.
- C. Not disturb the mother if she is sleeping, because rest is more important than vital signs.
- D. Measure the temperature and pulse of the woman, massage the uterus, and perform a vaginal exam to extract any clots.

**40. A pregnant woman who is experiencing convulsions should be:**

- A. Physically restrained to keep her from injuring herself.
- B. Placed flat on her back.
- C. Left alone in a quiet room.
- D. Protected from objects that may injure her.

**41. In addition to delivering the baby, the most effective treatment for severe pre-eclampsia before birth is to administer:**

- A. Diazepam
- B. Nifedipine
- C. Magnesium sulphate
- D. Oxytocin

**42. While using antihypertensive therapy for severe pre-eclampsia or eclampsia, the goal is to maintain diastolic pressure:**

- A. Below 70 mm Hg
- B. Below 80 mm Hg
- C. Between 80 mm Hg and 90 mm Hg
- D. Between 90 mm Hg and 100 mm Hg

**43. Mrs. Lopez is 28 weeks pregnant. She complains of severe headaches, dizziness, and blurry vision. She has had a headache for 3 days and has had difficulty standing up since last night. This morning her blood pressure is 165/110. Her diagnosis is:**

- A. Moderate pre-eclampsia
- B. Severe pre-eclampsia
- C. Eclampsia
- D. Chronic hypertension

**QAP MATERNAL HEALTH EVALUATION  
KNOWLEDGE SURVEY: OBSTETRIC AND NEONATAL CARE**

Based on question #43's diagnosis, you take the following steps. If the answer is true, circle the "T." If the answer is false, circle the "F."

44.	Hospitalize her in an area without noise, bright lights, or external stimuli.	T	F
45.	Interrupt the pregnancy as soon as possible.	T	F
46.	Encourage her to continue the pregnancy until at least 32 weeks so as to allow fetal maturation.	T	F
47.	Take her blood pressure every 15 minutes.	T	F
48.	Allow her to rest until her blood pressure stabilizes and then refer her to a lesser level of care for the remainder of her monitoring.	T	F
49.	Slowly give her 4 grams of IV Magnesium Sulfate over 5–10 minutes.	T	F

50.	<p><b>Eclampsia, epilepsy, acute malaria, meningitis, encephalitis, and tetanus can cause convulsions during pregnancy. If a woman has convulsions, is more than 20 weeks pregnant, and you suspect that she may have one of these illnesses instead of eclampsia, the best clinical management strategy is:</b></p> <p>_____ A. Confirm the diagnosis with the appropriate tests, then begin treatment.</p> <p>_____ B. Treat the woman as eclamptic until another diagnosis is confirmed.</p> <p>_____ C. In a high malaria-incidence region, treat the woman for malaria until the eclampsia diagnosis is confirmed.</p> <p>_____ D. Treat the woman only for epilepsy until the eclampsia diagnosis is confirmed.</p>		
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**QAP MATERNAL HEALTH EVALUATION  
KNOWLEDGE SURVEY: ANSWER KEY**

1	B	26	C
2	A	27	B
3	D	28	F
4	B	29	D
5	D	30	B
6	A	31	A
7	B	32	C
8	C	33	F
9	D	34	B
10	B	35	B
11	A	36	A
12	B	37	D
13	E	38	D
14	F	39	B
15	B	40	D
16	F	41	C
17	T	42	D
18	F	43	B
19	T	44	T
20	F	45	T
21	C	46	F
22	A	47	T
23	A	48	F
24	C	49	T
25	D	50	B

**QAP MATERNAL HEALTH EVALUATION**  
**OBSERVATION 1: ACTIVE MANAGEMENT OF THIRD STAGE LABOR**

Date:         Province:  District:   
dd mm yyyy

Participant study ID No.   -       Evaluator:

**Instructions to the Observer**

*Please read the following statements aloud EXACTLY AS THEY ARE WRITTEN, without adding or leaving out anything. This will avoid bias and provide each participant with the same orientation.*

“Good morning/afternoon Dr., Mr., Ms. \_\_\_\_\_, I am \_\_\_\_\_. Welcome and thank you for participating. Please make yourself comfortable and don’t feel anxious. I will explain the exercise; please ask me if you have any questions about what you are supposed to do.

“At this station we will simulate the active management of the third stage of delivery. We will work with mannequins, but please act as if you are treating an actual patient. You should prepare yourself, prepare the patient, and perform the procedure and subsequent tasks exactly as you would with a real patient.

“You are midway through conducting a vaginal delivery. There have been no complications. As you can see [*observer: point to pelvic mannequin*], only the baby’s head has been delivered so far. Your task is to finish delivering the baby and then carry out active management at the appropriate time.

“Assume that you are in a rural health center or small district hospital. You have only basic equipment available. If you need help, I can act as your assistant; you may ask me to do anything you would ask another staff/person to do during an actual delivery. While you work, please explain to me verbally everything you are doing—even details that you might think are minor or insignificant.

“Do you have any questions?”

*Observer: Answer any questions the participant might have. Once the participant has no more questions to ask say:*

“You may begin whenever you are ready.”

A. Completing Delivery	EVALUATION			
	Done correctly	Done incorrectly	Not done	Not observed
1. Encourages patient and provides emotional support.				
2. Prepares 10 units Oxytocin (IM) <b>EVALUATOR: SEE BELOW NOTE</b>				
3. Finishes delivery and places baby on mother’s abdomen (skin-to-skin)				

**Note:** For step 2, if there is no Oxytocin available, it is acceptable that the participant says 0.2 mg of Ergometrine or Prostaglandin. Nevertheless, if the participant mentions Ergometrine, he/she MUST mention that the Ergometrine is not recommended for women with pre-eclampsia or eclampsia to earn a satisfactory score. If the participant mentions Prostaglandin, he/she MUST mention that this drug must not be administered intravenously to earn a satisfactory score.

*Evaluator: When the participant says that he/she is ready to begin the procedure, tell him/her the following:*

“Very good, go ahead. Please remember to explain what you are doing and let me know when you have finished.”

**QAP MATERNAL HEALTH EVALUATION**  
**OBSERVATION 1: ACTIVE MANAGEMENT OF THIRD STAGE LABOR**

<b>B. Procedure: Active Management of the Third Stage of Delivery</b>	<b>EVALUATION</b>			
	Done correctly	Done incorrectly	Not done	Not observed
1. Palpates the abdomen and rules out presence of another fetus before continuing.				
2. Within the first minute of the birth, administers 10 units of IM Oxytocin. If Oxytocin is not available, administers 0.2 mg of Ergometrine (NOT in pre-eclamptic/eclamptic women) or Prostaglandins (NO IV).				
3. Clamps and cuts the umbilical cord. (Clamps near the perineum.)				
4. With one hand, maintains slight tension on the cord and waits for a strong uterine contraction (when the cord stretches, the uterus becomes round).				
5. During the contraction, applies controlled traction to the cord so as to deliver the placenta: Pulls gently, firmly, and uniformly.				
6. With the other hand on the pubis, stabilizes the uterus and prevents uterine inversion by applying counter-traction during the controlled pulling of the cord.				
7. Slowly delivers the placenta, supporting it with both hands. Extracts the membranes gently with lateral movements.				

*Evaluator: "What would you do once the placenta has descended?"*

8. Checks to see if the placenta is whole and intact.				
9. Checks to see if the tissues are complete.				

*Evaluator: "What would you do if the placenta is intac?"*

10. After the inspection of the placenta and membranes, immediately massages the uterine fundus through the abdomen until the uterus contracts. Assures that the uterus does not relax (become atonic); ceases to massage it <i>after</i> confirming that the uterus is not softening.				
11. Carefully examines the woman and repairs cervical or vaginal tears, or repairs the episiotomy.				

*Evaluator: "What would you do if the placenta is not complete or is not expelled within the first 30 minutes?"*

12. If the placenta does not descend during the first 30–40 seconds of controlled traction of the umbilical cord, stop the cord traction and wait for the next contraction to try again.				
13. If the placenta still doesn't descend in the first 30 minutes or isn't expelled intact, ask for help and prepare for additional procedures, probably for manual removal of the placenta.				

**CONTINUE ON NEXT PAGE**

**QAP MATERNAL HEALTH EVALUATION**  
**OBSERVATION 1: ACTIVE MANAGEMENT OF THIRD STAGE LABOR**

*When the participant says that he/she has finished, tell him/her the following: “Thank you. Now that you have finished the procedure, please tell me what else you would normally do or ask someone else to do.” Observe if he/she mentions the steps listed below. For this final section, it is not necessary that the participant performs each step, but it is required that he/she mentions each step.*

C. Post-procedure: Active Management of the Third Stage of Delivery	EVALUATION			
	Done correctly	Done incorrectly	Not done	Not observed
1. Submerges both gloved hands in a 0.5% chloride solution.				
2. Removes the gloves, turning them inside out.				
3. If the gloves are to be disposed of, participant throws them into a bio-hazard waste receptacle or plastic bag. If the gloves are to be reused, he/she submerges them in a 0.5% chloride solution for 10 minutes to decontaminate them.				
4. Thoroughly washes hands with soap and water, then dries them.				
5. Monitors vaginal bleeding and vital signs every 15 minutes for the first 2 hours.				
6. Makes sure that the uterus remains firmly contracted.				
7. Encourages the woman to ask questions and provides reassurance.				

*Provide appropriate feedback to the participant, answer questions, then say:*

**“Thank you very much. Now you will continue on to the next station to perform the next simulation about a case of postpartum haemorrhage.”**

**Comments on the participant’s performance (please describe any specific errors or problems):**

**QAP MATERNAL HEALTH EVALUATION**  
**OBSERVATION 2: MANUAL REMOVAL OF THE PLACENTA**

Date:         Province:  District:   
 dd mm yyyy

Participant study ID No.   -       Evaluator:

**Instructions for the Observer**

*Please read the following statements aloud EXACTLY AS THEY ARE WRITTEN, without adding or leaving out anything. This will avoid bias and provide each participant with the same orientation.*

**“Good morning/afternoon. Thank you again for being here today. I am Dr./Mr./Mrs. \_\_\_\_\_, and I will be observing this next exercise. In the previous exercise, you demonstrated active management of 3<sup>rd</sup> stage labour. Now we are going to deal with postpartum haemorrhage.**

**“In this exercise, we will simulate a case of postpartum haemorrhage. Assume that you are in the same health facility as before. Just as in the previous exercise, I can act as your assistant if you need help. You may ask me to do anything you would normally ask of an assistant.**

**“Another health worker has just attended a normal birth. He performed active management for 30 minutes but the placenta has not delivered. He has called you to perform a manual removal of the placenta. As before, you can assume that appropriate infection prevention measures have already been taken. Please perform the procedure and explain everything you are doing as you go along.**

**“Begin by preparing yourself, the equipment, and the patient. Once you have completed all preparations, please tell me you are ready to begin the procedure.”**

A. Preparation: Manual Removal of the Placenta	EVALUATION			
	Done correctly	Done incorrectly	Not done	Not observed
1. Explains to the patient what he/she will do.				
2. Encourages her to ask questions and listens to what she has to say.				
3. Provides emotional support.				
4. Asks the patient to urinate or catheterizes the bladder, if necessary.				
5. Administers anaesthesia or sedatives.				
6. Begins an IV infusion (normal saline or Ringer’s lactate), adds a 20 unit solution of Oxytocin at a rate of 60 drops per minute.				
7. Administers prophylactic antibiotics in one dose only: 2g IV Ampicillin + 500mg IV Metronidazole <b>or</b> 1g IV Cefazolin + 500mg IV Metronidazole.				

Note: For step 6, if no is Oxytocin available, it is acceptable that the participant says 0.2 mg of Ergometrine or Prostaglandin. If the participant mentions Ergometrine, he/she MUST mention that it is not recommended for women with pre-eclampsia or eclampsia. If the participant mentions Prostaglandin, he/she MUST mention that this drug cannot be administered intravenously. Failure to mention these precautions should be marked as “done incorrectly.”

*Evaluator: when the participant says that he/she is ready to begin the procedure, tell him/her the following:*

**“Very well, go ahead. Please explain to me what you are doing at each moment, and tell me when you have finished the procedure.”**

**QAP MATERNAL HEALTH EVALUATION**  
**OBSERVATION 2: MANUAL REMOVAL OF THE PLACENTA**

<b>B. Procedure: Manual Removal of the Placenta</b>	<b>EVALUATION</b>			
	<b>Done correctly</b>	<b>Done incorrectly</b>	<b>Not done</b>	<b>Not observed</b>
1. Washes hands and forearms thoroughly with soap and water, then dries them.				
2. Puts sterile or high-level disinfected gloves on both hands.				
3. Clamps umbilical cord, gently pulling it until it is parallel with the floor.				
4. Inserts the fingers of one hand into the vagina and up into the uterine cavity until the placenta is located.				
5. Places the other hand on top of the abdomen to support the fundus of the uterus, doing counter-traction during the removal so as to prevent inversion of the uterus.				
6. Delicately slips the ulnar edge of hand between the placenta and the uterine wall, and gradually moves hand from one side to the other, in a lateral continuous movement, until the entire placenta is separated from the uterine wall.				
7. Slowly removes hand from the uterus, bringing the placenta and membranes with it; meanwhile, he/she continues to apply counter-traction to the fundus through the abdomen.				
8. Examines the uterine surface of the placenta to ensure that it is complete.				
9. Palpates the interior of the uterine cavity to make sure that all placental tissue has been removed.				
10. Administers or continues the infusion of 20 units of Oxytocin in 1L of normal saline or Ringer's lactate, at a rate of 60 drops per minute.				
11. Asks that an assistant massage the fundus of the uterus to stimulate a tonic uterine contraction.				
12. Carefully examines the woman and repairs any tears to the cervix or vagina, or repairs the episiotomy.				

**CONTINUE ON NEXT PAGE**

**QAP MATERNAL HEALTH EVALUATION  
OBSERVATION 2: MANUAL REMOVAL OF THE PLACENTA**

*When the participant says that he/she has finished, say the following: “Very good. Now, please tell me what more you would do or ask someone else to do once you have finished the procedure.” Observe if he/she mentions the steps listed below. For this last section, it is not necessary that the participant perform each step, but it is required that he/she mention each step.*

<b>C. Post-procedure: Manual Removal of the Placenta</b>	<b>EVALUATION</b>			
	<b>Done correctly</b>	<b>Done incorrectly</b>	<b>Not done</b>	<b>Not observed</b>
1. Submerges both gloved hands in a 0.5% chloride solution.				
2. Removes the gloves, turning them inside out.				
3. If the surgical gloves are going to be disposed of, he/she throws them into a bio-hazard waste receptacle or plastic bag. If the gloves are going to be reused, he/she submerges them in a 0.5% chloride solution for 10 minutes so as to decontaminate them.				
4. Washes hands and forearms thoroughly with soap and water, then dries them.				
5. Monitors vaginal bleeding and vital signs every 15 minutes during first 2 hours, then every 30 minutes for first 6 hours, even if the patient is stable.				
6. Makes sure that the uterus remains firmly contracted.				
7. Explains to the woman what was done and answers her questions.				

*Observer: Provide appropriate feedback to the participant. Answer any questions, and demonstrate or describe how to correctly perform any steps the participant may have done incorrectly.*

**“Thank you very much Dr./Sr./Mr./Mrs/Ms\_\_\_\_. Please continue on to the next station.”**

**Comments on the participant’s performance (please describe any specific errors or problems):**

**QAP MATERNAL HEALTH EVALUATION**  
**OBSERVATION 3: BIMANUAL UTERINE COMPRESSION**

Date: 

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 Province: 

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 District: 

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dd      mm      yyyy

Participant study ID No. 

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 Evaluator: 

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**Instructions to the Observer**

*Please read the following statements aloud EXACTLY AS THEY ARE WRITTEN, without adding or leaving out anything. This will avoid bias and provide each participant with the same orientation.*

**“Good morning/afternoon. Thank you again for being here today. I am Dr./Mr./Mrs. \_\_\_\_\_, and I will be observing this next exercise. In the previous exercise, you demonstrated manual removal of the placenta. Now assume that despite all of your efforts, the patient continues to hemorrhage. You are called upon again, this time to perform bimanual uterine compression. Just as with the previous exercise, I am going to ask you to perform the procedure and verbally explain to me everything you are doing, even details that may seem insignificant. Assume that infection control measures have already been taken on the patient. Please begin by describing or carrying out the steps you would take to prepare yourself, the equipment, and the patient. Then tell me when you have finished preparing and are ready to start the procedure itself.”**

**NOTE:**

*If the participant says that he/she does not know the procedure, ask him/her to do the best that he/she can or as far as he/she knows, without worrying about doing it perfectly. Then, show the participant how to do it, following all of the steps indicated below.*

A. Preparation: Bimanual Uterine Compression	EVALUATION			
	Done correctly	Done incorrectly	Not done	Not observed
1. Explains to the patient what he/she will do.				
2. Encourages her to ask questions and listens to what she has to say.				
3. Provides emotional support.				
4. Asks the patient to urinate or catheterizes the bladder, if necessary.				
5. Initiates Oxytocin IV infusion or administers Ergometrine if the patient is not hypertensive.				

*Evaluator: when the participant says that he/she is ready to begin the procedure, tell him/her the following:*

**“Very well, go ahead. Please explain to me what you are doing at every step along the way and let me know when you have finished the procedure.”**

**QAP MATERNAL HEALTH EVALUATION**  
**OBSERVATION 3: BIMANUAL UTERINE COMPRESSION**

B. Procedure: Bimanual Uterine Compression	EVALUATION			
	Done correctly	Done incorrectly	Not done	Not observed
1. Washes hands and forearms thoroughly with soap and water, then dries them.				
2. Puts high-level disinfected or sterile gloves on both hands.				
3. Introduces one hand in the vagina and makes a fist.				
4. Places clenched fist in the anterior vaginal fornix and presses against the anterior uterine wall.				
5. With the other hand, presses deeply into the abdomen behind the uterus, firmly squeezing the uterus between the two hands.				
6. Maintains the compression until bleeding is controlled and uterus contracts. If bleeding persists, complements or replaces this compression with compression of abdominal aorta and refers immediately to a higher-level facility.				
7. Verifies that the uterus has contracted.				

When the participant says that he/she has finished, tell him/her the following: **“Very good. Now, please tell me what more you would do or ask that someone else do once you have finished the procedure.”** Observe if he/she mentions the steps listed below. It is not necessary that the participant perform each step, but it is required that he/she mention each step.

C. Post-procedure: Bimanual Uterine Compression	EVALUATION			
	Done correctly	Done incorrectly	Not done	Not observed
1. Submerges both gloved hands in a 0.5% chloride solution.				
2. Removes the gloves, turning them inside out.				
3. If gloves are to be disposed of, he/she throws them into a bio-hazard waste receptacle or plastic bag. If gloves are to be reused, he/she submerges them in a 0.5% chloride solution for 10 minutes to decontaminate them.				
4. Thoroughly washes his/her hands with soap and water and then dries them.				
5. Monitors vaginal bleeding every 15 minutes for the first hour and every 30 minutes in the second hour.				
6. Monitors vital signs.				
7. Makes sure that the uterus remains firmly contracted.				
8. Explains to the woman what was done.				
9. Answers the woman’s questions.				

Observer: provide appropriate feedback to the participant. Answer any questions, and demonstrate or describe how to correctly perform any steps the participant may have done incorrectly.

**“Thank you very much Dr./Sr./Mr./Mrs/Ms \_\_\_\_\_. Please continue on to the next station.”**

**Comments on the participant’s performance. Please describe any specific errors or problems. Continue on other side if necessary.**

**QAP MATERNAL HEALTH EVALUATION  
OBSERVATION 4: IMMEDIATE NEWBORN CARE**

Date: 

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 Province: 

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 District: 

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dd      mm      yyyy

Participant study ID No. 

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 Evaluator: 

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**Instructions to the Observer**

*Please read the following statements aloud EXACTLY AS THEY ARE WRITTEN, without adding or leaving out anything. This will avoid bias and provide each participant with the same orientation.*

**“Good morning/afternoon Dr., Mr., Ms. \_\_\_\_\_, I am \_\_\_\_\_. Welcome and thank you for participating. Please make yourself comfortable and don’t feel anxious. I will explain the exercise; please ask me if you have any questions about what you are supposed to do. At this station we will simulate the immediate care that a newborn should receive after a normal delivery. We will work with mannequins, but when you do the exercise, please act as if you were working with an actual patient. Imagine that you are in a health facility in a rural area with only basic equipment and that the mother is present.**

**“You may use any of the equipment and supplies you see here. (*Observer indicates to the participant with a gesture the available equipment and supplies*).**

**“We will assume that you have already taken appropriate infection prevention measures. Please demonstrate the routine care you would provide for a newborn from the moment of birth. Please perform the steps in what you feel is the correct order. As you go along, please explain to me verbally everything you are doing. Be sure to mention every detail, even if it seems insignificant or routine. If you need help, I can act as your assistant; you may ask me to do anything you would normally ask of an assistant. Once you have finished, please tell me what additional steps you would take or assign to another person. Do you have any questions?”**

*Observer: answer any questions the participant may have. Once the participant has no more questions say:*

**“You may begin whenever you are ready.”**

*Keep the mannequin out of the participant’s sight until he/she says that he/she is ready to begin. Then hand the mannequin to the participant just as if you were handing a newly delivered baby to an assistant after doing a delivery.*

**CONTINUE ON NEXT PAGE**

**QAP MATERNAL HEALTH EVALUATION  
OBSERVATION 4: IMMEDIATE NEWBORN CARE**

<b>A. Administering immediate care to the newborn</b>	<b>Evaluation</b>			
	Done correctly	Done incorrectly	Not done	Not observed
1. Places the newborn with head slightly below body to stimulate liquid drainage.				
2. Checks the newborn's respiration.				
3. Dries newborn from head to foot.*				
4. Places the clamp and cuts the umbilical cord.				
5. Places the newborn in skin-to-skin contact with the mother, and covers the baby with a warm dry cloth.				
6. Takes newborn's temperature before the newborn leaves the delivery room.				

\* *Note: steps 1–3 should happen nearly simultaneously. The participant should begin to dry the newborn immediately and NOT wait until after performing other tasks.*

*Once the participant says that he/she has finished, say the following: “Thank you. Now please explain the tasks that you would perform or assign to another person after having finished.”*

Verify that the participant mentions the steps described in the table below. For this final section, it is not necessary that the participant complete each step, however, it is required that he/she mention the step.

<b>B. Immediate newborn care: Tasks following the initial procedures</b>	<b>EVALUATION</b>	
	YES	NO
1. He/she gives the mother information.		
2. He/she offers information about breastfeeding in the first hour following the birth.		
3. He/she writes information relevant to mother and newborn in the medical record.		

*Observer: Once the participant has finished, give him/her feedback on the performance and correct any mistakes you may have seen. Then thank the participant and send them on to the next station.*

**Comments about the participant's performance (please describe any specific errors or problems):**

**QAP MATERNAL HEALTH EVALUATION**  
**OBSERVATION 5: NEONATAL RESUSCITATION WITH AMBU BAG**

Date:         Province:  District:   
dd mm yyyy

Participant study ID No.   -       Evaluator:

**Instructions to the Observer/Evaluator**

*Please read the following statements aloud EXACTLY AS THEY ARE WRITTEN, without adding or leaving out anything. This will avoid bias and provide each participant with the same orientation.*

**“Good morning/afternoon Dr, Mr., Ms. \_\_\_\_\_, I am \_\_\_\_\_. Welcome and thank you for participating. Please make yourself comfortable and don’t feel anxious. I will explain the exercise; please ask me if you have any questions about what you are supposed to do. At this station we will simulate the neonatal resuscitation. We will work with mannequins, but when you do the exercise, please act as if you were working with an actual patient. Imagine that you are in a health facility in a rural area with only basic equipment and that the mother is present.**

**“The equipment available to you is: a rubber bulb syringe, infant face mask, and Ambu bag, but no oxygen. Remember that the mother is present.**

**“Once again, we assume that you have taken the necessary infection prevention measures and that you have gathered the necessary equipment and supplies. Just like in the previous exercise, please demonstrate the steps in what you feel is the correct order. As you go along, explain the details of everything you are doing, even if it seems insignificant or routine. If you need help with anything, you can pretend that I am your assistant and tell me what you need me to do. Once you have finished, please tell me what additional steps you would take or assign to another person.**

**“Do you have any questions?”**

*Observer: Answer any questions the participant might have. Once the participant has no more questions to ask say:*

**“You may begin whenever you are ready.”**

*Keep the mannequin out of the participant’s sight until he/she says that he/she is ready to begin. Then hand the mannequin to the participant just as if you were handing a newly delivered baby to an assistant after doing a delivery.*

Resuscitation using ambu	Evaluation			
	Done correctly	Done incorrectly	Not done	Not observed
1. Places the newborn’s head in slightly extended position so as to open the airway.				
2. Covers the newborn, except the face and chest.				
3. Permeates the air passage with suction, first from the mouth and then from the nose.				
4. Re-evaluates the newborn after the suction and gentle tactile stimulation.				
5. If the newborn is not breathing, he/she places the mask over the baby’s face so that it covers the chin, mouth, and nose.				
6. Establishes a seal between the mask and the baby’s face.				

**QAP MATERNAL HEALTH EVALUATION**  
**OBSERVATION 5: NEONATAL RESUSCITATION WITH AMBU BAG**

Resuscitation using ambu	Evaluation			
	Done correctly	Done incorrectly	Not done	Not observed
7. Verifies the seal by ventilating with 2 fingers (or the entire hand, depending on the size of the bag), compressing the bag 2 or 3 times and watching for the chest to rise.				
8. If the newborn's chest does not rise, the participant repositions the head, suction and tries again to ventilate.				
9. Once the seal has been established, he/she ventilates (squeezing the bag), approximately 40 to 60 times per minute (short, rapid and delicately).				
10. After 30 seconds, he/she evaluates by watching the respiration, heart rate, and coloring.				

*Observer: Ask the participant: “How would you know or recognize if the resuscitation was successful, and what would you do in this case?”*

	Done correctly	Done incorrectly	Not done	Not observed
11. The breathing would be stable (> 30 per minute).				
12. Heart rate would be more than 100 per minute.				
13. The newborn's coloring would be pink.				
14. Place the baby in direct contact (skin against skin) with the mother.				
15. Closely monitor newborn's respiration for 5 minutes.				

*Observer: Ask the participant: “How would you know or recognize if the resuscitation was not successful, and what would you do in this case?”*

	Done correctly	Done incorrectly	Not done	Not observed
16. A rapid assessment shows that the baby is not breathing, or the rate of respiration is less than 30 per minute.				
17. The heart rate is less than 100 per minute.				
18. The newborn's coloring is bluish or pale.				
19. I would continue with the ventilation at 40 to 60 compressions per minute.				
20. Make the necessary preparations for the transfer of the newborn to a referral facility.				

**Continue on next page**

**QAP MATERNAL HEALTH EVALUATION**  
**OBSERVATION 5: NEONATAL RESUSCITATION WITH AMBU BAG**

*Observer: Ask the participant: “What more would you do when the procedure is finished? Remember to tell me when you have finished the procedure.”*

	Evaluation	
	Yes	No
Inform the mother about what has happened		
Write information relevant to the mother and newborn in the clinical record.		
Make sure that the equipment is appropriately decontaminated and clean.		

**“Thank you very much for your participation, Dr./ Mr./Ms. \_\_\_\_\_. You have now completed all the skills evaluations and are free to go. Please do not discuss what you have done with anyone who is still waiting. You may discuss freely with anyone like you who has completed all the exercises.”**

**Comments about the participant’s performance:**

**QAP MATERNAL HEALTH EVALUATION  
HEALTH FACILITY ASSESSMENT**

**Instructions to participant:** Please assist one of our observers by helping to complete the following facility assessment. You may need to consult with one or more team members in your facility and gather some information from facility registers, logbooks and other records.

**Date:**

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**Province:**  **District:**  **Facility name:**

dd            mm            yyyy

**Facility type:**     District Hospital     Sub-District Hospital     Health Centre     Other

**Evaluators participating in the assessment:**

Name	Position	Qualification
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

**A. Human Resources**

(Data collected by REVIEW of records, if available, or by REPORT of in-charge)

A.1	Staff complement	Comments						
<b>Standard: Minimum required staff cadres</b>								
<b>Data Source: Staff inventory (for cadre of staff required and available) AND current duty roster (availability for 24 hours a day duty)</b>								
	Cadre	Number required	Number available	No. trained in LSS/EmOC	No. trained in last 6 months	No. trained in last year	No. trained in last 2 yrs	No. trained in last 5 yrs
	Obstetrician/gynecologist							
	Medical Officer							

**QAP MATERNAL HEALTH EVALUATION  
HEALTH FACILITY ASSESSMENT**

A.1	Staff complement						Comments	
<b>Standard: Minimum required staff cadres</b>								
<b>Data Source: Staff inventory (for cadre of staff required and available) AND current duty roster (availability for 24 hours a day duty)</b>								
	Cadre	Number required	Number available	No. trained in LSS/EmOC	No. trained in last 6 months	No. trained in last year	No. trained in last 2 yrs	No. trained in last 5 yrs
	Clinical Officer							
	Midwife							
	Nurse							
	Anesthetist							
	Records Officer/Assistant							
	Lab technologist/Assistant							
	Pharmacists/Assistants							
	Other staff (specify)...							
<b>Comments (including shift rotations):</b>								

**QAP MATERNAL HEALTH EVALUATION  
HEALTH FACILITY ASSESSMENT**

**B. Infrastructure (data collected by OBSERVATION)**

<b>Does the facility have:</b>		<b>Yes</b>	<b>No</b>	<b>N/A</b>
B1	Clean running water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B2	An accessible source for clean water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B3	A reliable source of light during the day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B4	A reliable source of light at night?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B5	A private area for exams?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B6	Clean and functional latrines or toilets?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B7	An environment generally free from litter and medical waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B8	Rubbish pit or other appropriate waste disposal system <i>in use</i> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B9	An incinerator or placenta pit in working order?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B10	A generator set and electricity in working order?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B11	A telephone or radio transmitter in working order?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B12	A refrigerator in working order?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B13	An ambulance or other vehicle in good repair and available for transport?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B14	If a working vehicle is available, does it have fuel at the present time?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments:**

**C. Processes – confirm by OBSERVATION**

<b>Does the facility have/has it done:</b>		<b>Yes</b>	<b>No</b>	<b>N/A</b>
C1	Written maternal health standards accessible to all MCH personnel?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C2	If so, is there concrete evidence that the standards are being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C3	A defined system or algorithm for triage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C4	A defined algorithm for managing obstetric emergencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C5	An up-to-date delivery register or log book?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C6	An up-to-date theatre log book?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C7	A register for obstetric complications?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C8	A team-based emergency management training in past 12 months?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments:**

**QAP MATERNAL HEALTH EVALUATION  
HEALTH FACILITY ASSESSMENT**

D.	Essential drug stocks (confirm by OBSERVATION)	In stock now?		Days stocked out last full month?	Days stocked out last full year?
		<input type="checkbox"/> Yes	<input type="checkbox"/> No		
D1	Ampicillin or equivalent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D2	Gentamicin or equivalent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D3	Metronidazole or equivalent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D4	Cefazolin or equivalent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D5	Cotrimoxazole	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D6	Syntocinon (Oxytocin)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D7	Ergometrine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D8	Prostaglandin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D9	MgSO <sub>4</sub> (Magnesium Sulfate)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D10	Diazepam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D11	Sulfadoxine-Pyramethamine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D12	Artemisinin combination therapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D13	Quinine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D14	Saline or Ringer's Lactate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D15	Dextrose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D16	Antiretrovirals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D17	Hematinics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D18	Tetanus Toxoid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D19		<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D20		<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D21		<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
D22		<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

**Comments:**

## QAP MATERNAL HEALTH EVALUATION HEALTH FACILITY ASSESSMENT

E. Essential equipment	Yes	No
E1 Functional ambu bag?	<input type="checkbox"/>	<input type="checkbox"/>
E2 Functional blood pressure cuff?	<input type="checkbox"/>	<input type="checkbox"/>
E3 Functional adult stethoscope?	<input type="checkbox"/>	<input type="checkbox"/>
E4 Functional fetal stethoscope?	<input type="checkbox"/>	<input type="checkbox"/>
E5	<input type="checkbox"/>	<input type="checkbox"/>
E6	<input type="checkbox"/>	<input type="checkbox"/>
E7	<input type="checkbox"/>	<input type="checkbox"/>
E8	<input type="checkbox"/>	<input type="checkbox"/>

**Comments:**

### F. FACILITY CAPACITY, WORK LOAD, AND PRACTICES IN OBSTETRICS

In this facility, what is the total of number of beds in acceptable condition?		Total beds	<input type="checkbox"/>	Obst. beds	<input type="checkbox"/>	Gyn. beds	<input type="checkbox"/>
		Yes	No	N/A			
F1	Are labor and delivery services available 24 hours per day Monday-Friday?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
F2	Are labor and delivery services available 24 hours per day on weekends?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
F3	Is there an operating theatre available? (OBSERVE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
F4	If so, is it available 24 hours per day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
F5	Are partograph forms currently in stock? (OBSERVE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
F6	Ask to see a current record. Does it contain a completed partograph?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
F7	Is active management practiced here for ALL vaginal births?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
F8	Ask to see a current record. Does it indicate use of active management?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
F9	Is there a blood supply available for transfusions 24 hours per day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
F10	Are anesthesia services available 24 hours every day?*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
F11	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
F12	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

**Comments:**

\* Anesthesia services include *both* anesthesia and a professional trained to apply it. If one is available but not the other, answer "No."

## QAP MATERNAL HEALTH EVALUATION HEALTH FACILITY ASSESSMENT

Write down the number for each blank.

*If the number cannot be reliably determined, write down CBD*

	<b>Last month</b>	<b>Last 12 months</b>
How many deliveries have taken place?	_____	_____
How many c-sections have taken place?	_____	_____
How many maternal referrals have occurred?	_____	_____
How many maternal deaths in this facility?	_____	_____
How many maternal deaths elsewhere after referral from this facility?	_____	_____
How many cases of postpartum haemorrhage?	_____	_____
How many cases of eclampsia?	_____	_____
How many cases of obstructed labor?	_____	_____
How many cases of ruptured uterus?	_____	_____
How many cases of post-abortion complications?	_____	_____
How many blood transfusions?	_____	_____
How many neonatal referrals?	_____	_____

Comments:

## Appendix B: List of Equipment and Supplies Needed to Perform Assessment

Skill Observation	Equipment and Supplies Needed
1. Active management of third stage of labor  2. Manual removal of the placenta  3. Bimanual uterine compression	<ul style="list-style-type: none"> <li><input type="checkbox"/> Examination table or other clean surface for placing the anatomic model</li> <li><input type="checkbox"/> Anatomical model of patient, pelvic cavity</li> <li><input type="checkbox"/> Clamp of the umbilical cord</li> <li><input type="checkbox"/> Disposable gloves</li> <li><input type="checkbox"/> Clean sheets</li> <li><input type="checkbox"/> Stethoscope</li> <li><input type="checkbox"/> Sphygmomanometer</li> <li><input type="checkbox"/> Medium speculum</li> <li><input type="checkbox"/> Suture thread</li> <li><input type="checkbox"/> Gauze and sterile dressing</li> <li><input type="checkbox"/> Tourniquet</li> <li><input type="checkbox"/> Receptacle with prepared chlorine solution</li> <li><input type="checkbox"/> Water and soap</li> <li><input type="checkbox"/> Scissors, tweezers, sticking plaster, 5 cc syringes</li> <li><input type="checkbox"/> IV Liquids (Hartman, normal saline solution, and DW5%)</li> <li><input type="checkbox"/> Oxytocin, Ergometrine, Vitamin K, and Adrenaline</li> <li><input type="checkbox"/> Ampicillin, Metronidazole in tablets and IV, Cefazoline</li> <li><input type="checkbox"/> Appropriate receptacle to discard gloves, etc.</li> <li><input type="checkbox"/> Stopwatch or clock</li> </ul>
4. Immediate newborn care  5. Neonatal resuscitation (ambu bag and face mask)	<ul style="list-style-type: none"> <li><input type="checkbox"/> Examination table or other clean surface for placing the anatomical model</li> <li><input type="checkbox"/> Anatomical model of newborn</li> <li><input type="checkbox"/> Cloth or towel for drying the newborn</li> <li><input type="checkbox"/> Straight scissors, umbilical cord clamp</li> <li><input type="checkbox"/> Stethoscope and sphygmomanometer</li> <li><input type="checkbox"/> Rectal thermometer</li> <li><input type="checkbox"/> Ambu bag and face mask</li> <li><input type="checkbox"/> Rubber suction bulb</li> <li><input type="checkbox"/> Disposable gloves</li> <li><input type="checkbox"/> Water and soap</li> <li><input type="checkbox"/> Appropriate receptacle to discard gloves, etc.</li> <li><input type="checkbox"/> Inflatable bag</li> <li><input type="checkbox"/> Stopwatch or clock</li> </ul>

**QUALITY ASSURANCE PROJECT**

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