

EXTERNAL EVALUATION REPORT

**Support to Emergency Obstetric and
Neonatal Care (EmONC) in Liberia through
TASK SHARING**

**Submitted to: The World Health Organization (WHO) - Liberia
Ministry of Health - Liberia**

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Presented

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Abbreviations and Acronyms

AMDD	:	Adverting Maternal Deaths and Disability
BEmOC	:	Basic Emergency Obstetric care
CEmOC	:	Comprehensive Emergency Obstetric Care
CM	:	Certified Midwife
CPAP	:	Continuous Positive Airway Pressure
EmOC	:	Emergency Obstetric Care
EmNOC	:	Emergency Obstetric and Neonatal Care
FGD	:	Focus Group Discussion
HF	:	Health Facility
HR	:	Human Resource
IMR	:	Infant Mortality Rate
LDHS	:	Liberia Demographic and Health Survey
LMDC	:	Liberia Medical and Dental Council
LMDA	:	Liberia Medical Association
MCAI	:	Maternal and ChildHealth Advocacy International
MCH	:	Mother and Child Health
MDG	:	Millennium Development Goals
MMR	:	Maternal Mortality Rate
MoH	:	Ministry of Health
MOHSW	:	Ministry of Health and Social Welfare
MRH	:	Maternal and Reproductive Health

NDS : National Development Strategies
NHP&P : National Health Policy and Plan
NGO : Non-Governmental Organization
RH : Reproductive Health
TOT : Training of Trainers
UNFPA : United National Population Fund
UNICEF : United Nations Children Fund
WHO : World Health Organization

Executive Summary

Liberia went through a protracted civil war and just when it was in the middle of recovery Ebola also struck. All these developments caused major damage to the country's infrastructure and resulted in the breakdown of basic public facilities and services including health, education, water and sanitation, electricity etc. One key human resource problem for Liberia now is that there are not enough qualified medical doctors to cover the needs of the population. Currently there are about 400 doctors in Liberia in total. There are at least three main reasons for the major shortage of doctors in Liberia. One is the armed conflict that ravaged the country between 1989 and 2003. Another is that more than a quarter of doctors trained in Liberia emigrate to practice elsewhere. Some doctors after training opt to work only in well-resourced hospitals in cities rather than in rural hospitals. Some doctors (about 15%) go straight into post-graduate education in public health, thus leaving the frontline clinical care.

Liberia has a high maternal mortality rate. According to the 2013 LDHS Liberia has a maternal mortality of 1072 deaths per 100,000 live births and a neonatal death rate of 26 per 1000 live births. The non-availability of doctors providing comprehensive maternal and neonatal care services 24 hours a day is a driving factor

In September 2009 the Government of Liberia came out with a policy in which it declared that middle level cadre be provided with advanced obstetric and neonatal skills, including the ability to perform surgery, in order to increase the human capacity to address the crisis, especially maternal and newborn mortality.

In the year 2010 the President of Liberia Ellen Johnson-Sirleaf launched an ambitious five-year agenda, which sought to cut maternal mortality in Liberia by half.

In September 2013 – after a debate supported by the Ministry of Health – the Liberia Medical and Dental Council (LMDC) granted provisional approval for the first two midwives to train as obstetric clinicians. This was meant to be a pilot study. Under this pilot programme experienced midwives and nurses were carefully selected by representatives of the Partnership to undertake extensive training and undergo rigorous continuous assessment, to become qualified clinicians capable of safely and independently performing advanced obstetric care, including abdominal surgery, and advanced neonatal care. Since the initial 2 trainees from 2013, another cohort of nine have been trained and ten people are currently enrolled in the training programme. With regard to intensive neonatal care, three are just completing their final examination and an additional six are currently enrolled. The programme is a combination of academic work and mostly hands-on training in hospital facilities around the country.

Results obtained from the advanced obstetric training that started in October 2013 and neonatal training that started in April 2017 till date shows that the task sharing initiative is contributing to improved maternal and neonatal health outcomes throughout Liberia (especially rural Liberia), helping to save and improve the lives of many Liberian women (and adolescent girls) and their babies.

After six years of implementation of this initiative the Ministry of Health has decided to conduct an independent evaluation of the programme for the obstetrics clinicians and the neonatal clinicians. With funding support from Irish AID and the facilitation of WHO Liberia, the government of Liberia engaged two independent consultants to conduct an independent evaluation of this project. The aim of this independent evaluation was to look at all aspects of the project, from the selection of participants to training and practice. This would also include the environment in which the trainees function – how enabling is their environment? How supportive are the clinical leaders under whom they operate? How is the laboratory support service?; availability of job aids in the facility etc. The analysis identified a focus on clinical tasks, looking at all the nine signal functions that must be mastered under comprehensive emergency obstetrics care training. Findings indicate that shifting and sharing these tasks may increase access to and availability of maternal and reproductive health (MRH) services without compromising performance or patient outcomes and are cost effective.

Summary conclusions

Medical Directors in every single one of the facilities visited by the evaluating team were very satisfied both with the performance of the trainees and the overall relevance of the task-sharing initiative. There is definitely the need to scale up these two projects.

The other area the evaluating team explored, even though it was outside of their terms of reference was the availability or lack of anesthesia capacity at the facilities. Every medical director the team met agreed that, on similar lines as the training of the obstetrics clinicians and the neonatal nurses, there needs to be an initiative under which anesthetist nurses will undergo advanced training.

The evaluation team firmly concludes based on the assessment that until the numbers of doctors in Liberia improve significantly and many doctors are prepared to deploy to the remote areas to work, the rationale behind the 2009 government policy of capacitating middle level cadre still holds and the task sharing initiative is not only necessary but critical to reducing maternal and neonatal mortality in Liberia. The team therefore makes the following recommendations:

Recommendation to Government of Liberia and supporting partners:

The task sharing initiative was started because of the very high maternal and neonatal mortality rates in Liberia and the lack of qualified doctors to address the problem. This evaluation has clearly demonstrated that the training provided under the task sharing initiative has been successful. Trained midwives are successfully performing all the nine signal functions, including performing a caesarian section, with very minimal fatality. Neonatal care has been revolutionized in the facilities where we find the trained persons in intensive neonatal care. It is unfortunate there are voices from the highest echelons of the Liberian Medical Association community calling for abolishing this programme. The facts are not on their side. The problem of high maternal mortality is still there and the acute lack of doctors to deploy everywhere is still a very critical problem. The evaluating team therefore recommends as follows:

1. Until the country is endowed with enough doctors to address the problem of lack of technical human capacity at all levels, particularly in the rural areas, this programme must be continued and must be scaled up. Expand the program both for the OB clinicians and the neonatal nurses.
2. Establish a course similar to the obstetric and neonatal clinician course for training nurse anesthetists.
3. Provide a University degree to individuals graduating from this programme after three years
 - Need to align this training to a nursing (university) school for the degree status
 - Need to discuss an appropriate name or designation for graduates of this programme so that it is clear that they still remain nurses and midwives after their training. To avoid all confusion about their designation, government should streamline the designation given to graduates of this programme, to reflect the fact that going through this training programme successfully does not turn them into medical doctors and that they remain nurses and midwives with advanced technical skills to enable them better assist doctors, where there are doctors present but also to manage things on their own, where there are no doctors present.
4. The expression “clinician” may create confusion in the minds of some individuals in the Liberia medical community. Instead of calling them Obstetric clinicians and neonatal clinicians the evaluation team suggests we designate them as follows
 - Advanced midwife practitioner (for those who undergo obstetrics training)
 - Advanced neonatal nurse practitioner (for those undergoing the neonatal programme) and
 - Advanced nurse anesthetist or advanced anesthesia nurse (when that programme is initiated)
5. To keep the graduates motivated, the three programmes should all be streamlined to a three-year programme. At the end of the three years graduates from this training should be awarded with a bachelor’s degree. Many nurses are leaving the hospital to go and undertake three-year degree courses. These individuals going through this training could opt to do same. By awarding them with a bachelor’s degree will help minimize attrition among their ranks.
6. There is a discrepancy in the opinion expressed by some members of the higher echelons of the LMDC and LMDA. The evaluating team assumes that all doctors in Liberia fall under the LMDC and are members of the LMDA. In all the facilities the evaluation team visited, clearly the senior medical personnel in those facilities, particularly the medical directors were extremely supportive of the initiative and gave attention to the development of the students of the Task Sharing programme. They all expressed the need for this programme. It was mostly junior doctors who expressed misgivings about the programme and were filled with misinformation about the programme. The team recommends that the Ministry of Health presents the facts as they are to the leadership of the LMDC and LMDA and also educate the rest of the membership of the LMDA about the seriousness of maternal and neonatal mortalities and about the government policy that led to the establishment of this programme and the need for a collective effort to address maternal and neonatal mortality by any means necessary, including Task Sharing.
7. The current practice of recruitment from rural counties is recommended to continue as it is a way of avoiding or reducing attrition.

8. The Ministry should consider appropriate remuneration for this cadre of health workers; creating a different salary scale for them will be a good motivational factor.
9. After completing this programme the obstetric clinicians and the neonatal clinicians still remain nurses and midwives and therefore their licensing should be provided by the Nursing and Midwifery Council so as to avoid the misunderstanding that these are somehow junior doctors. These licenses should clearly indicate where each individual is to work with revocation of said license if the worker moves away (unless the move is directed by the Ministry of Health).

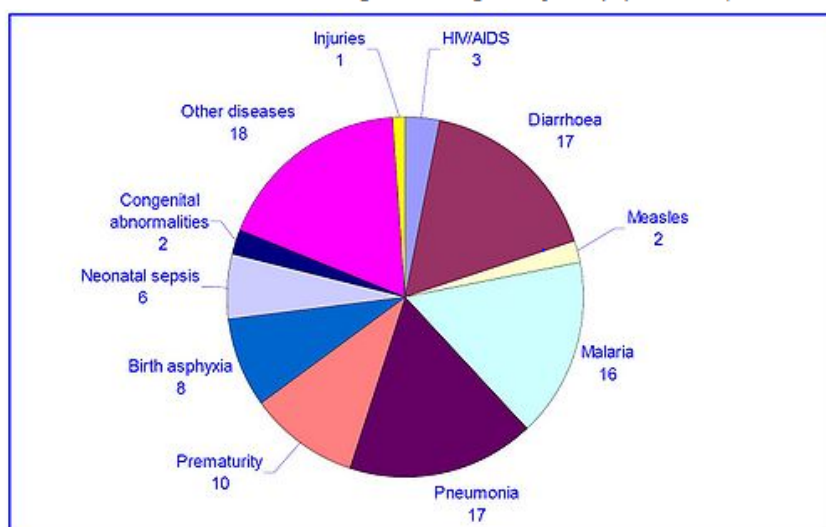
1. Introduction

Reducing maternal mortality and providing universal access to reproductive health in resource poor settings has been severely constrained by a shortage of health workers required to deliver interventions. Globally each year, more than 303,000 women die from complications of pregnancy and childbirth – that is one woman die every minute (WHO 2015). The complications include Antepartum hemorrhage, postpartum hemorrhage, obstructed labor as well as sepsis and many more survive but will suffer ill health and disability as a result of these complications. In addition, an estimated 4 million neonatal deaths occur each year accounting for almost 40% of all under 5 deaths (Goulet 2013). Three-quarter ($\frac{3}{4}$) of all these deaths occur in Asia and sub-Saharan Africa (Godin et al., 2010).

It is believed that the third factor cannot be prevented at the primary level with the existing available doctors providing 24 hours a day for comprehensive maternal and neonatal care services. Given the evidence of continuous reported deaths, community dwellers and families may be reluctant to go to a health facility (clinic, health center and hospital) for the purpose of giving birth if the end results often lead to deaths. As a consequence, radical decisions could be made by relatives and family members including pregnant women / mothers staying away from the health facility to deliver at home which also carries its own risk if done in the absence of a trained provider. Approximately 15% of expected births worldwide will result in life-threatening complications during pregnancy, delivery, or the postpartum period [21]. Providers skilled in Emergency Obstetric and Newborn Care (EmONC) services are therefore essential, particularly in countries with a high burden of maternal and newborn mortality like Liberia (Harris J., et al, 2011). The problems are compounded by the limited number of staff trained in advanced maternal and neonatal care service provision available and working 24 hours daily.

Additionally, the health of the neonate is closely related to that of the mother and majority of deaths in the first month of life could also be prevented if interventions were in place to ensure good maternal health (Bluestone et al 2013). Over 80% of all maternal deaths result from five well understood and readily treatable complications: (1) hemorrhage, (2) sepsis, (3) eclampsia, (4) complications of abortion/miscarriage and (5) obstructed labor. It is well known how to prevent these deaths – there are existing effective medical and surgical interventions that are relatively inexpensive. To reduce maternal mortality, it is important that all women have access to maternal health care services, particularly skilled attendance at birth and timely access to Essential (or Emergency) Obstetric Care (EOC) when an obstetric complication occurs (WHO 2010).

Distribution of causes of death among children aged <5 years (%) in Liberia, 2008



Source : WHO

1.1 Some historical perspective

Following fourteen years of civil war (1989-2003), Liberia's healthcare system was devastated. Most health professionals had fled or died during the fighting. In 1988, prior to the war, there were 3526 persons employed in the public health sector. By 1998, this number had reduced to 1396, with only 89 physicians and 329 nurses. Health professionals began leaving Liberia to seek better opportunities when the country's economic growth began to slow during the late 1970s. In 1989 National Patriot Front forces, led by Charles Taylor, entered Liberia from Côte d'Ivoire and unseated the Doe government. By 1990 most medical specialists had left Liberia leaving only general practitioners. For health workers that did remain in Liberia during the war, salary payments stopped and food became payment for work. In 2006, Ellen Johnson-Sirleaf, was inaugurated as President of Liberia. By this time, there were less than 20 physicians, as compared to the 237 that had worked in the sector pre-war. Nurses made up the majority of the remaining workforce. By 2006, there were 668 nurses (registered nurses, and licensed practical nurses) and 297 certified midwives. Together with an additional 1091 nurse aides, they provided the majority of primary care. Liberia's health sector continues to face a severe shortage of qualified health workers across all cadres except nurses.

Following the inauguration of the Johnson-Sirleaf administration in 2006, MOH initiated three reform actions in line with the national development priorities to strengthen healthcare delivery and outcomes in Liberia: (1) Build an experienced and visionary leadership team, divorced from political agendas; (2) Strengthen partnership and coordination to mobilize resources, align programs and harmonize all sector efforts; and (3) Develop and implement an evidence-based National Health Policy & Plan (NHP&P) to unify vision and direction for Liberia's post conflict health sector reform process. Liberia's Emergency HR Plan 2007-2011 had four objectives: (1) Enhance a coordinated approach to HR planning; (2) Increase the number of trained health workers and their equitable distribution; (3) Enhance health worker performance, productivity and retention; and (4) Ensure gender equity in employment especially in management positions. Although targets were set for the recruitment and production of all cadres of health workers, nurses and midwives were prioritized as a means of addressing the high maternal and infant mortality rates in Liberia. To increase the number

of trained health workers, MOHSW took several measures to accelerate the development and recruitment of nurses and midwives. In 2009, the percentage of the clinical workforce made up by nurses and nurse aides increased to 73%. Liberia has been using Task Sharing to increase service availability with limited HR since 1958 when the school for PAs was created to address the shortage of physicians in the country at the time. In recent years, however, the severe shortage of health workers at all levels has heightened the urgency of shifting tasks from highly trained providers to available staff with less training. As a result, throughout the war and in the years immediately following it, widespread, informal Task Sharing took place. MOH has begun formalizing Task Sharing to ensure quality and safety. Focusing on the largest cadre of health workers, four areas are being task-shifted to nurses, midwives and nurse aides: 1. In addition to physicians and PAs, RNs and CMs will be trained to do emergency obstetric and neonatal care (EmONC) including caesarean sections at hospitals and health centers; 2. Nurse aides will be trained to be vaccinators across all facility types; 3. With only one psychiatrist in the country, nurses and nurse aides will be trained to provide mental health services.

1.1.1 The Addis Ababa Conference on Task-shifting June 2009

In June 2009 Liberia participated in the regional conference that took place in Addis Ababa in Ethiopia (June 29-July 2, 2009), which alluded to the following, *“Human Resources for Maternal Survival: Task-Shifting to Non-Physician Clinicians”*. Its focus was on recruitment and training of mid-level health workers to reduce maternal and neonatal mortality in Africa. More than 350 participants from 29 African countries attended this event. A delegation from Liberia also attended the conference, Dr. John K. Mulbah, Dr. Lawrence Sherman, Dr. Taban J Dada, Mrs. Cecelia Morris, Ms. Esther Lincoln and Dr. Philderald Pratt, Mrs. Vivian Cherue (Deputy Minister for Administration in the Ministry of Health).

The Liberian delegates were made aware of the fact that this 2009 conference had been developed based on a series of national workshops organized in 2008:

- In Addis Ababa (by UNFPA) in April 2008, with participation from all Ethiopian university settings to be involved in training of NPCs in Ethiopia.
- In Dar-es-Salaam (by AMDD) in May 2008 reviewing the evidence elaborated in Kigoma and Mwanza regions on the importance of NPCs to contribute to life-saving skills in Emergency Obstetric Care (EmOC).
- In Maputo (by AMDD) in June 2008 enabling all trained “técnicos de cirurgia” in the country to be presented as the evidence on quality of care provided by TCs in Mozambique since 1987.

Each country was then given time to develop country-specific plans. The innovations proposed by the Liberian team were as follows:

1. Task Sharing to NPCs; Physician Assistants (PAs), Registered Nurses (RNs) and Certified Midwives (CMs) to provide quality emergency and essential obstetric and newborn care including resuscitation.
2. Increase and ensure the number of health facilities (HF) providing basic emergency obstetric and Newborn care (BEmONC) and comprehensive emergency obstetric and Newborn care (CEmONC).
3. Ensure that all NPCs are trained to perform at least 7 of the 10 signal functions.

1.2 The 2009 Policy calling for providing surgical skills to middle level cadre

In 2009, under the Emergency Human Resource plan for 2007 – 2011, the government of Liberia came out with a bold policy document. It is unambiguously stated in that policy:

SUSTAINABILITY AND EFFICIENCY

Given the current shortfall of qualified health workers in Liberia, all existing human resource capacity must be harnessed to improve healthcare delivery. Meeting the surgical needs of women with complications during delivery is an essential service that must be available at all times. It will take several years before Liberia is able to train and employ enough physicians to adequately meet this need in the health system. The establishment of a cadre of midlevel health workers trained in emergency obstetric surgery will maximize the capacity of existing human resources and also ensure a sustainable strategy for providing quality emergency obstetric surgical care for women in Liberia.

Excerpt from the 2009 “Liberia mid-level Health Providers draft Policy” – 29th October 2009

1.3 In 2010 - President launches ambitious plan to cut maternal and neonatal death by half in 5 years

In 2010 Liberian President Ellen Johnson-Sirleaf launched an ambitious five-year plan to reduce maternal and newborn deaths in Liberia. The plan was launched in Monrovia during ceremonies to mark International Women’s Day attended by United Nations Under-Secretary-General and Executive Director of UN Women, Ms. Michelle Bachelet. At that launch the President said: “The nation thrives when mothers survive. We must strive to keep them alive.”

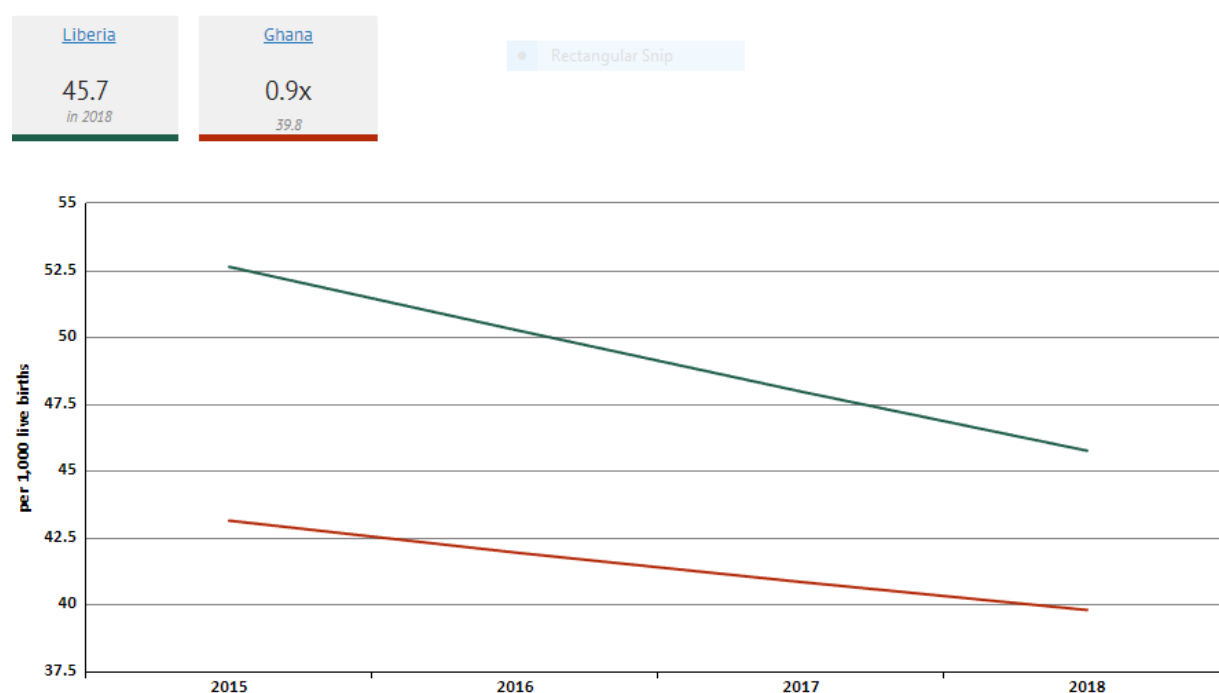
The plan sought to halve Liberia’s high rate of maternal and newborn death within five years. The plan called for increasing the number of skilled birth attendants at all levels of the health care system by 50 per cent; providing around-the-clock access to quality basic and emergency obstetric and newborn care; strengthening community management of services, and increasing coverage, access to, and utilization of family planning services. It called upon the Government and its partners to mobilize support for implementation and to forge new partnerships between the Government and communities, non-governmental organizations, development partners and the private sector.

Liberia has a high maternal death rate. In 2013, the country’s maternal death rate was 1,072 per 100,000 live births and a neonatal death rate of 26 per 100 live births (LDHS 2013). The LDHS report also cites three associated factors, namely: 1) delay in recognizing the presence of a life-threatening emergency in the community; 2) delay in reaching a hospital with appropriate facilities and staff to treat the emergency; and 3) delay in recognizing the emergency by staff at the hospital and subsequent delay in providing appropriate emergency treatment and management.

Table showing maternal mortality data for Liberia and a few other African countries

COUNTRY	MATERNAL MORTALITY RATIO/100,000 Live births
1. Liberia	1,072 (2013 LDHS)
2. Sierra Leone	1,100
3. Ghana	319 (2017 GDHS)
4. Kenya	448 (2013 state of the world population)
5. Zimbabwe	614 (2014 source: WHO)
6. Botswana	157 (2016 Source: WHO)
7. Zambia	224 (2015 source: CIA world factbook)
8. Nigeria	814 (2015 source: WHO)

Table comparing neonatal mortality in Liberia and Ghana



Source: WHO

1.4 Partnership to initiate task sharing project in Liberia

In order to improve hospital-based maternal and neonatal care throughout Liberia and in line with the 2009 policy and the agenda launched by the President of Liberia in 2010, a Partnership operating under a Memorandum of Understanding between the Liberia Ministry of Health, WHO Liberia and UNFPA Liberia and the Scottish charity MCAI agreed to start an innovative task-sharing project in advanced obstetric care and later a similar task-sharing project in advanced neonatal care, in line with the dictates of the policy of 2009 that clearly spelt out that the establishment of a cadre of midlevel health workers trained in emergency obstetric surgery will maximize the capacity of existing human resources and also ensure a sustainable strategy for providing quality emergency obstetric surgical care for women in Liberia.

This was meant to be a pilot study. Under this pilot programme experienced midwives and nurses were carefully selected by representatives of the Partnership to undertake extensive

training and undergo rigorous continuous assessment, to become qualified clinicians capable of safely and independently performing advanced obstetric care, including abdominal surgery, and advanced neonatal care.

At the time of the signing of the MOU in 2013, there were only 298 doctors in Liberia (1 for 15,000 persons), 203 of who were Liberian doctors (1 for 22,000 persons) and the other 95 being international doctors. Additionally, there were only ten obstetricians based in only 3 out of the 15 counties, with 6 Obstetricians resident in the capital, Monrovia. The 15 counties in Liberia, 75% (the most rural) each have only 1 or 2 doctors. Today in 2019, the picture has not changed significantly. There are even fewer doctors in Liberia today than in 2013. The information available indicates there are 245 doctors in Liberia today.

This landmark task-sharing project in advanced obstetrics is in its sixth year and has led to ten qualified obstetric clinicians with ten new trainees enrolled into the programme. It is indicated that the success of this project has recently led to the task-sharing project in advanced neonatal care, which began in April 2017 and initially supported three trainees. The WHO has funded an additional six trainees in advanced neonatal care and who are also currently in training. Results obtained from the advanced obstetric training in October 2013 to the beginning of November 2017, a total of 1,654 Caesarean sections have been undertaken by the first 11 trainee obstetric clinicians. Improved neonatal care can be shown by the number of neonates that have received nasal CPAP for life-threatening breathing difficulties. Records show that sixty-five babies with respiratory failure were successfully treated with nasal CPAP and discharged home from 1st August 2017 to end November 2017.

2.0 Independent consultancy

Under this consultancy therefore, evidence and information generated by the evaluation will help in the development of a National Reproductive, Maternal, Child, Neonatal and Adolescent Health Strategic Plan for Liberia. Scaling-up the task sharing project shall be a component of the overall upcoming strategic plan development that shall place focus on producing qualified obstetric and neonatal clinicians to reduce maternal and neonatal deaths.

2.1 Evaluation Purpose and Scope

Scope of work: Key activities/ milestones and tasks

To ensure the successful execution of the assignment, the following **key activities/ milestones and tasks** are envisaged:

- a. Holding briefing, debriefing and planning meetings/consultations with the WHO and leading National stakeholders
- b. Identification, gathering and reviewing of relevant documents and literature review
- c. Preparing the **Inception report** and detailed action plan / work plan
- d. Preparing the questionnaire and data collection tools and facilitation guides and framework development for enhanced and effective stakeholder participation
- e. Selection of the representative assessment sample of respondents and program areas to be consulted/ visited during the plan review process
- f. Resource identification and costing field visit

- g. Stakeholder's consultation through holding Key Informant Interviews with a representative sample of stakeholders
- h. Undertaking project site/field visits to enable stakeholder consultations to evaluate task sharing
- i. Facilitating and holding Technical Working Group meetings
- j. Facilitating stakeholder meetings to discuss the drafts of deliverables for buy-in
- k. **Drafting** validation report for consensus building through workshops/meetings
- l. Quality assurance and ensuring compliance of the terms of reference
- m. Incorporation of stakeholder comments, finalization and submission of report with recommendations

The scope of the evaluation covered the following basic issues:

- **Achievements and results:** Assessing if shifting and sharing these tasks did increase access to and availability of maternal and reproductive health (MRH) services without compromising performance or patient outcomes.
- **Efficiency:** Assessing the efficiency of the project interventions.
- **Effectiveness:** Assessing the effectiveness of the project interventions in terms of improving access to and coverage with emergency obstetric services and neonatal care and to see if the project has been the best option for responding to the particular issue of increasing capacity to address maternal and neonatal death, especially in rural areas.
- **Relevance:** Assessing the extent to which the project was responsive to the overall issues relevant to obstetric care and the extent to which it was in line with the national policies and strategic plans.
- **Partnerships:** Assessing the extent to which the project has contributed to forging partnerships at various levels between the Government of Liberia the UN and MCAI and other NGOs and the role that partners have played and will continue to play in the overall Maternal and Reproductive Health agenda in Liberia.
- **Sustainability:** Assessing how the process of selection of candidates enrolled in this programme will ensure minimal attrition in the ranks of the graduates of this program.

3.0 Evaluation Methodology

Consistent with the terms of reference, the evaluation team focused its analysis and findings on the components relevant to the task-sharing initiatives in Liberia; the acquired skills of those who have been trained; the opinion/assessment of senior medical staff in facilities where the trained midwives work; the nature of the environment in which they work on a day-to-day basis, including laboratory support; community appreciation of their work and the general sentiment of the medical community in Liberia as well as the nursing community in Liberia.

- Statistical field data was also collected from seven facilities in six counties: Grand Gedeh; Cape Mount; Montserrado; Margibi; Bong; Lofa; River Gee.
- Interviewing every single one of the individuals trained under this project, both for Obstetric care and Newborn care.

- Interviewing a selected number of health care personnel working in the delivery wards to assess their satisfaction with the work of the trained EmOC staff at the facility.
- Liaising with key stakeholders including the County health authorities of the various counties visited and the hospital management, to assess their level of comfort and satisfaction with the presence and contribution of the trained EmOC candidates, address any problems that have been encountered and consider any recommendations for the future of the task-sharing initiative.
- Gathering lessons learned from the implementation of the task-sharing initiative.
- Preparing an overall report outlining the results of the evaluation including conclusions and recommendations

3.1 Pre-evaluation meetings:

Prior to the start of the evaluation, several meetings took place with the purpose of ensuring the effective coordination between WHO and the evaluation team. These meetings laid the groundwork for the evaluation of the task-sharing initiative, the main objectives of these meeting were:

- Launch the evaluation.
- Ensure the support of the Ministry of Health for the evaluation.
- Agree on the terms of reference for the Independent Evaluation including the evaluation purpose, scope, objectives, and methodology and, management arrangements.
- Agree on the data collection methods that will be used during the field evaluation.
- Agree on the implementation timetable.
- To agree on the Inception Report.

During this pre-evaluation period, and as part of the ongoing consultation with WHO and the MOH, the evaluation team identified all facilities and stakeholders to be included in the evaluation exercise. Once facilities were identified, the evaluation team devised participatory approaches for collecting first-hand information. These included interviews, focus group discussions, observations, end- user feedback survey through qualitative and quantitative questionnaires, etc. The evaluation team reviewed the project document and progress reports, as well as other documents provided by stakeholders, to extract information, identify trends and issues, develop key questions and criteria for analysis, and compile relevant data during the preparatory phase of the evaluation. The team also reviewed relevant national strategies to identify the linkages between the project objectives and national priorities. (Please refer to Annex C for the complete list of documents reviewed)

An inception report was prepared by the Evaluation Team, outlining the evaluation framework, key challenges, if any, and implementation arrangements including a detailed work plan.

- i. Literature and document review, stakeholder meeting, training,
- ii. Interview using developed questionnaire, facility-based record review assessment data bases, data entry screens, obtaining reports for parts years / cycles

- iii. **Key informant Interviews** Medical Directors, Program Staff and Service Providers in the various hospitals responsible for implementing, supporting/ funding, coordinating and monitoring **task sharing programs**, interventions/ activities.
- iv. **Planning and consultative meetings** with the WHO and Technical Working Group (TWG) comprised of stakeholders and other relevant resource persons. The consultations with the TWG will run through the entire process starting with the inception phase and will entail several meetings over the thirty (30) days period.
- v. **Carry out field assessment and produce final report with Recommendations/key Action points**

Field visits to target districts:

Counties/ Field Visits to Service Delivery Points (SDPs) or sites/ facilities and community levels in Montserrado (Redemption Hospital), Margibi (CH Rennie Hospital), Bong (CB Dunbar and Phebe Hospitals), Lofa (Tellewoyan Hospital), River Gee (Fish Town Hospital), Grand Gedeh (Martha Tubman Memorial Hospital) and Grand Cape Mount (Sinje Health Center) counties and have **Focus Group Discussions (FGD) with managers/directors, community residents and trained service providers**. Appropriate questionnaires were developed for the purpose of carrying out structured interviews with beneficiaries from the different training programme and the leadership of the facilities. The team reviewed the task sharing programs as reflected by the physical observation and information display, through review of tools/ patient forms and reports.

3.2 Evaluation Field Activities:

In addition to site visits and interviews, the field evaluation team also conducted on-site evaluation of the quality of the technical environment in which the trained EmOC personnel provided services, including the laboratory services, pharmacy services etc. The team was able to obtain sufficient information from all facilities in order to ascertain, the achievements of the trained EmOC personnel. Records in hard copy, including logbooks were reviewed and analyzed from the participating facilities.

3.3 Review of Curriculum

The evaluation team reviewed the curriculum used for the Obstetrics clinician training to establish whether they meet internationally accepted standards. The team was able to establish that the curricula were both developed with inputs from very renowned institutions, as well as vetted by the World Health Organization and also by the appropriate authorities in Liberia.

3.4 Limitations:

The evaluation team encountered zero limitations in the field. Medical Directors in every single facility visited were friendly, forthcoming and extraordinarily cooperative. Same could be said for all other MoH staff at the facilities, including hospital administrative staff, which readily availed the evaluation team with all relevant data requested for. The MOH partners were willingly involved in the interviews, and allowed the evaluation team to review official documents, as well as facilitating the field visits for data collection.

4.0 Evaluation Findings

4.1 Achievements and Results:

This whole task-sharing initiative stems out of the 2009 Liberia Government policy “Mid-level Health Providers’ Policy,” under which government took a policy position to provide middle cadre with advanced skills, including surgical skills in order to save lives, which was followed the following year by the launch of an ambitious agenda by the President of the country to cut maternal mortality by half. The government intention and plans have been achieved in this respect, through the task-sharing programme. Furthermore, this task sharing programme was initiated in close collaboration with and the support of several development partners, as proposed by President Ellen Johnson-Sirleaf.

What is missing is to align the existing training programme for nurse anesthetists to the other two programmes.

4.2 Capacity Building

The evaluation established that this training, along with the requisite equipping of facilities, was sufficient in raising the level of knowledge and performance of the health practitioners targeted. Overall it can be concluded that the initiative achieved its mandated goal in terms of strengthening the technical skills and capacities of nurses/midwives in delivery rooms, through training to be able to handle and deal with emergency cases during delivery including bleeding, hypertension and toxemia of pregnancy. Anecdotal evidence obtained from document review and interviews during site visit suggests clearly that the quality of care and service provision (both pre- and post-natal, and during delivery) at the targeted sites improved meaningfully with the involvement of the trained clinicians.

Interview data across the targeted facilities, confirmed that staff who received training were generally satisfied with the quality of training, and affirmed that it was much relevant to real and practical needs in the areas of emergency obstetric care and maternal health.

Type of pregnancy complications	Type of Intervention	Total number performed	I = independent; A =Assistant; IS=Indirectly Supervised; DS = Directly supervised.
bstructed labour, malposition,	CS	125	I = 1 A =100 IS = 1 DS =23
Previous CS, Failed induction, Fetal distress, Others	CS	127	A = 119 DS = 8
Management major shock	Medical including anti-shock garment Emergency hysterectomy	50 3	A=22 I= 3, DS=10, IS= 15 A = 2, DS=1
APH (placenta praevia)	CS or close monitoring	11	A=9, I = 1, IS=1
APH (abruption)	CS VD	12 2	A=9, DS=2, IS=1 DS = 2
PPH	Medical management alone Additional (include condom catheter, tear repair, and hysterectomy)	40 54	A=7, I=9, DS=7, IS=17 A=25, I=6, DS=13, IS=10 0
Retained placenta	Manual removal	34	A=4, I=16, DS=5, IS=9
Severe pre-eclampsia or eclampsia	Mg sulphate +/- antihypertensive drugs alone Additional induction of labour Additional CS	51 28 28	A=10, I=28, DS=5, IS=8 I=17, IS=9, DS=2 A=25, I=1, DS=1, IS=1
Ruptured ectopic pregnancy	Laparotomy and salpingectomy	13	A=13
Complex miscarriage/abortion	Evacuation (MVA, D and C or uterotonics)	88	A=10, I=36, DS=13, IS=29
Delay in second stage	Vacuum delivery	46	A=9, I=16, DS=8, IS=13
Shoulder dystocia	Sequential procedures	6	A=2, I=2, IS=2
Breech	Vaginal breech delivery	47	A=2, I=30, DS=9, IS=6
Multiple births requiring intervention	VD +/- version (external or internal) CS	19 25	I=11, IS=4, DS=4 A=23, DS=2
Ruptured uterus	Repair Emergency hysterectomy	6 2	A=6 A=2
Major sepsis before or after birth		19	A=7, I=1, DS=5, IS=6
Cord prolapse		11	A=6, I=2, IS=1, DS=2
IUFD		59	A=25, I=14, IS=12, DS=8

Obstetric complications managed by 10 Obstetric Clinician Trainees in 3 training hospitals from March-April to Oct-Nov 2018 (Source: MCAI)
Two mothers died; one from PPH, puerperal sepsis and IUFD; one from puerperal sepsis and IUFD. All others survived.

CS = Caesarean section,
IUFD = Intra Uterine Fetal Death,
APH = Antepartum Haemorrhage,
PPH = Post Partum Haemorrhage,
MVA Manual Vacuum Aspiration,
D and C Dilatation and Curettage

Source: MCAI

Type of pregnancy complications	Type of Intervention	Total number performed	I = independent; A =Assistant; IS=Indirectly Supervised; DS = Directly supervised.
Obstructed labour, malposition, malpresentation	CS	218	I = 41 A =26 IS = 80 DS = 71
Previous CS, Failed induction, Fetal distress, Prolonged labour, Others	CS	162	I = 21 A = 29 IS = 63 DS = 49
Management major shock	Medical including anti-shock garment Emergency hysterectomy	46 7	I = 18, A = 11, IS = 11, DS = 6 I=2, A = 4, DS = 1
APH (placenta praevia)	CS	23	I=5, A=2, IS=5, DS=11
APH (abruption)	CS VD	10 2	I=1, A=1, IS=5, DS=3 I=2
PPH	1.Medical management 2.Advanced (include condom catheter and surgery)	13 61	I=5, IS=4, D=4 I=20, A=14, IS=12, DS=15
Manual removal placenta		20	I=14, A=1, IS=3, DS=2
Severe pre-eclampsia or eclampsia	Magnesium sulphate +/- antihypertensive drugs Induction of labour CS	10 11 27	I=4, A=1, IS=4, DS=1 I=8, A=1, IS=1, DS=1 I=2, A=6, IS=13, DS=6
Ruptured ectopic pregnancy	Laparotomy and resection of Fallopian tube	17	I=3, A=6, IS=5, DS=3
Complex miscarriage	Includes 3 molar pregnancies	71	I=50, A=2, IS=13, DS=6
Delay in second stage	Vacuum delivery	85	I=67, A=3, IS=9, DS=6
Shoulder dystocia	Sequential procedures	2	I=1, IS=1
Vaginal breech delivery	Sequential procedures	19	I=14, IS=5
Multiple births requiring intervention	VD CS	18 33	I=10, A=1, IS=6, DS=1 I=2, A=6, IS=19, DS=6
Ruptured uterus	Repair Emergency hysterectomy	17 5	I=4, A=5, IS=4, DS=4 I=1, A=2, DS=2
Major sepsis before or after birth		12	I=3, A=5, IS=3, DS=1
Cord prolapse		8	I=3, A=1, IS=4
IUFD		69	I=27, A=12, IS=13, DS=17

Source: MCAI

Obstetric Complications Managed by 9 Obstetric Clinician Interns in 6 rural hospitals from 21st January to 2nd December 2018

5 mothers died: 1 from acute liver and renal failure, 2 from PPH, 2 from sudden shock with respiratory failure post CS
All others survived

CS = Caesarean section,
IUFD = Intra Uterine Fetal Death,
APH = Antepartum Haemorrhage,
PPH = Post-Partum Haemorrhage,
VD = Vaginal Delivery
Some procedures occurred in more than 1 patient

Type of clinical neonatal problem	Type of Intervention	Total number performed	Outcome of babies (survived S, or died D)	Service provided by Interns (DS =Direct Supervision, IS=Indirect Supervision, IM= Independent Management)
uscitation needed at birth	FMV FMV plus chest compressions	180 43	151 29 29 14	DS = 146 IS=73 IM = 4
Preterm/low birth weight	Skin to skin (KMC) mother care. N/G feeding. Antibiotics. Respiratory support if required.	149	128 21	DS =120 IS= 25 IM = 4
Neonatal sepsis	Antibiotics. Supportive care and monitoring.	412	383 29	DS= 307; IS= 96; IM = 9
Respiratory failure	Treated with oxygen	205	183 22	DS = 144; IS = 61
Respiratory failure	Treated with oxygen and nasal CPAP	81	68 13	DS = 79; IS = 2
Meconium aspiration syndrome	Antibiotics. Respiratory support. Supportive care and monitoring.	24	19 5	DS= 13 IS =11
Hypoglycaemia	IV dextrose. Feeding.	6	4 2	DS = 2 IS= 4
Hypoxic ischaemic encephalopathy (birth asphyxia)	Anticonvulsants. Antibiotics. Oxygen. Supportive care and monitoring.	180	149 31	DS = 136 IS= 34 IM= 10
Jaundice	Phototherapy. Monitoring.	12	11 1	DS = 9 IM= 2
Fitting	Anticonvulsants. Supportive care and monitoring	71	61 10	DS = 34 IS= 36 IM= 10
Congenital malaria	IV Artesunate. Supportive care and monitoring.	42	38 4	DS = 24 IS = 6 IM= 12
Congenital abnormality	Referral as appropriate. Supportive care and monitoring.	10	8 2	DS =6 IS = 4

Advanced neonatal hospital care Managed by 4 Neonatal Clinician Interns in 2 rural hospitals in Liberia from April 2017 to October 2018

Total number of patients treated = 656, and total number survived = 584 Note the management of some babies included in more than one category (row of the Table). FMV = Face Mask Ventilation; CPAP = Continuous Positive Airway Pressure through nasal prongs.

4.3 Relevance:

Based on the information that was made available to the evaluation team through field visits, interviews and questionnaires as well as project documents, the Task Sharing initiative can be said to have been responsive to the overall issue of improving emergency obstetric care in, particularly in remote areas in Liberia.

4.4 Partnership

The main international partners involved in the implementation of the task-shifting project supporting the MoH were WHO, UNFPA, UNICEF and MCAI. This partnership has not only provided technical support to the MOH Liberia but also significant financial and material support for addressing maternal and neonatal death in Liberia.

4.5 Sustainability

This task sharing initiative was triggered by the consistent worrying data on high maternal and neonatal mortality in Liberia that the MOH has been confronted with for many years and the fact that there are not enough doctors in Liberia, generally and particularly to deploy to serve in the remote areas in Liberia. This initiative has the singular purpose of contributing to reducing the number of infant and maternal mortalities, particularly in the hard-to-reach areas. The trained midwives and nurses were mostly enrolled into the programme from counties outside of Monrovia, hoping that they will all go back to their counties of origin at the end of their training. This approach, if continued, will ensure sustainability from the point of view of staff retention in the counties.

4.6 Sustainable financing of Task sharing programme

Among the partners that support the Task sharing initiative, all are United Nations organizations except one – MCAI. The evaluating team learnt that MCAI is a family charitable organization that is largely using its family income to support this programme. It is noteworthy that MCAI single-handedly drives the intensive neonatal care programme, supporting the salary of the trainer; providing equipment for the unit and medicines. As laudable and appreciable that this family charity is, there can only be a limit to how much one family can continue to sacrifice to sustain and scale up this programme. The UN partners will need to lead in mobilizing other donor financial resources to ensure sustainability of programme.

4.7 Standardization:

Several nurses in Liberia are attempting to improve themselves by either leaving the service to go to pursue a college degree or they pursue a degree course on a part-time basis while still working as nurses. The obstetric clinicians undergo a three-year intensive training of a combination of theory and practical work. The Ministry, in collaboration with relevant accreditation institutions, should consider making this training programme a degree course

so that upon successful completion of their training, they can be awarded with a BSC in advanced nursing.

This would imply that, in order to standardize the training in intensive neonatal care should be stretched to three years so that that group could also be awarded a bachelor's degree at the end of their training. This would imply that appropriate local and international academic institutions review the existing curricula for the training programmes and the appropriate accreditation institutions ensure that standards are kept. This would be a good motivating factor for those who are already in the programme and an attraction for those contemplating on enrolling in the programme.

4.8 The negative politics of the LMDC and LMDA leadership and its impact on morale

All the literature reviewed by the evaluation team reveal that this Task sharing initiative is one of the few Government policy initiatives that has been meticulously taken through all the appropriate policy formulation steps: Following participation in appropriate international forums teams from Liberia went on an observation study tour to learn from other countries; Following that there took place national consensus meetings to obtain the buy-in of all key stakeholders for this initiative. The fundamental driving factor always being that: Liberia has an acute shortage of doctors and the leadership need to Task shift in order to address maternal mortality. At an LMDA meeting on the 31st of March 2019 at the Phebe hospital in Bong County, the current chair of the LMDC made such public statements that do not augur well for the objectives of the Task Sharing programme. Her pronouncements and her call for the Ministry to scrap the Task sharing programme was in sharp contrast to those of all the Medical Directors that the evaluation team encountered who work directly with the obstetric clinicians. The evaluation team also learnt that at the time of the formulation of the 2009 policy, leading to the initiation of this programme, the head of the LMDC at the time was supportive of the initiative. It is baffling that whereas the numbers of doctors available in Liberia has not changed since this Task sharing initiative was put in place, on what basis will the current leadership of the LMDC decide to request Government to scrap the programme, which clearly has been a success and it is contributing to saving lives in rural Liberia. It appeared to the evaluating team that either the leadership of the LMDC did not have all the facts or are ignoring the reality or they are pecking standards of medical practice in Liberia to those of the developed world, where maternal mortality is below 10 per 100,000 and they have the requisite numbers of specialists to enable them keep strictly to classical obstetrics practice – where only certified Obstetrician/Gynecologists perform obstetric surgery. The Ministry needs to make clear to the LMDC current leadership that the situation of acute shortage of specialist obstetricians and physicians in Liberia has not changed and that to change a carefully thought out Government policy, they need to have facts to back their demands. Indeed the LMDC must have a strong say on who performs abdominal surgery in Liberia but it also needs to recognize that Government makes policy in emergencies to save lives. Same was done during the Ebola outbreak in Liberia.

Liberia and Ireland have about the same size of population; Liberia 4.5 million and Ireland 4.7 million. It is therefore useful to compare health care data for the two countries in this context (purely base on size of general population)

LIBERIA		IRELAND	
Population	4.5 million	Population	4.7 million
Maternal Mortality rate	1079/100,000	Maternal Mortality Rate	10/100,000
Doctors per capita	0.06:1,0000	Doctors per capital	3.4:1,000
Total number of doctors	298	Total number of doctors	7,000

Based on the data above, it will be a challenge for anyone who insists on applying the same standards of practice in a developed country to the situation in Liberia. The figures do not support terminating the Task Sharing programme. Until the numbers of doctors rise to about 2,000, it will be difficult to argue to terminate the task sharing programme.

5.0 Lessons Learned

- I. The whole training programme of the obstetric clinicians and neonatal nurses took place within Liberia, in Liberian facilities. No aspect of the training demanded any foreign country deployment. This has proven to be very cost-effective for the Government of Liberia.
- II. The Obstetric clinicians and neonatal nurse clinicians are better placed to carry out on the job training for other midwives as they spend nearly 90% of their time at work in the maternity and neonatal wards.
- III. The presence of the Obstetrics clinicians and neonatal nurses afforded the doctors the opportunity to concentrate on other areas of practice in the hospital or community. It also helped to relieve extremely high workloads for doctors, thereby helping to reduce “burn out and by helping with their rest time, ensuring safe decision making.

5.1 Lessons from Task Sharing programmes from other countries

The evaluating team also sought to learn and share lessons from other countries in Africa that have done task shifting over the years.

NON-PHYSICIAN CLINICIANS: EXPANDED TRAINING ACROSS SIX AFRICAN COUNTRIES - An Overview

Country	Name of NPC Cadre	Qualification Granted on Completion of Training	Current Requirements for Admission	Year Training Began	Length of Course	# of Training Institutions	Approximate # of Annual Graduates	Approximate # Currently Working	Future plans
Burkina Faso	Attaché de Santé en Chirurgie	Diploma	<ul style="list-style-type: none"> ▪ Infirmière d'état (Registered Nurse)/ Sage-femme d'état (Registered Midwife) 	1999	<ul style="list-style-type: none"> ▪ 2 years training in surgery 	2	90 <i>(45 national, 45 foreign)</i>		
Ethiopia	MSc in "Integrated Emergency Obstetrics and surgery"	Master of Science degree	<ul style="list-style-type: none"> ▪ BS or RN ▪ Secondary school (<i>new program</i>) 	2009	<ul style="list-style-type: none"> ▪ 3 years education ▪ 1 year internship 	3	60	Programme just begun	Programme just begun
Malawi	Clinical Officer	Diploma in Clinical Medicine	<ul style="list-style-type: none"> ▪ Direct Entry: School Certificate of Education with credits in Biology, Physical Science and Mathematics 	1976	<ul style="list-style-type: none"> ▪ 3 years of theory and practical training ▪ 1 year internship 	2	130	698 (MOH Employee Census, 2007)	Affiliated programme at University of Malawi; develop BSc programme
			<ul style="list-style-type: none"> ▪ Practicing Medical Assistant 		<ul style="list-style-type: none"> ▪ 18 months and 1 year internship 	1	50		
Mozambique	Técnico de Cirurgia (Surgical Technician)	Bachelor or Licentiate	<ul style="list-style-type: none"> ▪ 10 years education ▪ 2-3 years basic or mid-level medical training ▪ At least 3-4 years experience 	1984	<ul style="list-style-type: none"> ▪ Bachelor: 2 years theoretical training + 1 year internship ▪ Licentiate: Bachelor + 2 years + 1 year internship 	1	30 (every 2 years)	75	To ensure 2 técnicos in each rural hospital; 250 by 2015
Mozambique	Enfermeira de Saúde Materna (MH Nurse)	Licentiate	<ul style="list-style-type: none"> ▪ Fully trained midwife ▪ 3 years clinical experience 	2004	<ul style="list-style-type: none"> ▪ 4 years training in obstetric surgery 	1	29	22 in rural hospitals	Training more; currently running 2 courses (50)

Country	Name of NPC Cadre	Qualification Granted on Completion of Training	Current Requirements for Admission	Year Training Began	Length of Course	# of Training Institutions	Approximate # of Annual Graduates	Approximate # Currently Working	Future plans
Tanzania	Assistant Medical Officer	Advanced Diploma in Clinical Medicine	<ul style="list-style-type: none"> ▪ 12 years ▪ 2-3 years pre-service training as Clinical Officer ▪ 3 years clinical experience 	Late 1960s	<ul style="list-style-type: none"> ▪ 2 years 	6; 2 more being established	270	1434 (WHO SAM 2006)	Higher Diploma & Degree as per National Council
Zambia	Medical Licentiate	Advanced Diploma in General Medicine	<ul style="list-style-type: none"> ▪ 12 years education ▪ 3 years pre-service training as Clinical Officer ▪ 3 years clinical experience 	2002	<ul style="list-style-type: none"> ▪ 2 years training ▪ 1 year internship 	1	20	91	Considering introduction of BSc

Source: AMDD

6.0 Recommendations

The task sharing initiative was triggered by the policy of 2009, because of the very high maternal and neonatal mortality rates in Liberia and the lack of qualified doctors to address the problem. This evaluation has clearly demonstrated that the training provided under the task sharing initiative has been successful. Trained midwives are successfully performing all the nine signal functions, including performing a caesarian section, with very minimal fatality. Neonatal care has been revolutionized in the facilities where we find the trained persons in intensive neonatal care. It is unfortunate there are voices from the highest echelons of the Liberian Medical Association community calling for abolishing this programme. The facts are not on their side. The problem of high maternal mortality is still there and the acute lack of doctors to deploy everywhere is still a very critical problem. The evaluating team therefore recommends as follows:

6.1 Task Sharing/sharing should be continued and scaled up until the number of doctors in Liberia improves, in terms of numbers, equitable deployment and retention in rural areas

6.2 Establish a course similar to the obstetric and neonatal clinician course for training nurse anesthetists.

6.3 Provide a University degree to individuals graduating from this programme after three years

- Need to discuss an appropriate name or designation for graduates of this programme so that it is clear that they still remain nurses and midwives after their training
- Need to align this training to a nursing (University) school for the degree status

6.4 To avoid all confusion about their designation, government should streamline the designation given to graduates of this programme, to reflect the fact that going through this training programme successfully does not turn them into medical doctors and that they remain nurses and midwives with advanced technical skills to enable them better assist doctors, where there are doctors present but also to manage things on their own, where there are no doctors present.

6.5 The expression “clinician” may create confusion in the minds of some individuals in the Liberia medical community. Instead of calling them Obstetrics clinicians and neonatal clinicians the evaluation team suggests we designate them as follows

- Advanced midwife practitioners (for those who undergo obstetrics training)
- Advanced neonatal care nurse practitioners (for those undergoing the neonatal programme) and
- Advanced nurse anesthetist or advanced anesthesia nurse (when that programme is initiated)

6.6 To keep the graduates motivated, the three programmes should all be streamlined to a three-year programme. At the end of the three years graduates from this training should be awarded with a bachelor’s degree. Many nurses are leaving the hospital to go and undertake three year degree courses. These individuals going through this training could opt to do same. By awarding

them with a degree, it will help minimize attrition among their ranks. The awarding of degrees should cover all who have already completed the programme and those that will finish later. In other words, those who have already graduated under the pilot phase deserve to be awarded degrees too.

6.7 There is a discrepancy in the opinion expressed by some members of the higher echelons of the LMDC and LMDA. The evaluating team assumes that all doctors in Liberia fall under the regulation system of the LMDC and are members of the LMDA. In all the facilities the evaluation team visited, clearly the senior medical personnel in those facilities, particularly the medical directors were extremely supportive of the initiative and gave attention to the development of the students of the Task Sharing programme. They all expressed the need for this programme. It was mostly junior doctors who expressed misgivings about the programme and were filled with misinformation about the programme.

The team recommends that the Ministry should continue dialogue with current LMDC leadership for a functional sustained partnership for the task sharing programme, especially the OB programme.

6.8 The current practice of recruitment from counties is recommended to continue as it is a way of avoiding or reducing attrition.

6.9 The Ministry of Health should consider appropriate remuneration for this cadre of health workers. The understanding of the evaluation team is that after graduation from this programme the nurses and midwives go back to the same salary scale on which they were before they enrolled in the programme. Creating a different salary scale for them will be a good motivational factor.

6.10 After completing this programme the obstetric clinicians and the neonatal clinicians still remain nurses and midwives and therefore their licensing should be provided by the Nursing and Midwifery Council so as to avoid the misunderstanding that these are somehow junior doctors. These licenses should clearly indicate where each individual is to work with revocation of said license if the worker moves away (unless the move is directed by the Ministry of Health).

7.0 Annexes

ANNEX A: Terms of Reference (WHO)

Concept Note to evaluate a Task Sharing Pilot Program on Obstetrics and Neonatal Care in Liberia: (2012-2018)

Date: 11 November, 2018

Background information and rationale

In order to tackle maternal and neonatal mortality and disability at the primary referral level in Liberia, a Partnership operating under a Memorandum of Understanding between the Liberian Ministry of Health, WHO Liberia, UNFPA Liberia and the Scottish charity, MCAI, agreed to start in 2013 an innovative task-sharing project in advanced obstetric care and, later, a similar task-sharing project in advanced neonatal care. Regulation and licensing were provided by the Liberian Medical and Dental Council (LMDC) and the Liberian Board for Nursing and Midwifery (LBNM)

Experienced midwives and nurses have been carefully selected by representatives of the Partnership to undertake extensive training and undergo rigorous continuous assessment, to become qualified obstetric clinicians (after three years) and qualified neonatal clinicians (after two years). At the end of their training, each qualified clinician is capable of safely and independently performing advanced obstetric care, including abdominal surgery, and advanced neonatal care, respectively.

Now in its fifth year, the landmark task-sharing project in advanced obstetrics has led to two qualified obstetric clinicians, currently supports nine interns who have completed 2 of the 3 years of training, and from 1st February 2018 has taken on 10 new trainee obstetric clinicians. The success of this project has recently led to the task-sharing project in advanced neonatal care, which began in April 2017 and supports four trainees. The WHO has funded an additional 5 trainees in advanced neonatal care and are due to shortly begin their 2-year training programme.

From the start of the advanced obstetric training in October 2013 to the beginning of November 2017, **a total of 1,654 Caesarean sections have been undertaken by the first 11 trainee obstetric clinicians.** Improved neonatal care can be shown by the number of neonates that have received nasal CPAP for life-threatening breathing difficulties. From 1st August 2017 to end November 2017, **sixty-five babies with respiratory failure were successfully treated with nasal CPAP and discharged home.**

Both of these projects required much logistical, financial commitment, and full political support. It contributed to improved maternal and neonatal health throughout especially rural Liberia, helping to save and improve the lives of many Liberian women (and adolescent girls) and their babies. The two programs have received funding from WHO Liberia, UNFPA Liberia, MCAI, and The Advanced Life Support Group but substantial further funding is required.

Problem statement

According to the latest LDHS (2013), Liberian maternal death rate stands at 1072 per 100,000 live births and a neonatal death rate of 26 per 1000 live births. This figure for neonatal mortality is, in our experience, a very serious underestimate. Similar figures for Norway, for example, are 5/100,000 Maternal and 5/1000 Neonatal respectively (source). Many deaths relate to three important areas of delay: 1) delay in recognizing the presence of a life-threatening emergency in the community; 2) delay in reaching a hospital with appropriate facilities and staff to treat the emergency; and 3) delay in recognizing the emergency by staff at the hospital and subsequent delay in providing appropriate emergency treatment and management. If this third area of delay cannot be prevented at the primary first referral level by having sufficient doctors trained in advanced maternal and neonatal care available 24 hours a day, this situation soon becomes known by the community and as a consequence, families may decide not to go to a hospital and so the mother may deliver and sometimes die at home. The real anonymized case study below illustrates the fatal consequences of delay. Currently there are only a total of 298 (1 for 15,000 persons) with 203 Liberian doctors (1 for 22,000 persons) and 95 international doctors. Ten obstetricians based in only 3 of the 15 counties and 6 obstetricians in the capital. The 15 counties in Liberia and 75% (the most rural) each have only 1 or 2 doctors. There is a proliferation of private facilities most unregulated

The Task-sharing program

The main thrust of the initiative has been to address the imbalances in skilled health workers in the country. The country has not enough doctors in the rural areas of the country. Given the shortage of

doctors, other types of health workers can be appropriately trained to assist doctors as part of a team to treat serious medical problems. Similar factors apply to the provision of hospital-based quality neonatal care provided by appropriately trained nurses. At present most, such care relies on untrained midwives, nurses, or nurse assistants. A task-sharing approach to create advanced neonatal nurse clinicians is also easier to achieve over a shorter duration of time than training in advanced obstetrics, which has a major surgical component. Good neonatal care relies on effective obstetrics and a task-sharing approach that encompasses both advanced obstetric and basic neonatal hospital care can be particularly effective.

Design of Training Programs: Task sharing

In these programs, experienced senior midwives are trained in advanced hospital maternal care and senior nurses are trained in the advanced hospital care of newborn infants to work in partnership with doctors to effectively treat patients and to avoid dangerous delays in managing life-threatening emergencies. The training follows a strict curriculum developed by MCAI with technical input from WHO and approved by the Partnership.

The Obstetric Program

Structure

This three-year program consists of two years of “hands on” practical training under close supervision by experienced expert doctors (apprenticeship training) complimented by “classroom” teaching in the form of weekly distance-learning, interactive tutorials from experts in the UK using video-conferencing software. The final year of the program is an “internship” based at a rural hospital selected by the Ministry of Health in which the trainees gain more experience, while still under supervision. Once they successfully complete the training program, qualified obstetric clinicians are granted a five-year license by the Ministry of Health and contracted by the Ministry of Health to work in a public hospital selected by the Ministry.

Training

Training is based at three Liberian Hospitals: CB Dunbar in Bong County (Dr. Dolo); CH Rennie Hospital in Kakata (Drs. Johnson and Asinya; and Redemption Hospital in Monrovia (Drs. Gorpudolo and Whesseh). Training is undertaken by experienced Liberian doctors (and overseen by the master trainer, Dr. Dolo and MCAI’s Honorary Medical Director, Professor Southall). International expert doctors (Drs. Casement, Clack, Creemers and Lallemand) have provided additional support. The trainees regularly rotate between the three hospitals.

The training program starts with a six-month foundation course in the basics of advanced obstetric care, including basic surgical skills, pelvic anatomy, obstetric ultrasound, and post-operative care. After successful completion, the trainees move on to apprenticeship training. The first component of the apprenticeship training involves performing essential obstetric procedures and treating major complications of pregnancy and delivery under the supervision of the trainers. Trainees gradually progress from assisting with procedures and emergency management, through to direct and indirect supervision, and finally, being able to perform the procedures, including undertaking Caesarean Sections, independently.

The training also involves handover meetings (where staff who have been on duty during the previous 24 hours discuss the patients that have been admitted for care), ward rounds, and case presentations alongside continued supervision of the labour and delivery wards. All of this training is complimented by weekly distance-learning, interactive tutorials led by international expert doctors. During these sessions, a clinical topic is taught and discussed in detail supplemented by presentations and clinical audits.

Each trainee is given a tablet or laptop computer with an extensive E-library of relevant publications and videos pertinent to low resource settings for training purposes. Each is also provided with an electronic and hard copy of MCAI’s comprehensive textbook and pocketbooks in maternal and neonatal health care.

Continuous assessment

All trainees are continuously assessed to ensure that they are competent, knowledgeable, and safe. After completion of the foundation course, each trainee must pass the Objective Structured Clinical Examination (OSCE) in obstetric anatomy, ultrasound and basic surgical skills conducted by the Liberian master trainer accompanied by an international obstetrician, before progressing to apprenticeship training. During the apprenticeship training, each trainee undertakes a weekly written test (produced by Professor Southall and marked by international expert doctors (Dr. Casement, Dr. Diane Watson and Dr Brigid Hayden) on the topics on which they were taught the week before. The results of each test are fed-back to the trainees through international audio-visual conferencing and provide continuous evaluation while highlighting any areas where further support is needed.

In the internship year, trainees will continue their distance-learning tutorials by discussing with international experts, difficult cases that they have been involved with in the previous week. Before graduating as qualified obstetric clinicians, the trainees must pass a written examination.

Final assessment of trainees

The progress of each individual trainee is monitored by them recording each procedure that they have performed and the outcome in a paper and electronic log book. The results of their weekly written exams, OSCEs, and high-level written exams are also recorded. MCAI has developed a specific clinical audit form that trainees have to complete if they have been involved in managing a maternal death. National and international trainers review these forms on a regular basis with the trainee involved and discuss any pertinent issues. Monitoring of maternal and neonatal mortality rates in the catchment areas of the 3 hospitals in which the training is being undertaken is an essential task undertaken jointly by WHO Liberia, MCAI and the MOH.

The Neonatal Program

Structure

The two-year neonatal program is currently in its second year and is based on the structure of the obstetric program, that is, apprenticeship training supplemented by weekly distance-learning tutorials, and an internship year. However, as no surgery is involved, the training program can be completed in two years. And because of a major shortage of Liberian pediatricians, the program is taught by international expert trainers (led by permanently present Advanced Neonatal Nurse practitioner Adeyemo Kola) and overseen by master trainer, Professor Southall. The training is currently based at CB Dunbar Hospital.

Once they successfully complete the training program, qualified neonatal clinicians will be granted a license by the Ministry of Health and contracted by the Ministry of Health to work in a public hospital selected by the Ministry for a minimum of 5 years.

Training

The training program rigorously follows a curriculum developed by MCAI and approved by all partners. It covers neonatal resuscitation and managing major complications seen in the neonatal period such as overwhelming infection (sepsis), breathing problems (asphyxia) and brain injury due to lack of oxygen and circulation to the fetus during pregnancy and delivery. The neonatal trainees are involved in handover meetings, ward rounds, and case presentations. Apprenticeship training is complimented by weekly distance learning, interactive tutorials led by volunteer international expert doctors (Dr. Alison Earley, Professor Neil McIntosh and Professor Southall). During these sessions, a clinical topic is taught and discussed in detail supplemented by presentations and clinical audits. Each trainee also receives a laptop computer with the extensive neonatal care E-Library and MCAI's textbook and pocketbooks. Courses in medical ethics and professional standards: Following a request from the Late Deputy Minister for Curative services, Dr. Saye Baawo [RIP], and The Registrar of the Liberian Medical and Dental Council, Dr. Nyaquoi Kargbo, 3 courses in medical ethics and professional standards have been undertaken by the Partnership during the last two years. All current obstetric and neonatal trainees have successfully completed this course.

Continuous assessment

As with the obstetric training program, each trainee undertakes a weekly written test (produced and marked by international expert doctors) on the topics on which they were taught the week before. The results of each test are feedback to the trainees and provide continuous evaluation, while highlighting any areas where further support is needed.

Before continuing to their internship year (year two of training), each trainee must pass an OSCE and before being licensed as a qualified Neonatal Clinician by the Ministry of Health they must pass a high-level written examination.

Final assessment of trainees

The monitoring and evaluation of the neonatal program follows the same requirements as the obstetric program: each trainee must record all performed procedures and the outcome in a paper and electronic logbook; weekly exam results are recorded, and monitoring of neonatal mortality rates in the catchment area of CB Dunbar Hospital is undertaken jointly by MCAI the MOH, and WHO Liberia.

Purpose and Objectives of the assignment

The purpose of this assignment is to conduct an independent evaluation of the task-sharing programs covering all relevant areas from selection to training and practice. Evaluation of the program will offer a clear evidence to inform future decisions on the effectiveness and efficiency of pursuing further scale up of the initiative. The evidence and information generated by the evaluation will help the national reproductive, maternal, child, neonatal and adolescent health strategic plan and other related stakeholders.

Specifically, the assignment will achieve the following objectives:

1. To assess if the task sharing innovative program has achieved its objectives
2. It will also provide information on feasibility of its future scaling up considering context and funding,

Key activities

The Consultants will undertake the following activities:

1. Guided by the WHO country office develops and submit an inception report on a detail study approach, including plan of action.
2. Lead and conduct the desk review and field assessment
3. Facilitate and coordinate a stakeholders' consultations as required and produce a final report,

Deliverables

The Consultants will be accountable for the following deliverables;

- **Deliverable 1:** Brief Inception report outlining the consultant's understanding of the task and the methodology to be employed to completing the task,
- **Deliverable 2a:** Draft report, describing the findings of the study incorporating stakeholder comments and suggestions. The draft report will be validated with key stakeholders in a consultative session.
- **Deliverable 2b:** Final report of the revaluation with possible recommendations

Reporting and governance

The consultant will work closely and report to the WHO Country Representative of the World Health Organization. The Consultant will work and collaborate with other stakeholders as required to effectively execute the tasks.

Duration: September – October 2018

Professional Qualifications

Education and experience

- The three-person team, will be led by a trained senior obstetrician with extensive experience working in a low-income country including a doctor experienced in hospital obstetrics, a senior midwife and an advanced neonatal nurse practitioner.

Skills and Competencies

- Specific expertise (district hospital obstetrics and midwifery and care of the critically ill newborn infant, skills (includes advanced medical and surgical obstetrics, neonatal resuscitation and critical care for neonates and pregnant women) and prior experience (previous experience with task sharing).
- Good interpersonal and stakeholder management abilities
- Excellent knowledge of structural review, strategic planning, and job analysis.
- Excellent knowledge of Microsoft office suite (Microsoft Word, excel, and PowerPoint).
- Excellent spoken and written English, proven experience of report writing and presentation skills

ANNEX B: Source of Information

I. Desk study documents:

1. Mid-Level Health Provider Policy Document MoH-2009”
2. “Mid-level health providers a promising resource to achieve the health Millennium Development Goals, WHO-2010)
3. MCAI Report 2017
4. Needs Assessment of Emergency Obstetrics and Newborn Care, AMDD 2010
5. Curriculum for the Advanced Neonatal Practitioner Training Course, MCAI 2017
6. Curriculum for Advanced Obstetrics Clinician Training Course, MCAI 2014

II. Preliminary interviews – before field work

Preliminary interviews took place with the following:

NAME	DESIGNATION	INSTITUTION
Dr Mesfin G. Zbelo	WR, ai	WHO-Liberia
Dr Wilhemina Jallah	Minister Proper	Ministry of Health
Dr Francis N. Kateh	CMO/Deputy Minister	Ministry of Health
Dr Garfee Williams	Technical Assistant to Minister	Ministry of Health
Mrs. Bentoe Tehounge	Director/Family Health Division	Ministry of Health
Dr. Musu Duworko	Family Health & Population Advisor	WHO-Liberia
Mr. Amos Davis	Programme Officer	MCAI

ANNEX C: Field Interviews

List of meetings and interviews with stakeholders:

1. LIST OF STAKEHOLDERS AT COUNTY FACILITY LEVEL

1.1 CH RENNIE HOSPITAL- KAKATA

NAME	DESIGNATION	CONTACT DETAILS
1. Grace Nyenow	Student OB trainee	0886711177
2. Osee S. Fiah	Student OB trainee	0886711177
3. Deddeh M. Mulah	BSN OB ward	0886711177
4. Davideth G. Karmbor Collins	Student OB ward	0886711177
5. George Y. Ericson	RM OB ward	0886711177
6. Oretha B. Bulway	CM OBC	0886711177
7. Alice M. Narmah	RN Neonatal ward	0886711177
8. Sanneh K. Murphy	CM OBC	0886711177
9. Josephine Kapel	RN Neonatal ward	0886711177
10. Yamah E. Zopi	RN Neonatal ward	0886711177
11. Cecilia Y. Panon	RN Neonatal ward	0886711177
12. Dr. Magnus Asinya	Medical Doctor	0886711177
13. Dr. Myer Pajibo	County Health Officer	0886496180
14. Dr. Hunter-Suku	OB Ward Physician	0886711177
15. Margaret Moiwai	Nursing Directress	0886711177

2.2 PHEBE HOSPITAL- BONG COUNTY

NAME	DESIGNATION	CONTACT DETAILS
Dr Prince Patrick Myers	Medical Officer	0888201080/0778046062
Dr Aaron H. Keita	Chief of Medical Staff	0776062750
Mr. Kerkula J. Mubah	Director of Nursing	0888045842
Dr. Sekou S. Keita	Medical Officer	0886540813
Dr. Phillip O. Mendy	Medical Officer	0880873883
Dr Sibley Tehmeh	Medical Officer	0886535074
Dr. Amos A. Koffoh	Intern	0886540813
Dr. Wilmot L. Smith	OB/GYN	0886540813
Dr. Nathaniel Samuel	Intern	0886540813
Timothy S. Kennedy	Intern Pharmacist	0886905291
Dr. Jefferson Sibley	Medical Director	0886540813
Dr. Ian Pabs-Garnon	Medical Officer	0886605999/0886519944
Dr. Augustus Yieah	County Health Officer	0886812584
Mr. Alphonso Koffa	Director Community Health Department BCHT	0880598859

Gorma Cole	Reproductive Health Advisor BCHT	0880598859
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2.3 CB DUNBAR HOSPITAL- BONG COUNTY

NAME	DESIGNATION	CONTACT DETAILS
1. Dr. Joseph Sehweah	Intern	0886988616/0770205106
2. Dr Moses Ziah	Medical Officer	0886/0770-737325
3. Dr Tebo Boduo	Intern	0886821001/0777225414
4. Mr. Abass Kola Adeyemo	MCAI Neonatal Intensive Care Trainer	0881305941
5. Gertrude Y. Motor	Student Neonatal Clinician	0888199075
6. Mercy N. Paye	Student Neonatal Clinician	0886310289
7. Princess P. Kamara	Student Neonatal Clinician RN	0886427655
8. George T. Gongor snr.	Student Neonatal Clinician RN	0866657508
9. Annie K. Johnson	Student Neonatal Clinician RN BSN	0886495360
10. Naomi Lewis	OB Clinician	0886475958
11. Korpo Borzie	OB Clinician Trainee	08805322441
12. Jefferson Doe	OB Clinician Trainee	0888362934
13. Noah J. Jasper	OB Clinician Trainee	0880552775
14. Joyceline Kudee	OB Clinician Trainee	0880684095
15. Dr. Kou Geah	Medical Director	0886540773
16. Dr. Obed Dolo	OB/GYN Specialist & Chief Trainer	0886819409
17. Gregory Mennoh	Record Officer/Statistician	0886574002

2.4 MARTHA TUBMAN MEMORIAL HOSPITAL- GRAND GEDEH COUNTY

NAME	DESIGNATION	CONTACT DETAILS
Dr. Godfrey Obasi	Medical Director	0886547210
Florence Davis	Directress OB Service	0886875554/0777706819
William Korboi	OB Clinician Intern	0886526503
Ariza Jolo	OB Clinician Intern	0880707987/0770771393
Christana Nyanibo	Neonatal Nurse Clinician	0886484484

2.5 SINJE HEALTH CENTER- GRAND CAPE MOUNT COUNTY

NAME	DESIGNATION	CONTACT DETAILS
Dr. Alfred Loa	Medical Director	0886525296/0777525296
Hannah Gibson	OB Clinician	0886688195/0775270911

2.6 REDEMPTION HOSPITAL- MONTSERRADO COUNTY

NAME	DESIGNATION	CONTACT DETAILS
Dr. Paul Whesseh	Medical Director	0888684515/0777227660
Dr. Taty B. Bole	Medical Officer	0770918291
J. Frederick Saymah	OB Clinician Trainee	0775748344/0886786859
Rebecca G. Mulbah	OB Clinician Trainee	0886934703/0770751526
Lucretia K. Kokoi	OB Clinician Intern	0886211018
Cyprus J. Doe	OB Clinician Trainee	0880366132/0775356066

2.7 FISH TOWN HOSPITAL- RIVER GEE COUNTY

NAME	DESIGNATION	CONTACT DETAILS
Dr. Trokon Washington	County Health Officer	
Emmanuel Hne	OB Clinician Intern	0886934375
Dr. Aker Jason Bleah	Medical Director	0776227652

2.8 TELLEWOYAN HOSPITAL – LOFA COUNTY

NAME	DESIGNATION	CONTACT DETAILS
Dr. Hayford Howard	Medical Director	0886551984
Jonathan H. Lobo	OB Clinician Intern	0778396549/0886848759
Dr. Kovieh	County Health Officer	0886403469

ANNEX D : Curriculum for Obstetrics Clinician training (Source MCAI)

Curriculum for training in advanced obstetrics for 10 trainee obstetric clinicians beginning in Liberia April 2018

Components:

Foundation program: – To be delivered in the first 6 months of the Training Program in parallel with apprenticeship based training under 2. Below.

1. Anatomy and Basic Surgical Skills.
 - a. Detailed knowledge of the anatomy of the female pelvis with and without pregnancy in place and at different stages of pregnancy. Manual and books provided by MCAI.
 - b. Basic techniques involved in surgery using WHO surgical textbook, RCOG textbook and MCAI textbook
 - Suturing and practice ++
 - Sterilisation of instruments
 - Haemorrhage control
 - Hand-washing and proper use of gowns, gloves and other personal protective equipment
 - Maintenance of theatre
 - Post-operative care

2. Human Physiology and Physiological Adaptations in Pregnancy
3. Basic ultrasound to be able to date pregnancy and to recognise mal-presentations, placenta praevia, and other possible problems which may make surgery difficult. Books provided by MCAI.

Assessment of foundation program by Objective Structured Clinical Examination (OSCE) in obstetric anatomy, ultrasound and basic surgical skills conducted by Master Liberian trainer, Liberian obstetricians and accompanied by an international senior obstetrician.

Advanced Training: – To be delivered by tutorial supplemented apprenticeship based training over 24 months during which the obstetric clinicians will complete the following educational processes:

Assessment Methods and Materials which will form the cornerstone of assessment

- Intervention procedure log-book including ultrasound examinations
- Objective Structured clinical exam (OSCE)
- Tutorial-base assessment

Undertaking of the following obstetric procedures/interventions initially in collaboration and always under the supervision of local Liberian trainers and gradually progressing to be able to undertake these procedures safely as the lead surgeon with the local Liberian obstetricians as assistants/observers.

- Caesarean section
- Salpingectomy for ruptured ectopic pregnancy
- Management of miscarriage
- Evacuation of products of conception
- Induction of labour
- Manage cord prolapse
- Manage severe pre-eclampsia or eclampsia
- Manage APH
- Manage shock
- Manage shoulder dystocia
- Ventouse
- Episiotomy
- Episiotomy repair
- Breech delivery
- Twin delivery
- Procedures to manage PPH
- Cervical and vaginal tear repair
- Manual removal of placenta
- Emergency obstetric hysterectomy
- Repair of ruptured uterus
- Replacement of inverted uterus
- Symphysiotomy
- Management puerperal psychosis

- Manage puerperal sepsis

Undertake neonatal resuscitation

If the obstetric clinician is successful after this first 24 months of training, he/she will be pre-registered and undertake a further 1 year of internship in a public hospital under supervision of a Liberian trainer. If successful at this stage he/she will obtain a 5 year license to practice in public hospitals in Liberia.

The following subjects will be covered by this training:

1. Anatomy and basic surgical skills
2. Basic human physiology and physiological adaptations in pregnancy
3. Antenatal care
4. Maternal medicine
5. Management of early pregnancy complications
6. Clinical management of labour and delivery and their complications
7. Organisation and management of the labour ward
8. Postpartum management (Including post-operative care)
9. Ethics and professional standards
10. Laboratory and blood transfusion
11. Understanding the basics of anaesthesia during pregnancy and delivery
12. Being fully capable of undertaking neonatal resuscitation

Knowledge Base:

The Primary knowledge base for each component of the curriculum is shown below. Note – trainee's will be encouraged to read around the subject and this core knowledge should be supplemented by clinical and self-directed learning.

Components and training forms for completion

Component 1: ANATOMY AND BASIC SURGICAL SKILLS

SKILL	Knowledge base	Evidence base (any one or all methods can be used)
Detailed knowledge of the anatomy of the Pelvis	MCAI Surgical Training Manual	Objective Structured clinical exam (OSCE)
Detailed knowledge of the anatomical changes in pregnancy		
Basic Understanding of fetal and placental development and its abnormalities	Ten Teachers 'Obstetrics'	Tutorial assessments Self-directed Learning (SDL)
Basic understanding of the concept of teratogenesis		
Competent surgical knot tying	MCAI Surgical Training Manual Basic Surgical Skills teaching	Objective Structured clinical exam (OSCE)
Competent in the recognition and handling of common surgical instruments		
Uses correct surgical hand-washing, surgical gown and glove donning technique		
Familiar with sterilisation techniques and able to ensure appropriate instrument sterility		
Behaves in a sterility conscious manner while operating		

Component 2: BASIC HUMAN PHYSIOLOGY AND PHYSIOLOGICAL ADAPTATIONS IN PREGNANCY

SKILL	Knowledge base	Evidence base (any one or all methods can be used)
Understands basic human physiology relating to the following:		
The heart and circulation	Edited knowledge from Churchill's Mastery of Medicine series: 'Physiology – a core text of human physiology'	Objective Clinical (OSCE) Structured Examination
The lungs and respiration		
The Kidneys		
The Endocrine system		
The Reproductive system		
Gastrointestinal system		
Understands the physiological changes that occur in pregnancy		

Component 3: ANTENATAL CARE

SKILL	Knowledge base	Evidence base (any one or all methods can be used)
ANTE-NATAL CLINIC SKILLS:		
Conduct a first visit	MCAI 'International Maternal and Child-health care: A practical manual for hospitals worldwide' – chapter 2.1 and 2.2, 2.8.C And 'Integrated Management of Pregnancy and Child-birth: Pregnancy, Child-birth, post-partum and new-born care – a guide for essential practice' – Chapter C	Case-based Discussions (CBD) Supervisor-observed experience (SOE)
Conduct a follow up visits and decide an appropriate visit schedule		
Arrange appropriate routine investigations		
Arrange appropriate routine pregnancy preventative measures		
Refer appropriately for pre-test counselling for HIV testing		
Arrange appropriate management of HIV positive patients		
Prevention and management of anaemia	MCAI 'International Maternal and Child-health care:' Chapter 2.5.B	CBD, SOE, Log-book
BASIC OBSTETRIC ULTRASOUND ASSESSMENT:		
U/S dating of pregnancy using the appropriate measurement for gestation	<ul style="list-style-type: none"> - TA only - Introduction to basic U/S tutorials by trained specialists - Ongoing apprenticeship –style supervision - Core text: 'Obstetric and Gynaecological Ultrasound made easy' 	U/S Log-book
3 rd trimester assessment of viability		
3 rd trimester assessment of presentation		
3 rd trimester assessment of AFI		
3 rd trimester assessment of placental position		
MANAGE THE FOLLOWING ANTENATAL COMPLICATIONS:		
Previous Caesarean Section	RCOG Green-top guideline No.45	CBD, SOE, Log-book
Suspected Breech presentation >35/40	MCAI text-book chapter 2.6.E	
Suspected Multiple gestation	MCAI text-book chapter 2.6.D	
Suspected Mal-presentation	MCAI text-book chapter 2.6.E	
Suspected Poly-/oligo-hydramnios	Course Tutorial No -	
Suspected premature rupture of membranes	MCAI text-book – chapter 2.6.F	

Suspected Fetal Demise	MCAI text-book – chapter 2.6.B	
Suspected Alcohol/Drug Abuse		CBD, SOE
Suspected Domestic violence	MCAI text-book – chapter 2.11	
PREVENT AND MANAGE THE FOLLOWING INFECTIONS IN PREGNANCY:		
Malaria	MCAI text-book – chapter 2.8.D	CBD, SOE, Tutorial-based assessment where needed
Syphilis	MCAI text-book – chapter 2.8.H	
Tuberculosis	MCAI text-book – chapter 2.8.G	
Intestinal helminth infection	MCAI text-book – chapter 2.8.B	
Varicella Zoster infection	MCAI text-book – chapter 2.8.I	
HIV	MCAI text-book – chapter 2.8.C	
Tetanus		
Delivery Planning:		
Discuss and plan appropriate place and timing of delivery	Specialist supervisor led clinical teaching	CBD, SOE
Discuss Post-delivery contraception	RCOG Faculty of reproductive health: ‘Postnatal sexual and reproductive health’ guidance 2009	
MANAGEMENT AND LEADERSHIP		
Conducts regular ante-natal ward rounds	Specialist supervisor led clinical teaching	Direct Supervisor Assessment and feed-back from multi-disciplinary team
Communicates patient management plans to ward team in an effective manner		
Oversees patient management plans and ensures appropriate quality of care		

Component 4: MATERNAL MEDICINE

SKILL	Knowledge base	Evidence base (any one or all methods can be used)
DIAGNOSE, INVESTIGATE AND MANAGE:		
Chronic hypertension	MCAI text-book – chapter 2.5.E	SOE, CBD, Tutorial-based assessment where needed
Pre-eclampsia		

Eclampsia		
Pre-eclampsia with pulmonary oedema		
Pre-eclampsia with oliguria		
Severe malaria in pregnancy	MCAI text-book – chapter 2.8.D	
Sickle cell disease in pregnancy	MCAI text-book – chapter 2.5.B	
Anaphylaxis in pregnancy	MCAI text-book – chapter 2.7.C	
Reflex oesophagitis	Specialist supervisor led clinical teaching	
Gestational diabetes	MCAI text-book – chapter 2.7.D	
Diabetic ketoacidosis	MCAI text-book – chapter 2.7.D	
Heart failure in pregnancy	MCAI text-book – chapter 2.7.A	
Urinary tract Infection and pyelonephritis	MCAI text-book – chapter 2.8.F	
Severe dehydration and gastroenteritis	MCAI text-book – chapter 2.8.B	
Lower respiratory tract infection in pregnancy	MCAI text-book – chapter 2.8.A	
Asthma in pregnancy	MCAI text-book – chapter 2.7.B	
Shock during pregnancy	MCAI text-book – chapter 2.5.A	
Common liver disease in pregnancy	Course Tutorial No -	

Component 5: MANAGEMENT OF EARLY PREGNANCY

SKILL	Knowledge base	Evidence base (any one or all methods can be used)
ULTRASOUND ASSESSMENT IN THE 1ST TRIMESTER:		
Number of fetuses	<ul style="list-style-type: none"> - TA only - Introduction to basic U/S tutorials by trained specialists - Ongoing apprenticeship –style supervision 	U/S Log-book
Viability		
Measurement of CRL		
Confirm inter-uterine site of pregnancy		

Assess for haemo-peritoneum	Core text: 'Obstetric and Gynaecological Ultrasound made easy'	
Assess for retained tissue/clots		
MANAGEMENT OF ABORTION/MISCARRIAGE		
Confirm diagnosis	MCAI text-book – chapter 2.5.D,ii	CBC, SOE, log-book
Determine if induced/spontaneous in sensitive, confidential and discreet manner		
Assess for evidence of infection, perforation, foreign body or poisoning		
Surgical management of uncomplicated 1 st trimester abortion including PID prophylaxis		
MANAGEMENT OF SUSPECTED ECTOPIC PREGNANCY		
Suspect diagnosis appropriately on basis of clinical and ultrasound findings	MCAI text-book – chapter 2.5.D,i	CBD, SOE, U/S
Manage initial resuscitation and liaise appropriately with surgical team		
Perform open salpingectomy for ectopic pregnancy	Specialist supervisor led surgical teaching	Log-book
MANAGEMENT OF TROPHOBLASTIC DISEASE		
Suspect diagnosis and liaise with team regarding management	RCOG Green-top guideline number 38	CBD, SOE

Component 6: CLINICAL MANAGEMENT OF LABOUR AND DELIVERY

SKILL	Knowledge base	Evidence base (any one or all methods can be used)
MANAGEMENT OF LABOUR DELAY		
Supervise the diagnosis of labour onset and the initiation of appropriate monitoring	MCAI text-book –chapter 2.3	SOE, CBD
Use the partogram effectively and supervise its use for labour monitoring		
Recognise delay in the latent phase of labour, assess for cause and manage	MCAI text-book –chapter 2.5.F	
Recognise delay in the 1 st stage of labour, assess for cause and manage		
Recognise delay in the 2 nd stage, assess for cause and manage		
Makes appropriate decision to induce labour and supervises process	MCAI text-book –chapter 2.3,	
Makes appropriate decision to augment labour and supervises process		

FETAL MONITORING		
Can initiate and supervise appropriate fetal monitoring in each stage of labour	MCAI text-book –chapter 2.6.C	TSOE, CBD, Tutorial-based assessment where required
Can interpret fetal monitoring in each stage of labour		
Can undertake remedial measures if suspected fetal distress		
Can make an appropriate decision for operative intervention for fetal distress		
MANAGEMENT OF LABOUR and DELIVERY AND THEIR COMPLICATIONS		
Conduct a normal delivery	MCAI text-book –chapter 2.3	Log-book
Prolonged rupture of membranes	MCAI text-book –chapter 2.6.F	SOE, CBD
Fetal death	MCAI text-book –chapter 2.6.B	
Previous Uterine incision/rupture	RCOG Green-top guideline No.45	
Intrauterine infection	MCAI text-book –chapter 2.5.G	
Cord Prolapse	MCAI text-book –chapter 2.6.G	Log-book
Preterm labour and delivery	MCAI text-book –chapter 2.6.F	SOE, CBD

Component 6: CLINICAL MANAGEMENT OF LABOUR AND DELIVERY –cont’d

SKILL	Knowledge base	Evidence base (any one or all methods can be used)
MANAGEMENT OF LABOUR and DELIVERY AND THEIR COMPLICATIONS – cont’d		
Transverse lie	MCAI text-book –chapter 2.6.E	Log-Book, SOE, CBD
Breech presentation and vaginal breech delivery		
Multiple gestation and twin delivery	MCAI text-book –chapter 2.6.D	
Antepartum haemorrhage	MCAI text-book –chapter 2.5.D,iii	
Uterine rupture	MCAI text-book –chapter 2.5.F	
Vacuum Delivery	MCAI text-book –chapter 2.13	
Shoulder Dystocia	MCAI text-book –chapter 2.5, Pg 217 - 218	
Appropriate use of Episiotomy	MCAI text-book –chapter 2.13, pg 324 - 326	Log-book
Repair of Episiotomy and 1 st /2 nd degree tears		
Repair of Cervical tears and manual assessment of uterus for haemorrhage		
Retained placenta	MCAI text-book –chapter 2.13, Pg 326 - 327	
Appropriate prophylaxis for post-partum haemorrhage	MCAI text-book –chapter 2.5.D,iv	CBD, SOE
Primary Post-partum haemorrhage		Log-book
Uterine Inversion	MCAI text-book –chapter 2.6.8	Log-book or skills drills/tutorial-based assessment

Component 6: CLINICAL MANAGEMENT OF LABOUR AND DELIVERY –cont’d

SKILL	Knowledge base	Evidence base (any one or all methods can be used)
Primary Caesarean Section 1 st Stage	Specialist supervisor led surgical teaching	Surgical log-book

Repeat Caesarean Section	MCAI text-book –chapter 2.13	
Caesarean section at full dilatation		
Caesarean section for placenta praevia		
Caesarean section <32/40		
Surgical management of Uterine Rupture including repair when possible		
Caesarean section for transverse/oblique lie		
Emergency obstetric hysterectomy	RCOG Green-top guideline	
Resuscitation of the neonate	MCAI text-book –chapter 3.2	Log-book
Takes consent for operative procedures – verbal/written as appropriate	Specialist supervisor led clinical teaching	Supervisor assessment and multidisciplinary feed-back
Documents delivery events and surgical procedures		

Component 7: ORGANISATION AND MANAGEMENT OF THE LABOUR WARD

SKILL	Knowledge base	Evidence base (any one or all methods can be used)
COMMUNICATION AND LEADERSHIP		
Communicates well with labour ward staff	Specialist supervisor led clinical teaching Emergency skills drills teaching 'SBAR' handover teaching	Supervisor assessment and multidisciplinary feed-back
Conduct regular labour ward rounds		
Ensure hand-over meetings are undertaken at each staff change		
Prioritise labour ward problems		
Able to lead and supervise labour ward team in routine labour ward tasks		
Able to lead labour ward team in the management of acute emergencies		
Able to liaise appropriately with other members of the medical team		
ORGANISATION AND SYSTEM IMPROVEMENT		
Understands the importance of organisational systems in care delivery	Specialist supervisor led clinical teaching	Assessment of Trainee's involvement in maintaining, improving and introducing new organisational systems to enhance care delivery
Participates in the maintenance of existing organisational systems		
Involved in the improvement/development of existing systems		
Understands the importance of inter-departmental coordination and cooperation		
TEACHING AND QUALITY IMPROVEMENT		
Oversees and takes part in regular staff hand-over of patient care	Specialist supervisor led clinical teaching	Supervisor assessment and multidisciplinary feed-back
Takes part in the root cause analysis of maternal deaths within the department	WHO Patient safety work-shop: 'Learning from Error'	Evidence of involvement in root cause analysis of maternal death
Involved in the development and implementation of maternity guidelines	'WHO hand-book for guideline development'	Evidence of guideline development and dissemination
Involved in the dissemination and teaching of maternity guidelines		
Assists actively in departmental audits and monitoring of departmental outcomes	Course material number -	Evidence of involvement in audit
Assists in the delivery of educational emergency drills	Specialist supervisor led clinical teaching	Evidence of involvement in midwifery teaching and emergency drills
Assists in the education of midwifery and nursing staff		

Component 8: POST-PARTUM MANAGEMENT (INCLUDING POST-OPERATIVE CARE)

SKILL	Knowledge base	Evidence base (any one or all methods can be used)
RECOGNISE AND MANAGE THE FOLLOWING POST-PARTUM PROBLEMS – In addition to the sources below trainee's should be familiar with the 'WHO's recommendations on postnatal care of the mother and New-born'		
Secondary post-partum haemorrhage	MCAI text-book – chapter 2.5.D.iv	CBD, SOE
Bladder dysfunction	Specialist supervisor led clinical teaching	
Obstetric fistula	WHO – 'Obstetric Fistula – guiding principles for clinical management and program development' – chapters 1 and 3	Tutorial based assessment
Mastitis	MCAI text-book – pg 222-223	CBD, SOE
Maternal depression and puerperal psychosis	MCAI text-book – chapter 2.9	Tutorial based assessment
Puerperal sepsis and perineal infection	MCAI text-book – chapter 2.5.G	CBD, SOE
Anaesthetic complications	MCAI text-book – chapter 1.24	Tutorial based assessment
Anaemia	MCAI text-book – chapter 2.5.B	CBD, SOE
ABLE TO COUNSEL AND ADVISE ON THE FOLLOWING:		
Post Partum contraception including tubal ligation	RCOG FRH: 'Postnatal sexual and reproductive health' guidance 2009	CBD, SOE, Log-book
Breast-feeding	WHO – 'Pregnancy, Child-birth, Peripartum and Neonatal care' – chapter K	SOE
Neonatal health	WHO – MCAI text-book – chapter 3.3 and 3.4	
Events of delivery/surgery	Specialist supervisor led clinical teaching	Supervisor assessment and multi-disciplinary feedback
Future pregnancy and delivery management	Specialist supervisor led clinical teaching	
MONITOR AND MANAGE THE FOLLOWING POST-OPERATIVE AREAS		
Fluid balance and nutrition	MCAI text-book – chapter 2.12 and 1.6	SOE, CBD, log-book,
Vital signs with understanding of normal parameters and warning signs	MCAI text-book – chapter 2.12 and 1.14	
Wound care	MCAI text-book – chapter 2.12	
Post-operative Infection	MCAI text-book – chapter 2.12	
Analgesia	MCAI text-book – chapter 2.12 and 1.14	SOE.

Component 9: ETHICS AND PROFESSIONAL STANDARDS

See Medical Ethics Course on E Library

SKILL	Knowledge base	Evidence base (any one or all methods can be used)
Communicates politely and honestly with patients and staff	MCAI text-book – chapter 1.2	Supervisor and multidisciplinary feed-back Reflective Practice
Takes appropriate consent	MCAI text-book – chapter 1.2	Supervisor and multidisciplinary feed-back
Reflects on personnel management and potential areas of improvement	MCAI text-book – chapter 1.2	Reflective Practice

Component 10: LABORATORY AND BLOOD TRANSFUSION

SKILL	DIRECT SUPERVISION	INDEPENDENT PRACTICE
Understands the importance of these supportive services to Obstetric care	MCAI text-book – chapter 1.7and 1.8	Evidence of Involvement in maintaining/developing communication systems between the maternity unit and transfusion/laboratory services Supervisor and multi-disciplinary team assessment
Assists in the development/maintenance of effective communication systems between departments	Specialist supervisor led systems teaching	
Monitors the availability of blood on a daily basis	Specialist supervisor led systems teaching	
Advocates for blood donation amongst relatives, visitors and staff	Specialist supervisor led systems teaching	

Component 11 UNDERSTANDING THE BASICS OF ANAESTHESIA DURING PREGNANCY AND DELIVERY

SKILL	Knowledge base
Knows what the nurse anaesthetist is doing and why	MCAI text-book – chapter 1.24

Component 12: BEING FULLY CAPABLE OF UNDERTAKING NEONATAL RESUSCITATION

SKILL	DIRECT SUPERVISION	INDEPENDENT PRACTICE
Understands the importance of this essential component of obstetric care	MCAI text-book – chapter 3.2 MCAI pocketbook of neonatal emergencies Specialist supervisor led systems teaching	SOE, CBD, log-book, reflective practice
Anticipates the need for skilled persons who can undertake neonatal resuscitation to be present during delivery		
Is capable of undertaking all levels of neonatal resuscitation		
Participates in the teaching of neonatal resuscitation to all midwives in the maternity unit	Instructs on a 1 day course in neonatal resuscitation	

LOG BOOK TEMPLATE

MIDWIFE'S NAME:	SUPERVISOR'S NAME:	DATE OF PROCEDURE:
PATIENT'S NAME:	DATE OF BIRTH OR AGE:	HOSPITAL:
REASON FOR INTERVENTION:		AT TIME OF ONSET OF INTERVENTION: Pulse rate: Respiratory rate: BP: Temp: WAS SHOCK PRESENT?
INTERVENTION:		ANY COMPLICATIONS IN FIRST 4 HOURS
DESCRIBE INTERVENTION INCLUDING ANY PROCEDURES AND DRUGS USED		ANY LATE COMPLICATIONS > 4 HOURS
DURATION PROCEDURE	WAS BLOOD TRANSFUSION NEEDED AND AVAILABLE?	ANY POST-OP INFECTION IF YES DESCRIBE
WAS ANAESTHETIC GIVEN AND IF YES WHAT TYPE ?		NAME OF ANAESTHETIST
ANY ANAESTHETIC COMPLICATIONS? IF YES DESCRIBE		IF BABY WAS DELIVERED, WAS BABY ALIVE?
DESCRIBE ANY UNEXPECTED PROBLEMS WITH OBSTETRIC INTERVENTION? ANY EQUIPMENT PROBLEMS?		DESCRIBE STATE OF BABY AT BIRTH Breathing? Normal or gasping Heart rate > 100 or < 100
		WAS NEONATAL RESUSCITATION NEEDED?
IF BABY WAS RESUSCITATED DESCRIBE WHAT WAS DONE Bag and mask? Chest compressions/ Drugs?		
DID WOMAN/GIRL SURVIVE?	DID BABY SURVIVE?	
SIGNATURE OF MIDWIFE	SIGNATURE OF SUPERVISOR	

LOG BOOK FOR ADVANCED EMERGENCY OBSTETRICS BY MIDWIVES

Level of supervision: circle appropriate level Assistant Direct Indirect Independent

ANNEX E Curriculum for the advanced neonatal practitioner training course (Source: MCAI)

Curriculum for the advanced neonatal practitioner training course.

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Components:

This programme involves a combination of apprenticeship-based work caring for individual seriously unwell infants and classroom based teaching on the main causes of neonatal illnesses.

Apprenticeship based work. Apprenticeship based training will be undertaken and overseen by a senior paediatrician or advanced neonatal care nurse, supported by volunteer international paediatricians and neonatal nurse practitioners from MCAI. During the first 1-year of the two years of training, the international trainer will be based in both CB Dunbar (where the model for this programme is already based) and CH Rennie Hospitals.

The training program rigorously follows the curriculum developed by MCAI and approved by all partners. It covers neonatal resuscitation and managing major complications seen in the neonatal period such as overwhelming infection (sepsis), breathing problems (asphyxia) and brain injury due to lack of oxygen and circulation to the fetus during pregnancy and delivery.

As with the complementary obstetric training, the neonatal trainees are involved in handover meetings, ward rounds, and case presentations.

Classroom based work

Apprenticeship training is complimented by weekly audio-visual distance learning from the UK using the software programme “Go-To-Meeting”. Interactive tutorials are led by volunteer international expert paediatric doctors (including one consultant paediatrician from the UK Dr Alison Earley and two professors of paediatrics Professor Neil McIntosh and Professor David Southall). During these sessions, a clinical topic is taught and discussed in detail supplemented by presentations, videos and clinical scenarios.

Continuous assessment

Again, as with the obstetric training program, each trainee undertakes a weekly written test (produced and marked by international expert doctors) on the classroom-based topics on which they were taught the week before. The results of each test are feedback to the trainees and provide continuous evaluation, while highlighting any areas where further support is needed.

Before continuing to their internship year (year two of training), each trainee must pass an OSCE and before being licensed as a qualified Neonatal Clinician by the Liberian Medical and Dental Council, they must pass a high-level written exam marked by the LMDC.

Monitoring and Evaluation

The monitoring and evaluation of the neonatal program follows the same requirements as the obstetric program: each trainee must record all performed procedures and the outcome in a paper and electronic logbook; weekly exam results are recorded, and monitoring of neonatal mortality rates in the catchment area of CB Dunbar Hospital is undertaken jointly by MCAI the MOH, and WHO Liberia.

Each trainee also receives an android computer tablet, containing the extensive neonatal care E-Library and MCAI’s textbook and pocketbooks.

Every procedure undertaken by each trainee will be documented in a **paper log book** and also onto a **database** held in the Android tablet computer. The tablet also contains an E Library updated 3 monthly containing a large number of videos and published training manuals/documents concerning the hospital care of new-born infants, orientated for low resource settings.

Reflective care will also be undertaken through regular clinical audit meetings, especially related to neonatal deaths or “near deaths”.

Each month the logistician attached to the programme will download the electronic data base from each trainee and email it to the programme lead in the UK as an Excel spread sheet. The paper logbooks will also be copied and sent to the UK so that they can be checked against the electronic logbooks.

Every trainee will also have a copy of the new MCAI textbook and neonatal and infant pocket book (see <http://www.mcai.org.uk/#!textbook-for-hospitals/c1sd8> for details).

Every 6 weeks there will be a 2-hour meeting in each of the 2 hospitals (CB Dunbar and CH Rennie) where the clinical audit of selected new-born infants who have died or nearly died will be attended by the trainees and supervised by the national lead trainer.

Because the training is part apprenticeship-based, all medical problems encountered will be managed as they occur and the monthly curriculum below is to show that during each particular month there will be an emphasis on consolidating background knowledge on that particular subject. Every candidate will have the curriculum and knowledge base to support each subject from the outset in both the reference textbook and for immediate use in their pocketbook.

Monthly components of the training programme

Month 1 Resuscitation of the new-born infant: basic and advanced.

- a. Assessment and recognition of need for resuscitation
- b. ABC approach
- c. Airway opening
- d. Use of bag valve mask
- e. Management of meconium aspiration
- f. Chest compressions
- g. Drugs
- h. Endotracheal intubation
- i. When to stop resuscitation
- j. Talking to parents about what has happened

Month 2 Basic care of the full-term, pre-term and low birth weight infant including organisation and management of the neonatal ward

- a. In pregnancy, minimizing surfactant deficiency using corticosteroids and preventing neonatal sepsis by appropriate antibiotics to the mother

- b. Organising the neonatal unit (including cleaning and care of equipment and ward, staff hygiene, duty rotas, observation charts, notes and record keeping etc.)
- c. Temperature control: keeping the baby warm including Skin to skin (Kangaroo Mother Care: KMC) Treating hypothermia
- d. Managing the placenta, cord and umbilical stump
- e. Vitamin K
- f. Assessing prematurity and measuring birth weight
- g. Feeding the newborn: breast feeding (including researching the possibility of setting up a *safe* breast milk bank with pasteurization/freezing/storing facilities near the new neonatal unit) and nasogastric feeding
- h. Managing feeding difficulties
- i. Fluid and electrolyte management in infants needing IV fluids
- j. Monitoring for and prevention of hypoglycaemia
- k. Monitoring oxygenation and safely giving oxygen when needed
- l. Prevention of hospital acquired infection
- m. Caring for infants and vulnerable mothers: diabetes, drug dependence and those with mental health problems
- n. Discharge plans including nutritional supplements when required

Month 3 Basic practical procedures needed for caring for ill new-born infants.

- o. Placing of gastric tubes
- p. How to measure temperature reliably?
- q. How to obtain urine samples and research possibility of undertaking ward-based urine microscopy
- r. How to obtain blood samples safely, especially heel capillary blood.
- s. Detection and management of hypoxaemia: pulse oximetry and safe administration of oxygen (see k. above, teach together)
- t. Detection and management of hypoglycaemia (see i. above, teach together)
- u. Safety in administering drugs, fluids and electrolytes
- v. Measuring blood glucose (see c. above, in this section)
- w. Giving injections (IM, IV and SC)
- x. Placing IV cannulae (peripheral venous, scalp vein and external jugular) and care of IV lines and cannulae
- y. Lumbar puncture
- z. Umbilical venous cannulation for exchange transfusion and in an emergency for resuscitation in the first 3 days of life.
- aa. Nasal CPAP treatment

Month 4 Detection and management of neonatal sepsis

- a. Neonatal sepsis: recognition, treatment (antibiotics, nutrition and fluid management including prevention and treatment of hypoglycaemia)
- b. Life threatening infection: meningitis and septicaemia
- c. Laboratory evaluation
- d. Pneumonia
- e. Skin infection
- f. Eye infections

- g. Umbilical infection
- h. Mucous membrane infections
- i. Necrotising Entero-Colitis (NEC)
- j. Knowledge of the neonatal use of antibiotics

Month 5 Detection and management of neonatal respiratory failure

- a. Neonatal respiratory failure: recognition, causes, treatment (antibiotics, oxygen, early nasal CPAP, nutrition and fluid management)
- b. Treatment of pneumothorax: needle thoracocentesis and chest drain insertion
- c. Tracheal intubation and assisted ventilation
- d. Apnoeic/hypoxaemic episodes causes, treatments, oxygen, nasal CPAP and caffeine

Month 6 Management of anaemia, jaundice, haemorrhage, shock, heart failure and polycythaemia

- a. Neonatal jaundice causes and management including collecting of blood samples, measurement of bilirubin and other laboratory tests for the causes of jaundice. Treatment with phototherapy and exchange transfusion
- b. Diagnosis and management of anaemia and haemorrhage
- c. Recognition and management of shock (including intraosseous needle insertion)
- d. Recognition and management of heart failure
- e. Recognition and management of polycythaemia (including hydration and partial exchange transfusion)

Month 7 Management of neurological disorders

- a. Identifying the causes of fits and reduced conscious level
- b. Metabolic causes including hypoglycaemia, hypocalcaemia and hyponatraemia
- c. Diagnosis and management of hypoglycaemia and its different causes
- d. Managing fits with glucose and anticonvulsants when indicated
- e. Neonatal tetanus: management
- f. Hypoxic ischaemic brain injury; diagnosis and management
- g. Other causes such as drug dependence, toxic substances from traditional healers, meningitis and congenital brain abnormalities

Month 8 Recognition and management of congenital abnormalities

- a. Congenital heart disorders
- b. Management of serious brain disorders including hydrocephalus and spina bifida
- c. Management of chromosome disorders such as Down's syndrome
- d. Gastrointestinal disorders such as oesophageal atresia, pyloric stenosis, duodenal stenosis, diaphragmatic hernia, volvulus, intussusception, peritonitis and Hirschsprung's disease
- e. Renal disorders
- f. Genital problems

Month 9 Recognition, prevention and management of infections that can affect the new-born infant

- a. HIV and PTMCT
- b. Syphilis
- c. Varicella zoster
- d. Dehydration and gastroenteritis
- e. Bronchiolitis
- f. TB

Month 9 Ethical and professional standards when caring for the new-born infant

- a. Pain control for infants undergoing procedures
- b. Restraint for procedures in infants
- c. UNCRC and Maternal and Child Friendly Healthcare Initiative (MCFHI)
- d. 3-day course in Medical Ethics and Professional Standards (already performed in Liberia July 2015)
- e. Care for the family, including the breaking of bad news, withdrawing treatment when palliative care is the only possible way forward.

Months 10 and 11

Consolidation of the training

Month 12

Final analysis of the continuous assessment materials collected during the training and decision on accreditation of each candidate following an OSCE.

TRAINEE'S NAME:	SUPERVISOR'S NAME:	DATE OF PROCEDURE:
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NEWBORN INFANT'S NAME: MOTHER'S NAME:	DATE OF BIRTH OR AGE:	HOSPITAL:
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REASON FOR TREATMENT:

DESCRIBE TREATMENT GIVEN INCLUDING ANY PROCEDURES AND DRUGS USED

AT TIME OF ONSET OF TREATMENT:

Pulse rate in beats/min:
Respiratory rate in breaths/min:
Capillary refill time in seconds:
Temperature in degree C:
Was shock present?
Was the baby fitting?
Was hypoglycaemia present?
What was blood glucose?:
Was the baby jaundiced?

DURATION OF TREATMENT:

WAS BLOOD TRANSFUSION NEEDED AND AVAILABLE?

WAS NEONATAL RESUSCITATION NEEDED?

DESCRIBE ANY UNEXPECTED PROBLEMS WITH TREATMENT GIVEN?
ANY EQUIPMENT PROBLEMS?

IF INFANT HAS JUST BEEN BORN DESCRIBE STATE OF BABY AT ONSET OF ANY RESUSCITATION GIVEN:

Breathing? Normal, gasping or apnoeic?
Colour?
Muscle tone?
Heart rate > 100 or < 100 or < 60 beats/min.
What was Apgar score at 5 minutes?

IF BABY WAS RESUSCITATED DESCRIBE WHAT WAS DONE
Bag and mask?
Chest compressions/
Drugs?

DID BABY SURVIVE?
IF NOT DESCRIBE WHAT HAPPENED HERE:

SIGNATURE OF TRAINEE

SIGNATURE OF SUPERVISOR

LOG BOOK FOR PROCEDURES UNDERTAKEN AS PART OF BASIC NEONATAL CARE

ANNEX F: Field Interviews – Trainee Assessment questionnaire for Obstetric clinicians

(Adopted from AMDD)

Task Sharing Program Assessment

Task Sharing Signal Functions and Other Essential Services to assess trainee skills

Name (of trained person) _____

Date (dd/mm/yyyy): ___ / ___ / ___

Instructions: Answers to the following questions regarding the Task Sharing Signal Functions by health workers in the maternity ward and other departments, together with reviewing facility registers, and through observation will enable the evaluators to establish how the trained person has performed utilizing the skills acquired. Remember that “parenteral” means by injection, either intramuscular or intravenous.

Signal Function 1: Parenteral Antibiotics

No.	Item	Responses		Skip to
1	Have you administered antibiotics parenterally in the last 3 months?	Yes.....1 No0		If “Yes,” skip to Item 4
2	If parenteral antibiotics were NOT administered in the last 3 months, why? <i>(circle 1 for all spontaneous answers; otherwise circle 0)</i> a. availability of human resources b. training issues c. supplies/equipment/drugs d. management issues e. policy issues f. no indication g. other (<i>specify</i>) _____	Spontaneously mentioned 1 1 1 1 1 1 1	Not mentioned 0 0 0 0 0 0 0	
3	If parenteral antibiotics were NOT administered in the last 3 months, were they administered in the last 12 months or since you completed your training?	Yes.....1 No0 _____		

Signal Function 2: Administer Uterotonic Drugs

No.	Item	Responses		Skip to
4	Have you administered oxytocics parenterally in the last 3 months?	Yes..... 1 No 0		If "No," skip to Item 6
5	If parenteral oxytocics were administered in the last 3 months, which type of oxytocic was used? <i>(circle one)</i>	Oxytocin 1 Ergometrine 2 Both 3 Other (<i>specify</i>)..... 4		All responses to this item skip to Item 9
6	If parenteral oxytocics were NOT administered in the last 3 months, why? <i>(circle 1 for all spontaneous answer; otherwise circle 0)</i> a. availability of human resources b. training issues c. supplies/equipment/drugs d. management issues e. policy issues f. no indication g. other (<i>specify</i>)	Spontaneously Mentioned 1 1 1 1 1 1 1	Not mentioned 0 0 0 0 0 0	
7	If parenteral oxytocics were NOT administered in the last 3 months, have you administered oxytocics since you completed your training?	Yes..... 1 No 0		If "No," skip to Item 9
8	If parenteral oxytocics were administered in last 12 months, which type of oxytocic was used? <i>(circle one)</i>	Oxytocin 1 Ergometrine 2 Both 3 Other (<i>specify</i>)..... 4		
9	Is misoprostol used in this facility for obstetric indications?	Yes..... 1 No 0		

Signal Function 3: Parenteral Anticonvulsants

No.	Item	Responses		Skip to
10	Have anticonvulsants been administered parenterally in the last 3 months?	Yes..... 1	No 0	If "No," skip to Item 12
11	If parenteral anticonvulsants were administered in the last 3 months, which type of anticonvulsant was used? <i>(circle one)</i>	Magnesium sulfate 1	Diazepam 2	All responses to this item skip to Item 15
		Both 3	Other (<i>specify</i>)..... 4	
12	If parenteral anticonvulsants were NOT administered in the last 3 months, why? <i>(circle 1 for all spontaneous answers; otherwise circle 0)</i> a. availability of human resources b. training issues c. supplies/equipment/drugs d. management issues e. policy issues f. no indication g. other (<i>specify</i>) _____	Spontaneously Mentioned	Not mentioned	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	
13	If parenteral anticonvulsants were NOT administered in the last 3 months, were they administered in the last 12 months?	Yes..... 1	No 0	If "No," skip to Item 15
14	If parenteral anticonvulsants were administered in last 12 months, which type of medication was used? <i>(circle one)</i>	Magnesium sulfate 1	Diazepam 2	
		Both 3	Other (<i>specify</i>)..... 4	

Signal Function 4: Manual Removal of Placenta

No.	Item	Responses		Skip to
15	Have you performed manual removal of placenta in the last 3 months?	Yes.....1 No0		If "Yes," skip to Item 18
16	If manual removal of placenta was NOT performed in the last 3 months, why? <i>(circle 1 for all spontaneous answers; otherwise circle 0)</i> a. availability of human resources b. training issues c. supplies/equipment/drugs d. management issues e. policy issues f. no indication g. other (specify) _____	Spontaneously Mentioned 1 1 1 1 1 1 1	Not mentioned 0 0 0 0 0 0 0	
17	If manual removal of placenta was NOT performed in the last 3 months, have you ever performed one post-training?	Yes1 No0		

Signal Function 5: Removal of Retained Products

No.	Item	Responses		Skip to
18	Have you performed removal of retained products in the last 3 months?	Yes1 No0		If "No," skip to Item 20
19	If removal of retained products was performed in last 3 months, which method was used? <i>(read options)</i> a. Vacuum aspiration b. Dilatation and curettage (D&C) c. Dilatation and evacuation (D&E) d. Misoprostol	Yes 1 1 1 1	No 0 0 0 0	All answers to this item skip to Item 23

No.	Item	Responses		Skip to
20	<p>If removal of retained products was NOT performed in the last 3 months, why?</p> <p><i>(circle 1 for all spontaneous answers; otherwise circle 0)</i></p> <p>a. availability of human resources</p> <p>b. training issues</p> <p>c. supplies/equipment/drugs</p> <p>d. management issues</p> <p>e. policy issues</p> <p>f. no indication</p> <p>g. other (specify)</p> <p>_____</p>	Spontaneously Mentioned	Not mentioned	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	
21	<p>If removal of retained products was NOT performed in the last 3 months, have you performed in since completion of training?</p>	Yes1	No0	If "No," skip to Item 23
22	<p>If removal of retained products was performed in last 12 months, which method was used?</p> <p><i>(read options)</i></p> <p>a. Vacuum aspiration</p> <p>b. Dilatation and curettage (D&C)</p> <p>c. Dilatation and evacuation (D&E)</p> <p>d. Misoprostol</p>	Yes	No	
		1	0	
		1	0	
		1	0	
		1	0	

Signal Function 6: Assisted Vaginal Delivery

No.	Item	Responses	Skip to		
23	<p>Have you performed assisted vaginal delivery (vacuum or forceps) in the last 3 months?</p>	Yes.....1	No0	If "No," skip to Item 25	
24	<p>If assisted vaginal delivery was performed in last 3 months, what instrument was used?</p> <p><i>(circle one)</i></p>	Vacuum extractor1	Forceps2	Both3	All responses to this item skip to Item 28

No.	Item	Responses		Skip to
25	<p>If assisted vaginal delivery (vacuum or forceps) was NOT performed in the last 3 months, why?</p> <p><i>(circle 1 for all spontaneous answers; otherwise circle 0)</i></p> <p>a. availability of human resources</p> <p>b. training issues</p> <p>c. supplies/equipment/drugs</p> <p>d. management issues</p> <p>e. policy issues</p> <p>f. no indication</p> <p>g. other (<i>specify</i>)</p> <p>_____</p>	Spontaneously Mentioned	Not mentioned	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	
26	<p>If assisted vaginal delivery (vacuum or forceps) was NOT performed in the last 3 months, has it been performed by you since completion of training?</p>	Yes.....1 No0		If "No," skip to Item 28
27	<p>If assisted vaginal delivery was performed in last 12 months, what instrument was used?</p> <p><i>(circle one)</i></p>	Vacuum extractor1 Forceps2 Both3		

Signal Function 7: Newborn Resuscitation

No.	Item	Responses		Skip to
28	<p>Has newborn resuscitation with bag and mask been performed in the last 3 months?</p>	Yes1 No0		If "Yes," skip to Item 31
29	<p>If newborn resuscitation with bag and mask was NOT performed in the last 3 months, why?</p> <p><i>(circle 1 for all spontaneous answers; otherwise circle 0)</i></p> <p>a. availability of human resources</p> <p>b. training issues</p> <p>c. supplies/equipment/drugs</p> <p>d. management issues</p> <p>e. policy issues</p> <p>f. no indication</p> <p>g. other (<i>specify</i>)</p> <p>_____</p>	Spontaneously Mentioned	Not mentioned	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	
		1	0	

No.	Item	Responses	Skip to
30	If newborn resuscitation with bag and mask was not performed in the last 3 months, has it been performed in the last 12 months?	Yes1 No.....0	

Signal Function 8: Obstetric Surgery (Cesarean Delivery)

No.	Item	Responses		Skip to
31	Have you performed a cesarean in the last 3 months?	Yes1 No.....0		If "Yes," skip to Item 34
32	If a cesarean was NOT performed in the last 3 months, why? <i>(circle 1 for all spontaneous answers; otherwise circle 0)</i> a. availability of human resources b. training issues c. supplies/equipment/drugs d. management issues e. policy issues f. no indication g. other (<i>specify</i>) _____	Spontaneously Mentioned 1 1 1 1 1 1 1	Not mentioned 0 0 0 0 0 0 0	
33	If a cesarean was NOT performed in the last 3 months, have you done one?	Yes1 No.....0		If "No," skip to Item 35
34	What type of anesthesia is currently used when performing a cesarean delivery? (<i>read options out loud</i>) a. General b. Spinal/epidural c. Ketamine d. Other (<i>specify</i>) _____	Yes 1 1 1 1	No 0 0 0 0	

Signal Function 9: Blood Transfusion

No.	Item	Responses	Skip to
35	Has blood transfusion been performed by you in the last 3 months?	Yes1 No.....0	If "No," skip to Item 37

No.	Item	Responses	Skip to																								
36	If blood transfusion was performed in the last 3 months, describe the primary supply of blood. <i>(circle one)</i>	Blood comes from central blood bank1 Blood comes from a facility blood bank..2 Blood is collected from family or friends as needed (i.e., direct transfusion)3 Other (<i>specify</i>)4 _____	All responses to this item skip to Item 40																								
37	If blood transfusion was NOT performed in the last 3 months, why? <i>(circle 1 for all spontaneous answers; otherwise circle 0)</i> a. availability of human resources b. training issues c. supplies/equipment/drugs d. management issues e. policy issues f. no indication g. other (<i>specify</i>) _____	<table border="1"> <thead> <tr> <th></th> <th>Spontaneously Mentioned</th> <th>Not mentioned</th> </tr> </thead> <tbody> <tr> <td>a. availability of human resources</td> <td>1</td> <td>0</td> </tr> <tr> <td>b. training issues</td> <td>1</td> <td>0</td> </tr> <tr> <td>c. supplies/equipment/drugs</td> <td>1</td> <td>0</td> </tr> <tr> <td>d. management issues</td> <td>1</td> <td>0</td> </tr> <tr> <td>e. policy issues</td> <td>1</td> <td>0</td> </tr> <tr> <td>f. no indication</td> <td>1</td> <td>0</td> </tr> <tr> <td>g. other (<i>specify</i>)</td> <td>1</td> <td>0</td> </tr> </tbody> </table>		Spontaneously Mentioned	Not mentioned	a. availability of human resources	1	0	b. training issues	1	0	c. supplies/equipment/drugs	1	0	d. management issues	1	0	e. policy issues	1	0	f. no indication	1	0	g. other (<i>specify</i>)	1	0	
	Spontaneously Mentioned	Not mentioned																									
a. availability of human resources	1	0																									
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c. supplies/equipment/drugs	1	0																									
d. management issues	1	0																									
e. policy issues	1	0																									
f. no indication	1	0																									
g. other (<i>specify</i>)	1	0																									
38	If blood transfusion was NOT performed in the last 3 months, have you performed blood transfusion since completion of training?	Yes1 No.....0	If "No," skip to Item 36																								
39	If blood transfusion was performed in the last 12 months, describe the primary supply of blood: <i>(circle one)</i>	Blood comes from central blood bank ...1 Blood comes from a facility blood bank..2 Blood is collected from family or friends as needed (i.e., direct transfusion)3 Other (<i>specify</i>)4 _____																									

Other Maternal and Newborn Health-Related Services

No.	Item	Responses	Skip to
40	Does staff routinely practice active management of the third stage of labor?	Yes1 No.....0	
41	Have you used a partograph to manage labor in the last 3 months?	Yes1 No.....0	If "Yes," skip to Item 43

No.	Item	Responses		Skip to
42	<p>If a partograph has NOT been used to manage labor in the last 3 months, why?</p> <p><i>(circle 1 for all spontaneous answer; otherwise circle 0)</i></p> <p>a. availability of human resources</p> <p>b. training issues</p> <p>c. supplies/equipment/drugs</p> <p>d. management issues</p> <p>e. policy issues</p> <p>f. no indication</p> <p>g. other <i>(specify)</i></p> <p>_____</p>	Spontaneously Mentioned	Not mentioned	
	<p>43</p> <p>Has a breech delivery been performed in the last 3 months? Was any done by you?</p>	<p>Yes1</p> <p>No.....0</p>		If "Yes," skip to Item 45
44	<p>If a breech delivery was NOT performed in the last 3 months, why?</p> <p><i>(circle 1 for all spontaneous answers; otherwise circle 0)</i></p> <p>a. availability of human resources</p> <p>b. training issues</p> <p>c. supplies/equipment/drugs</p> <p>d. management issues</p> <p>e. policy issues</p> <p>f. no indication</p> <p>g. other <i>(specify)</i></p> <p>_____</p>	Spontaneously Mentioned	Not mentioned	
45	<p>For mothers with unknown HIV status, has rapid testing been performed in the maternity/labor ward in the last 3 months?</p>	<p>Yes1</p> <p>No.....0</p>		If "Yes," skip to Item 47

No.	Item	Responses		Skip to
46	<p>If rapid HIV testing was NOT provided in the maternity/labor ward in the last 3 months, why?</p> <p><i>(circle 1 for all spontaneous answers; otherwise circle 0)</i></p> <p>a. availability of human resources</p> <p>b. training issues</p> <p>c. supplies/equipment/drugs</p> <p>d. management issues</p> <p>e. policy issues</p> <p>f. no indication</p> <p>g. other (<i>specify</i>)</p> <p>_____</p>	Spontaneously Mentioned	Not mentioned	
47	Have ARVs been given to seropositive mothers in maternity/labor ward in the last 3 months?	Yes1 No.....0		If "Yes," skip to Item 49
48	<p>If ARVs were NOT given to seropositive mothers in the maternity/labor ward in the last 3 months, why?</p> <p><i>(circle 1 for all spontaneous answers; otherwise circle 0)</i></p> <p>a. availability of human resources</p> <p>b. training issues</p> <p>c. supplies/equipment/drugs</p> <p>d. management issues</p> <p>e. policy issues</p> <p>f. no indication</p> <p>g. other (<i>specify</i>)</p> <p>_____</p>	Spontaneously Mentioned	Not mentioned	
49	Have ARVs been given to newborns in maternity/labor ward in the last 3 months? (PMTCT)	Yes1 No.....0		If "Yes," skip to Item 51

No.	Item	Responses		Skip to
50	<p>If ARVs were NOT given to newborns in the maternity/labor ward in the last 3 months, why?</p> <p><i>(circle 1 for all spontaneous answers; otherwise circle 0)</i></p> <p>a. availability of human resources</p> <p>b. training issues</p> <p>c. supplies/equipment/drugs</p> <p>d. management issues</p> <p>e. policy issues</p> <p>f. no indication</p> <p>g. other (<i>specify</i>)</p> <p>_____</p>	<p>Spontaneously Mentioned</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>Not mentioned</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p>	
51	<p>Has special or intensive care been provided to a preterm or low birth weight baby in the last 3 months?</p>	<p>Yes1</p> <p>No.....0</p>		<p>If "Yes," skip to Item 53</p>
52	<p>If special or intensive care has NOT been provided to a premature or low birth weight baby in the last 3 months, why?</p> <p><i>(circle 1 for all spontaneous answers; otherwise circle 0)</i></p> <p>a. availability of human resources</p> <p>b. training issues</p> <p>c. supplies/equipment/drugs</p> <p>d. management issues</p> <p>e. policy issues</p> <p>f. no indication</p> <p>g. no pediatric or intensive care unit for infants</p> <p>h. other (<i>specify</i>)</p> <p>_____</p>	<p>Spontaneously Mentioned</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>Not mentioned</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p>	
53	<p>Has a craniotomy been performed in the last 3 months?</p>	<p>Yes1</p> <p>No.....0</p>		<p>If "Yes," skip to Item 55</p>

No.	Item	Responses		Skip to
54	If a craniotomy was NOT performed in the last 3 months, why? <i>(circle 1 for all spontaneous answers; otherwise circle 0)</i> a. availability of human resources b. training issues c. supplies/equipment/drugs d. management issues e. policy issues f. no indication g. other (<i>specify</i>) _____	Spontaneously Mentioned	Not mentioned	
55	Has an episiotomy been performed in the last 3 months?	Yes1 No.....0		If "Yes," skip to Item 57
56	If an episiotomy was NOT performed in the last 3 months, why? <i>(circle 1 for all spontaneous answer;, otherwise circle 0)</i> a. availability of human resources b. training issues c. supplies/equipment/drugs d. management issues e. policy issues f. no indication g. other (<i>specify</i>) _____	Spontaneously Mentioned	Not mentioned	
57	Is there a health worker at this facility who is trained to repair obstetric fistula?	Yes1 No.....0		If "No," skip to Item 59
58	If there is a health worker trained to repair obstetric fistula, has at least one fistula been repaired in this facility in the last 3 months?	Yes1 No.....0		
59	Have temporary family planning methods been provided in the last 3 months?	Yes1 No.....0		If "Yes," skip to Item 61

No.	Item	Responses		Skip to
60	If temporary family planning methods were NOT provided in the last 3 months, why? <i>(circle 1 for all spontaneous answers; otherwise circle 0)</i> a. availability of human resources b. training issues c. no methods available d. management issues e. policy issues f. no indication g. other (<i>specify</i>) _____	Spontaneously Mentioned	Not mentioned	
61	Has a surgical method of permanent contraception been performed in the last 3 months?	Yes1 No.....0		If "Yes," skip to Item 63
62	If a surgical method of permanent contraception was NOT performed in the last 3 months, why? <i>(circle 1 for all spontaneous answers; otherwise circle 0)</i> a. availability of human resources b. training issues c. supplies/equipment/drugs d. management issues e. policy issues f. no indication g. other (<i>specify</i>) _____	Spontaneously Mentioned	Not mentioned	
63	Is there a health worker that can do tubal ligation (surgical method of permanent contraception)?	Yes1 No.....0		
64	Is there a health worker that can do vasectomy?	Yes1 No.....0		
65	Does the facility provide post-abortion contraception to women?	Yes1 No.....0		

COMMENTS: Please provide any other information you feel may be relevant to this exercise.

ANNEX G: Field Interviews – questionnaire for facilities

(Interview protocol for Doctors, Nurses & Midwives (Gynecologist and Obstetric care department)

(Adopted from AMDD)

Task Sharing Program Assessment

Liberia Health Facility EmNOC Assessment Tool, 2019

Please follow the instructions provided to complete all sections of this questionnaire

Where you find options: Y N N/A, Y = Yes N = No N/A = Not Applicable

Select the appropriate option using a tick : No



N

indicates Yes while

Y



indicates

1.0 Facility details

1.1 Date of ___/___/___

1.2 Facility name _____

1.5 District _____

1.3 Facility tier

1.6 County _____

Tier 2 Dispensary/Health center
Tier 3 Sub & county referral hospital

1.7 Respondent's initials _____

1.4 Facility ownership 1 GoL 2 FBO 3 Private

1.8 Respondent's tel # _____

1.9 OIC name _____

2.0 Does this facility have the following units?:

2.1 Antenatal ward Y N

2.4 Combined antenatal and postnatal ward Y N

2.2 Labor ward Y N

2.5 Newborn unit Y N

2.3 Postnatal ward Y N

2.6 Kangaroo mother care (KMC) area/room Y N

3.0 What is the total number of women who delivered at this facility across all the three months preceding this assessment?

(Use the maternity register to count all women who delivered at the facility.)

4.0 Does this facility provide post-abortion care services? Y N

If yes for above, in which service area is the service provided? If no, proceed to the next question.

4.1 OPD/Casualty

4.3 Gyne ward

4.2 MCH/FP

4.4 Other (specify)

4.4.1

5.0 Availability of MNH policy and guideline documents

Confirm physically if the documents listed below are available.

5.1 National Guidelines for Quality Obstetric and Perinatal Care

Y

N

5.2 National Roadmap for Accelerating the Attainment of MDGs Related to MNH in Liberia

Y

N

5.3 Essential Newborn Care Guidelines

 Y N

5.4 Post-abortion Care Guidelines

 Y N

6.0 Availability of job aids

Confirm physically if the job aids listed below are available and appropriately placed in a visible location.

6.1 Management of postpartum hemorrhage (PPH)	<input type="checkbox"/> Y	<input type="checkbox"/> N
6.2 Active management of third stage of labor	<input type="checkbox"/> Y	<input type="checkbox"/> N
6.3 Management of pre-eclampsia/eclampsia	<input type="checkbox"/> Y	<input type="checkbox"/> N
6.4 Newborn resuscitation	<input type="checkbox"/> Y	<input type="checkbox"/> N
6.5 Post-abortion care: i.e., manual vacuum aspiration (MVA) OR use of misoprostol for medical evacuation	<input type="checkbox"/> Y	<input type="checkbox"/> N
6.6 Protocol for assisted vaginal delivery, including vacuum delivery	<input type="checkbox"/> Y	<input type="checkbox"/> N
6.7 Management of puerperal sepsis	<input type="checkbox"/> Y	<input type="checkbox"/> N
6.8 Warm chain for baby care	<input type="checkbox"/> Y	<input type="checkbox"/> N
6.9 Kangaroo mother care (KMC)	<input type="checkbox"/> Y	<input type="checkbox"/> N
6.10 Management of neonatal sepsis	<input type="checkbox"/> Y	<input type="checkbox"/> N
6.11 Breastfeeding	<input type="checkbox"/> Y	<input type="checkbox"/> N

7.0 Staffing

7.1 What is the total number of staff currently working in the maternity and newborn units? (All doctors, nurses, and clinical officers, including medical officer and clinical officer interns and qualified nurses undergoing post-basic training)

7.2 Please indicate the number of staff working in the maternity / labor ward (excluding students).

Please indicate the number of staff working in the newborn unit (excluding students).

7.2.1 Doctors

|

7.3.1 Doctors

|

7.2.2 Nurses

|

7.3.2 Nurses

|

7.2.3 Clinical officers

|

7.3.3 Clinical officers

|

8.0 Training

8.1 Please indicate the total number of staff currently working in the maternity or newborn units at this facility who have undertaken the harmonized BEmONC training course in the past 12 months.

Additional training: Please indicate the total number of staff currently working in the maternity or newborn units at this facility who have undergone training in the following specific areas:

8.2 Management of puerperal sepsis

8.2.1 On-job training

|

8.2.2 Orientation/workshop / seminar

|

8.2.3 Mentorship

8.2.4 Facility CMEs

8.3 Active management of third stage of labor

8.3.1 On-job training

8.3.2 Orientation/workshop/seminar

8.3.3 Mentorship

8.3.4 Facility CMEs

8.4 Management of pre-eclampsia/eclampsia

8.4.1 On-job training

8.4.2 Orientation/workshop/seminar

8.4.3 Mentorship

8.4.4 Facility CMEs

8.5 Manual removal of the placenta

8.5.1 On-job training

8.5.2 Orientation/workshop/seminar

8.5.3 Mentorship

8.5.4 Facility CMEs

8.6 Post-abortion care including manual vacuum aspiration (MVA) OR use of misoprostol for medical evacuation

8.6.1 On-job training

8.6.2 Orientation/workshop/seminar

8.6.3 Mentorship

8.6.4 Facility CMEs

8.7 Assisted vaginal delivery (vacuum extraction)

8.7.1 On-job training

8.7.2 Orientation/workshop/seminar

8.7.3 Mentorship

8.7.4 Facility CMEs

8.8 Newborn resuscitation/essential newborn care/helping babies breathe (HBB)

8.8.1 On-job training

8.8.2 Orientation/workshop/seminar

8.8.3 Mentorship

8.8.4 Facility CMEs

8.9 Kangaroo mother care (KMC)

8.9.1 On-job training

8.9.2 Orientation/workshop/seminar

9.0 Commodities and supplies

Indicate the availability of the following commodities and supplies after physical inspection.

9.1 Injectable penicillin	<input type="checkbox"/> Y	<input type="checkbox"/> N	9.2 Injectable gentamicin	<input type="checkbox"/> Y	<input type="checkbox"/> N
9.3 IV metronidazole	<input type="checkbox"/> Y	<input type="checkbox"/> N	9.4 Injectable ceftriaxone	<input type="checkbox"/> Y	<input type="checkbox"/> N
9.5 Injectable oxytocin	<input type="checkbox"/> Y	<input type="checkbox"/> N	9.6 Injectable magnesium sulphate	<input type="checkbox"/> Y	<input type="checkbox"/> N
9.7 Regular sterile gloves	<input type="checkbox"/> Y	<input type="checkbox"/> N	9.8 Elbow-length sterile gloves	<input type="checkbox"/> Y	<input type="checkbox"/> N
9.9 Methyl dopa/labetalol/ nifedipine/hydrallazine	<input type="checkbox"/> Y	<input type="checkbox"/> N	9.10 10% calcium gluconate	<input type="checkbox"/> Y	<input type="checkbox"/> N
9.11 Lignocaine (for IM magnesium sulphate)	<input type="checkbox"/> Y	<input type="checkbox"/> N	9.12 Urine dipstick strips (Uristix)	<input type="checkbox"/> Y	<input type="checkbox"/> N
9.13 Misoprostol tablets	<input type="checkbox"/> Y	<input type="checkbox"/> N			

9.14.0 What is the MAJOR source of the above supplies?

<input type="checkbox"/> 9.14.1 GoL	<input type="checkbox"/> 9.14.2 Facility purchase	<input type="checkbox"/> 9.14.3 Partners	<input type="checkbox"/> 9.14.4 Patients
-------------------------------------	---	--	--

10.0 Equipment

Indicate the availability of the equipment listed below after physical inspection.

Item	Maternity / Gyne unit			Newborn unit			Store		Other		Functional	
	Y	N	N/A	Y	N	N/A	Y	N	Y	N	Y	N
10.1 Fetoscope	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N
10.2 Manual/electrical	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N
10.3 Ambu bag: adult size, 500 mls volume)	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N
10.4 MVA (manual vacuum aspiration) kit for post- abortion care	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N
10.5 Airways (different	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N
10.6 Patella hammer	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N
10.7 Thermometer	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N
10.8 Vaginal speculums (any bivalve speculum : e.g. Graves/Cusco)	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N
10.9 Stethoscope	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N
10.10 BP machine	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Y	<input type="checkbox"/> N

10.11 Ambu bag:
pediatric size

Y N

Y N

Y N

10.12 Vacuum extractor
for assisted vaginal

Y N

Y N

Y N

10.0 Equipment (continued)

Indicate the availability of the equipment listed below after physical inspection.

Item	Maternity / Gyne unit	Newborn unit	Store	Other	Functional
10.13 Infant weighing scale	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A			10.29 Caesarian section set	
10.14 Adult weighing scale	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A			10.30 Newborn resuscitaire	
10.15 Color-coded bins (black, red, yellow)	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A			10.31 Newborn towels	
10.16 Instrument tray	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				
10.17 Bowls, 8"	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				
10.18 Kidney dish, 10"	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				
10.19 Toothed dissecting forceps, 6"	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				
10.20 Mayo scissors curved, 7"	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				
10.21 Cord scissors, 10 cm (4")	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				
10.22 Needle holder, 7"	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				
10.23 Artery forceps: straight, 8"	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				
10.24 Episiotomy scissors (Braun stadler 12.5cm/ 14.5cm)	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A			
10.25 Gallipots	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A			
10.26 Vaginal examination pack	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				
10.27 Suction tube	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				
10.28 Cut-down tray set	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A				

Y N
Y N

Y N N/A

Y N
 Y N

Y N

Y N
 Y N

Y N

Y N

Y N

Y N

Y N

Y N N/A

Y N

Y N

Y N

Y N N/A

Y N

Y N

Y N

Y N N/A

Y N

Y N

Y N

Y N N/A

Y N

Y N

Y N

Y N N/A

Y N

Y N

Y N

Y N N/A

Y N

Y N

Y N

10.32 Oxygen source

Y N N/A

Y N N/A

Y N

Y N

Y N

10.33 Gynecology examination light

Y N N/A

Y N N/A

Y N

Y N

Y N

11.0 Blood transfusion

11.1 Does this facility provide blood transfusion services?

 Y N

12.0 Hygiene and sanitation

Confirm the availability of the following through visual inspection.

Delivery room

Newborn unit

12.1 Running water

 Y N N/A Y N N/A

12.2 Soap

 Y N N/A Y N N/A

12.3 Disposable paper towels

 Y N N/A Y N N/A

12.4 Individual reusable hand towels

 Y N N/A Y N N/A

12.5 Alcohol hand rub/sanitizer

 Y N N/A Y N N/A

12.6 How does the facility dispose of waste? (Tick all that apply.)

12.6.1 Waste pit

12.6.2 Placenta pit

12.6.3 Incinerator

12.6.4

~~Burning~~

13.0 Power supply

13.1 Indicate the source(s) of lighting at this facility (please select ALL that are available and FULLY FUNCTIONAL).

13.1.1 National grid

13.1.2 Generator

13.1.3 Solar power

13.1.4 Other (Specify)

14.0 Process of care

Use available documentation at the health facility to record the performance of the process improvement indicators provided below during the **3-month period** preceding this assessment (except maternal mortality– 2 months). Refer to **page 9** for sampling approach. **Data sources: partographs, maternity registers, clinical records from maternity/newborn units, and direct visual inspection**

A. Monitoring of labor

- 14.1 Have partographs been used to monitor labor at this facility in the **past 3 months**? Y N
- 14.2 Total number of maternity records sampled at the facility.....
- 14.3 Number of deliveries for which oxytocin was administered within 1 min of delivery.....
- 14.4 Number of deliveries with partographs used appropriately for monitoring of **ALL three** of the following: fetal heart rate **AND** maternal condition **AND** reporting outcome of labor.....
- 14.5 Number of deliveries whose mothers' blood pressure was documented every 4 hours during labor.....

B. Newborn care

- 14.6 Number of records from the **last 3 months** for newborns requiring resuscitation at **birth** (5 minutes APGAR score <7 OR irregular shallow breathing OR pulse < 60/min)
- 14.7 Number of newborns with documented record of appropriate resuscitation at **birth**.....

C. MPDSR

- 14.8 Does this facility have an MPDSR committee?..... Y N
- 14.9 Are **ALL** maternal death review notes uploaded to DHIS 2?..... Y N
- 14.10 Number of maternal death records sampled from preceding **12 months**.....
- 14.11 Number of sampled maternal deaths from preceding **12 months** audited
- 14.12 Total perinatal deaths* reported in facility statistics in preceding **3 months**.....
- 14.13 Perinatal deaths* recorded (count from maternity/NBU registers) in preceding **3 months**.....
- 14.14 Number of perinatal deaths* audited in the preceding **3 months**.....

* Perinatal deaths: deaths occurring between 2 8 weeks gestation to day 7 of life

Indicator	Description	Calculation
1 Oxytocin administration for	Percentage of deliveries at the facility for which oxytocin was administered within 1 minute of	$\frac{14.3}{14.2} \times 100$
2 Appropriate use of partograph	Percentage of deliveries at the facility for which partograph was filled in completely and correctly	$\frac{14.4}{14.2} \times 100$
3 Appropriate monitoring of	Percentage of deliveries at the facility for which blood pressure was monitored at least every 4 hours during	$\frac{14.5}{14.2} \times 100$
4 Appropriate newborn	Percentage of newborns who required resuscitation at birth documented to have received appropriate	$\frac{14.7}{14.6} \times 100$

6 Implementation of MPDSR	Percentage of sampled maternal deaths for which mortality audit was conducted	14.11 14.10 ^x 100
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15.0 Quality improvement

15.1 Team formed with list of members available.....	<input type="checkbox"/>	<input type="checkbox"/> Y	N
15.2 QIT meetings held at least monthly with minutes available, each meeting with actionable item.....	<input type="checkbox"/>	<input type="checkbox"/> Y	N
15.3 Team has at least three indicators it is working to improve (evidence in minutes, QIT meeting guide, data abstraction tools, and run charts)	<input type="checkbox"/>	<input type="checkbox"/> Y	N
15.4 Team regularly reviews data in its meetings (evidence from minutes, run charts, etc.).....	<input type="checkbox"/>	<input type="checkbox"/> Y	N
15.5 Team has evidence of successful completion of an improvement project.....	<input type="checkbox"/>	<input type="checkbox"/> Y	N
Total score / 5.....	<input type="checkbox"/>		

Procedure for sampling of records for section 14 (process of care)

A. Section 14.2–14.5 (Monitoring of labor). Data sources: maternity registers, medical records, and partographs

- i. Each facility should aim to select 100 maternity records for the preceding **3-month period**.
- ii. Small health facilities with less than 100 deliveries over the preceding 3-month period should include all available records.
- iii. High-volume facilities should extract data from the first 35 maternity records per month; counting backwards from the last day of the month for each of the three months covered in the assessment.
- iv. If any of the three months has fewer than 35 records, include all records for that month and then distribute the deficit evenly between the other two months.

B. Section 14.6–14.7 (newborn care)

Newborn resuscitation. Data sources: maternity and newborn medical records partographs

- i. Each facility should aim to select records for all newborns with documentation of 5 minutes APGAR score <7 OR irregular shallow breathing OR pulse < 60/min over the preceding **3-month period**.

C. Section 14.8–14.14 (MPDSR). Data sources: maternity registers, medical records (maternity and newborn units), partographs, and facility MPDSR committee/QIT minutes

- i. Each facility should aim to select 24 records for maternal deaths from the maternity department, for the preceding **12-month period**.
- ii. Health facilities with fewer than 24 mortality records over the preceding 12-month period should include all available mortality records from the maternity department.
- iii. High-volume facilities should extract data from the first 2 mortality records from the maternity department per month, counting backwards from the last day of the month for each of the 12 months covered in the assessment.
- iv. If any of the 12 months has fewer than 2 mortalities recorded, include all eligible records for that month and then distribute the deficit evenly across the other months.

EXTERNAL EVALUATION:

Support to Emergency Obstetric and Neonatal Care (EmONC) in Liberia through TASK SHIFTING

Kwame Ampomah, MD, MPH
LEAD CONSULTANT
Lawrence M. Sherman, MD, FLCS
LOCAL CONSULTANT

INTRODUCTION

President Ellen Johnson-Sirleaf:

“The nation thrives when mothers survive. We must strive to keep them alive.”

International Women’s Day 2010: Monrovia/ Liberia

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SITUATION IN LIBERIA

- Maternal mortality ratio: 1072/100 000 live births (LDHS, 2013)
- Causes: bleeding, sepsis, pre-eclampsia, eclampsia
- Neonatal mortality rate: 24.1/1000 live births (LDHS, 2013)
- Causes: birth asphyxia (29%), prematurity (28%), sepsis (23%)
- Uptake of PMTCT: 90% (LDHS 2013)
- All facilities offer all 7 basic emergency obstetric and newborn care (BEmONC) signal functions; 8 facilities offer comprehensive EmONC.
- Skilled birth attendance: 61.1% (LDHS, 2013)
- **Physicians density (per 1000 population): 0.06 (2016 HRH Census)**
- Nursing and midwifery personnel density (per 1000 population) 0.23(2016 HRH

USEFUL COMPARISONS

• Maternal mortality data for Liberia and a few other African countries

Country	MORTALITY
RATIO/100,000	
Liberia	1,072
Ghana	164
Kenya	510
Sierra Leone	1,100
Zimbabwe	443
Botswana	129
Zambia	224
Nigeria	814

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LIBERIA: 2009 DRAFT MIDDLELEVEL PROVIDER POLICY DOCUMENT

- “Given the current shortfall of qualified health workers in Liberia, all existing human resource capacity must be harnessed to improve healthcare delivery. Meeting the surgical needs of women with complications during delivery is an essential service that must be available at all times. It will take several years before Liberia is able to train and employ enough physicians to adequately meet this need in the health system.
- The establishment of a cadre of midlevel health workers trained in emergency obstetric surgery will maximize the capacity of existing human resources and also ensure a sustainable strategy for providing quality emergency obstetric
- The Government of Liberia sees access to quality healthcare as a universal human right and makes the equitable delivery of health services a central priority. However, due to the shortage of physicians in Liberia, equitable access to emergency obstetric surgery remains unfulfilled. This policy aims to strengthen access and equity in maternal and newborn health by expanding emergency obstetric surgical care to currently underserved areas.

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OBJECTIVES OF EVALUATION

Specifically, the assignment will achieve the following objectives:

- To assess if the task sharing innovative program has achieved its objectives
- It will also provide information on feasibility of its future scaling up considering context and funding

METHODOLOGY

- Desk review of all available documents regarding the Task Shifting initiative
- Site visits and interviews
- On-site evaluation of the quality of the technical environment in which the trained EmOC personnel provided services, including
 - the laboratory services
 - pharmacy services
- Records in hard copy, including logbooks were reviewed

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CURRICULUM

The team reviewed the curricula for the two training programmes and it was established that the curricula were:

- Reviewed by the national authorities and accepted (MOH, LNMB, LNA, LMDC)
- Vetted by WHO International Panel
- Attested to by International Partners

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CAPACITY BUILDING

- Overall it can be concluded that the initiative achieved its mandated goal in terms of strengthening the technical skills and capacities of nurses/midwives in delivery rooms, through training to be able to handle and deal with emergency cases during delivery including bleeding, hypertension and toxemia of pregnancy.
- Anecdotal evidence obtained from documents review and interviews during site visit suggests clearly that the quality of care and service provision (both pre- and post-natal, and during delivery) at the targeted sites improved meaningfully with the involvement of the trained clinicians.

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ACHIEVEMENTS

Task-sharing initiative stems out of the 2009 Liberia

Government policy “Middle-level Health Providers Policy,” under which government took a policy position to provide middle cadre with advanced skills, including surgical skills in order to save lives.

- The government intention and plans have been achieved in this respect, through the task-sharing programmes.
- Furthermore, these task sharing programmes were initiated in close collaboration with and the support of several development partners, as proposed by President Ellen Johnson-Sirleaf.

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EmONC SIGNAL FUNCTIONS

BEmONC

1. Administer parenteral antibiotics
2. Administer uterotonic drugs
3. Administer parenteral anticonvulsants
4. Perform manual removal of the placenta
5. Remove retained products of conception
6. Perform assisted vaginal delivery
7. Perform basic neonatal resuscitation

Comprehensive EmONC (CEmONC): All seven BEmONC Signal Functions *plus*

8. Perform Caesarean delivery
9. Provide blood transfusion

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Type of pregnancy complications	Type of Intervention	Total number performed	I = Independent; A = Assistant; IS = Indirectly Supervised; DS = Directly supervised.
Obstructed labour, malposition, malpresentation	CS	218	I=41 A=26 IS=80 DS=71
Previous CS, Failed induction, Fetal distress, Prolonged labour, Others	CS	162	I=21 A=29 IS=63 DS=49
Management major shock	Medical including anti-shock garment Emergency hysterectomy	46 7	I=18, A=11, IS=11, DS=4
APH (placenta praevia)	CS	23	I=2, A=4, DS=1
APH (abruption)	CS	10	I=5, A=2, IS=5, DS=11
PPH	VD	2	I=1, A=1, IS=5, DS=3
Manual removal placenta	1. Medical management	13	I=5, IS=4, D=4
	2. Advanced (include condom catheter and surgery)	61	I=20, A=14, IS=12, DS=15
Severe pre-eclampsia or eclampsia	Magnesium sulphate +/- antihypertensive drugs	10	I=4, A=1, IS=4, DS=1
Ruptured ectopic pregnancy	Induction of labour	11	I=8, A=1, IS=1, DS=1
	CS	27	I=2, A=6, IS=13, DS=6
Complex miscarriage	Laparotomy and resection of Fallopian tube	17	I=3, A=6, IS=5, DS=3
Delay in second stage	Includes 3 molar pregnancies	71	I=50, A=2, IS=13, DS=6
Shoulder dystocia	Vacuum delivery	85	I=67, A=3, IS=9, DS=6
Vaginal breech delivery	Sequential procedures	2	I=1, IS=1
Multiple births requiring intervention	Sequential procedures	19	I=14, IS=5
Ruptured uterus	VD	18	I=10, A=1, IS=6, DS=1
	CS	33	I=2, A=6, IS=19, DS=6
Major events before or after birth	Repair	17	I=4, A=5, IS=4, DS=4
	Emergency hysterectomy	5	I=1, A=2, DS=2
		12	I=3, A=5, IS=3, DS=1

Obstetric Complications Managed by 9 Obstetric Clinician Interns in 6 rural hospitals from 21st January to 2nd December 2018

5 mothers died: 1 from acute liver and renal failure, 2 from PPH, 2 from sudden shock with respiratory failure post CS

All others survived

CS = Caesarean section,

IUFD = Intra Uterine Fetal

Death,

APH = Antepartum

Haemorrhage,

PPH = Post-Partum

Haemorrhage,

VD = Vaginal Delivery

Some procedures occurred in more than 1 patient

Advanced neonatal hospital care Managed by 4 Neonatal Clinician Interns in 2 rural hospitals in Liberia from April 2017 to October 2018

Type of clinical neonatal problem	Type of Intervention	Total number performed	Outcome of babies (survived S, or died D)	Service provided by Interns (DS = Direct Supervision, IS = Indirect Supervision, IM = Independent Management)
Resuscitation needed at birth	FMV	180	151 S 29 D	
	FMV plus chest compressions	43	29 S 14 D	
Preterm/low birth weight	Skin to skin (KMC) mother care. N/G feeding. Antibiotics. Respiratory support if required.	149	128 S 21 D	DS = 146 IS=73 IM = 4
	Antibiotics. Respiratory support if required.			DS = 120 IS= 25 IM = 4
Neonatal sepsis	Antibiotics. Supportive care and monitoring.	412	383 S 29 D	DS= 307; IS= 96; IM = 9
Respiratory failure	Treated with oxygen	205	183 S 22 D	DS = 144; IS = 61
Respiratory failure	Treated with oxygen and nasal CPAP	81	68 S 13 D	DS = 79; IS = 2
Meconium aspiration syndrome	Antibiotics. Respiratory support. Supportive care and monitoring.	24	19 S 5 D	DS= 13 IS=11
Hypoglycaemia	IV dextrose. Feeding.	6	4 S 2 D	DS = 2 IS= 4
Hypoxic ischaemic encephalopathy (birth asphyxia)	Anticonvulsants. Antibiotics. Oxygen. Supportive care and monitoring.	180	149 S 31 D	DS = 136 IS= 34 IM= 10
Jaundice	Phototherapy. Monitoring.	12	11 S 1 D	DS = 9 IM= 2
Fitting	Anticonvulsants. Supportive care and monitoring	71	61 S 10 D	DS = 34 IS= 36 IM= 10
Congenital malaria	IV Artesunate. Supportive care and monitoring.	42	38 S 4 D	DS = 24 IS = 6 IM= 12
Congenital abnormality	Referral as appropriate. Supportive care and	10	8 S 2 D	DS = 6 IS = 4

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RELEVANCE

•Based on the information made available to the evaluation team through field visits, interviews and questionnaires as well as project documents, the task shifting initiative can be said to have been responsive to the overall issue of improving emergency obstetric care and neonatal care, particularly in remote areas in Liberia.

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PARTNERSHIP

- The main international partners supporting the MoH were
 - WHO
 - UNFPA
 - UNICEF
 - MCAI.

•This partnership has not only provided technical support to the MOH but also significant financial and material support for addressing maternal and neonatal deaths in Liberia.

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SUSTAINABILITY

- This initiative has the singular purpose of contributing to reducing the number of neonatal and maternal mortalities.
- The trained midwives and nurses were mostly enrolled into the programme from counties outside of Monrovia, expecting that they will all go back to their counties of origin at the end of their training.
- This approach will ensure sustainability from the point of view of staff retention in the counties
- There is a need for multi-donor support to scale-up all the task shifting initiatives

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MOTIVATION

•The Ministry, in collaboration with relevant accreditation institutions, should consider making this training programme a degree course so that upon successful completion of their training, they can be awarded with a BSC in advanced nursing.

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LESSONS LEARNED

- The training programme took place within Liberia, in Liberian facilities. No aspect of the training demanded any foreign country deployment. This has proven to be very cost-effective for the Government of Liberia.
- The Ob clinicians and neonatal nurses are better placed to carry out on the job training for other midwives and nurses as they spend nearly 90% of their time at work in the maternity and neonatal wards.
- The presence of the clinicians and nurses afforded the doctors the opportunity to concentrate on other areas of practice in the hospital or community.

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RECOMMENDATIONS

1. Task shifting should be continued until the number of doctors in Liberia terms of numbers, equitable deployment retention in rural areas
2. The training programme for nurse should be harmonized with the rest shifting programme
3. Government should streamline the duration and designation
 - Advanced Midwife Practitioner
 - Advanced Neonatal Nurse
 - Advanced Nurse Anesthetist

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RECOMMENDATIONSCONT'D

4. All three programmes to be three years and at the end a bachelor's degree be awarded
5. Ministry should consider appropriate remuneration for this cadre of Health workers
6. Since upon completion of the training they still remain midwives, the issuance of license should be the responsibility of the LBNM
7. Ministry should continue dialogue with the current LMDC leadership to help them appreciate the importance of the task shifting initiative

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DON'T KILL THE PROGRAMME UNTIL THE NUMBERS SO DICTATE:

LIBERIA		IRELAND	
Population	4.5 million	Population	4.7 million
MMR	1079/100,000	MMR	10/100,000
Doctors/capita	0.06:1,000	Doctors /capital	3.4:1,000
Total #: Doctors	298	Total#: Doctors	7,000

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ON-PHYSICIAN CLINICIANS: EXPANDED TRAINING ACROSS 212 AFRICAN COUNTRIES - An Overview

Country	Name of Courses or Licenses	Year Training Program	Length of Course	Appointments in Country	Comments
Algeria	Algeria de Diplôme de Médecin (Algeria)	1980	1 year	00	
Angola	Angola de Diploma de Medicina (Angola)	1980	1 year	00	
Argentina	Argentina de Diploma de Medicina (Argentina)	1980	1 year	00	
Armenia	Armenia de Diploma de Medicina (Armenia)	1980	1 year	00	
Australia	Australia de Diploma de Medicina (Australia)	1980	1 year	00	
Austria	Austria de Diploma de Medicina (Austria)	1980	1 year	00	
Bahamas	Bahamas de Diploma de Medicina (Bahamas)	1980	1 year	00	
Bahrain	Bahrain de Diploma de Medicina (Bahrain)	1980	1 year	00	
Bangladesh	Bangladesh de Diploma de Medicina (Bangladesh)	1980	1 year	00	
Barbados	Barbados de Diploma de Medicina (Barbados)	1980	1 year	00	
Belgium	Belgium de Diploma de Medicina (Belgium)	1980	1 year	00	
Belize	Belize de Diploma de Medicina (Belize)	1980	1 year	00	
Benin	Benin de Diploma de Medicina (Benin)	1980	1 year	00	
Bhutan	Bhutan de Diploma de Medicina (Bhutan)	1980	1 year	00	
Bolivia	Bolivia de Diploma de Medicina (Bolivia)	1980	1 year	00	
Bosnia and Herzegovina	Bosnia and Herzegovina de Diploma de Medicina (Bosnia and Herzegovina)	1980	1 year	00	
Brazil	Brazil de Diploma de Medicina (Brazil)	1980	1 year	00	
Bulgaria	Bulgaria de Diploma de Medicina (Bulgaria)	1980	1 year	00	
Burkina Faso	Burkina Faso de Diploma de Medicina (Burkina Faso)	1980	1 year	00	
Burundi	Burundi de Diploma de Medicina (Burundi)	1980	1 year	00	
Cambodia	Cambodia de Diploma de Medicina (Cambodia)	1980	1 year	00	
Cameroon	Cameroon de Diploma de Medicina (Cameroon)	1980	1 year	00	
Canada	Canada de Diploma de Medicina (Canada)	1980	1 year	00	
Cape Verde	Cape Verde de Diploma de Medicina (Cape Verde)	1980	1 year	00	
Chad	Chad de Diploma de Medicina (Chad)	1980	1 year	00	
Chile	Chile de Diploma de Medicina (Chile)	1980	1 year	00	
China	China de Diploma de Medicina (China)	1980	1 year	00	
Colombia	Colombia de Diploma de Medicina (Colombia)	1980	1 year	00	
Costa Rica	Costa Rica de Diploma de Medicina (Costa Rica)	1980	1 year	00	
Cote d'Ivoire	Cote d'Ivoire de Diploma de Medicina (Cote d'Ivoire)	1980	1 year	00	
Cuba	Cuba de Diploma de Medicina (Cuba)	1980	1 year	00	
Cyprus	Cyprus de Diploma de Medicina (Cyprus)	1980	1 year	00	
Czechia	Czechia de Diploma de Medicina (Czechia)	1980	1 year	00	
Dominican Republic	Dominican Republic de Diploma de Medicina (Dominican Republic)	1980	1 year	00	
Dominica	Dominica de Diploma de Medicina (Dominica)	1980	1 year	00	
DRC	DRC de Diploma de Medicina (DRC)	1980	1 year	00	
Ecuador	Ecuador de Diploma de Medicina (Ecuador)	1980	1 year	00	
Egypt	Egypt de Diploma de Medicina (Egypt)	1980	1 year	00	
El Salvador	El Salvador de Diploma de Medicina (El Salvador)	1980	1 year	00	
Equatorial Guinea	Equatorial Guinea de Diploma de Medicina (Equatorial Guinea)	1980	1 year	00	
Eritrea	Eritrea de Diploma de Medicina (Eritrea)	1980	1 year	00	
Estonia	Estonia de Diploma de Medicina (Estonia)	1980	1 year	00	
Ethiopia	Ethiopia de Diploma de Medicina (Ethiopia)	1980	1 year	00	
Fiji	Fiji de Diploma de Medicina (Fiji)	1980	1 year	00	
Finland	Finland de Diploma de Medicina (Finland)	1980	1 year	00	
France	France de Diploma de Medicina (France)	1980	1 year	00	
Ghana	Ghana de Diploma de Medicina (Ghana)	1980	1 year	00	
Guatemala	Guatemala de Diploma de Medicina (Guatemala)	1980	1 year	00	
Haiti	Haiti de Diploma de Medicina (Haiti)	1980	1 year	00	
Honduras	Honduras de Diploma de Medicina (Honduras)	1980	1 year	00	
Hungary	Hungary de Diploma de Medicina (Hungary)	1980	1 year	00	
Iceland	Iceland de Diploma de Medicina (Iceland)	1980	1 year	00	
India	India de Diploma de Medicina (India)	1980	1 year	00	
Indonesia	Indonesia de Diploma de Medicina (Indonesia)	1980	1 year	00	
Ireland	Ireland de Diploma de Medicina (Ireland)	1980	1 year	00	
Israel	Israel de Diploma de Medicina (Israel)	1980	1 year	00	
Italy	Italy de Diploma de Medicina (Italy)	1980	1 year	00	
Jamaica	Jamaica de Diploma de Medicina (Jamaica)	1980	1 year	00	
Japan	Japan de Diploma de Medicina (Japan)	1980	1 year	00	
Jordan	Jordan de Diploma de Medicina (Jordan)	1980	1 year	00	
Kazakhstan	Kazakhstan de Diploma de Medicina (Kazakhstan)	1980	1 year	00	
Kenya	Kenya de Diploma de Medicina (Kenya)	1980	1 year	00	
Korea	Korea de Diploma de Medicina (Korea)	1980	1 year	00	
Kuwait	Kuwait de Diploma de Medicina (Kuwait)	1980	1 year	00	
Kyrgyzstan	Kyrgyzstan de Diploma de Medicina (Kyrgyzstan)	1980	1 year	00	
Laos	Laos de Diploma de Medicina (Laos)	1980	1 year	00	
Latvia	Latvia de Diploma de Medicina (Latvia)	1980	1 year	00	
Lebanon	Lebanon de Diploma de Medicina (Lebanon)	1980	1 year	00	
Lesotho	Lesotho de Diploma de Medicina (Lesotho)	1980	1 year	00	
Lithuania	Lithuania de Diploma de Medicina (Lithuania)	1980	1 year	00	
Luxembourg	Luxembourg de Diploma de Medicina (Luxembourg)	1980	1 year	00	
Macao	Macao de Diploma de Medicina (Macao)	1980	1 year	00	
Madagascar	Madagascar de Diploma de Medicina (Madagascar)	1980	1 year	00	
Mali	Mali de Diploma de Medicina (Mali)	1980	1 year	00	
Maldives	Maldives de Diploma de Medicina (Maldives)	1980	1 year	00	
Moldova	Moldova de Diploma de Medicina (Moldova)	1980	1 year	00	
Mongolia	Mongolia de Diploma de Medicina (Mongolia)	1980	1 year	00	
Montenegro	Montenegro de Diploma de Medicina (Montenegro)	1980	1 year	00	
Morocco	Morocco de Diploma de Medicina (Morocco)	1980	1 year	00	
Mozambique	Mozambique de Diploma de Medicina (Mozambique)	1980	1 year	00	
Myanmar	Myanmar de Diploma de Medicina (Myanmar)	1980	1 year	00	
Nepal	Nepal de Diploma de Medicina (Nepal)	1980	1 year	00	
Netherlands	Netherlands de Diploma de Medicina (Netherlands)	1980	1 year	00	
New Zealand	New Zealand de Diploma de Medicina (New Zealand)	1980	1 year	00	
Nicaragua	Nicaragua de Diploma de Medicina (Nicaragua)	1980	1 year	00	
Niger	Niger de Diploma de Medicina (Niger)	1980	1 year	00	
Nigeria	Nigeria de Diploma de Medicina (Nigeria)	1980	1 year	00	
North Macedonia	North Macedonia de Diploma de Medicina (North Macedonia)	1980	1 year	00	
Oman	Oman de Diploma de Medicina (Oman)	1980	1 year	00	
Pakistan	Pakistan de Diploma de Medicina (Pakistan)	1980	1 year	00	
Panama	Panama de Diploma de Medicina (Panama)	1980	1 year	00	
Papua New Guinea	Papua New Guinea de Diploma de Medicina (Papua New Guinea)	1980	1 year	00	
Paraguay	Paraguay de Diploma de Medicina (Paraguay)	1980	1 year	00	
Peru	Peru de Diploma de Medicina (Peru)	1980	1 year	00	
Philippines	Philippines de Diploma de Medicina (Philippines)	1980	1 year	00	
Poland	Poland de Diploma de Medicina (Poland)	1980	1 year	00	
Portugal	Portugal de Diploma de Medicina (Portugal)	1980	1 year	00	
Romania	Romania de Diploma de Medicina (Romania)	1980	1 year	00	
Russia	Russia de Diploma de Medicina (Russia)	1980	1 year	00	
Rwanda	Rwanda de Diploma de Medicina (Rwanda)	1980	1 year	00	
Saudi Arabia	Saudi Arabia de Diploma de Medicina (Saudi Arabia)	1980	1 year	00	
Senegal	Senegal de Diploma de Medicina (Senegal)	1980	1 year	00	
Serbia	Serbia de Diploma de Medicina (Serbia)	1980	1 year	00	
Singapore	Singapore de Diploma de Medicina (Singapore)	1980	1 year	00	
Slovakia	Slovakia de Diploma de Medicina (Slovakia)	1980	1 year	00	
Slovenia	Slovenia de Diploma de Medicina (Slovenia)	1980	1 year	00	
South Africa	South Africa de Diploma de Medicina (South Africa)	1980	1 year	00	
South Korea	South Korea de Diploma de Medicina (South Korea)	1980	1 year	00	
Spain	Spain de Diploma de Medicina (Spain)	1980	1 year	00	
Sri Lanka	Sri Lanka de Diploma de Medicina (Sri Lanka)	1980	1 year	00	
Sweden	Sweden de Diploma de Medicina (Sweden)	1980	1 year	00	
Switzerland	Switzerland de Diploma de Medicina (Switzerland)	1980	1 year	00	
Taiwan	Taiwan de Diploma de Medicina (Taiwan)	1980	1 year	00	
Tanzania	Tanzania de Diploma de Medicina (Tanzania)	1980	1 year	00	
Togo	Togo de Diploma de Medicina (Togo)	1980	1 year	00	
Tonga	Tonga de Diploma de Medicina (Tonga)	1980	1 year	00	
Turkey	Turkey de Diploma de Medicina (Turkey)	1980	1 year	00	
Turkmenistan	Turkmenistan de Diploma de Medicina (Turkmenistan)	1980	1 year	00	
Uganda	Uganda de Diploma de Medicina (Uganda)	1980	1 year	00	
Ukraine	Ukraine de Diploma de Medicina (Ukraine)	1980	1 year	00	
United Kingdom	United Kingdom de Diploma de Medicina (United Kingdom)	1980	1 year	00	
United States	United States de Diploma de Medicina (United States)	1980	1 year	00	
Uruguay	Uruguay de Diploma de Medicina (Uruguay)	1980	1 year	00	
Uzbekistan	Uzbekistan de Diploma de Medicina (Uzbekistan)	1980	1 year	00	
Venezuela	Venezuela de Diploma de Medicina (Venezuela)	1980	1 year	00	
Vietnam	Vietnam de Diploma de Medicina (Vietnam)	1980	1 year	00	
Yemen	Yemen de Diploma de Medicina (Yemen)	1980	1 year	00	
Zambia	Zambia de Diploma de Medicina (Zambia)	1980	1 year	00	
Zimbabwe	Zimbabwe de Diploma de Medicina (Zimbabwe)	1980	1 year	00	

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Mozambique	Enfermeira de Saude Materna (MH Nurse)	Licentiate	Fully trained midwife 3 years clinical experience	2004	4 years training in obstetric surgery	1	29	22 in rural hospitals	Training more; currently running 2 courses (50)
Tanzania	Assistant Medical Officer	Advanced Diploma in Clinical Medicine	12 years 2-3 years pre-service training as Clinical Officer 3 years clinical experience	Late 1960s	2 years	6; 2 more being established	270	1434 (WHO SAM 2006)	Higher Diploma & Degree as per National Council
Zambia	Medical Licentiate	Advanced Diploma in General Medicine	12 years education 3 years pre-service training as Clinical Officer 3 years clinical experience	2002	2 years training 1 year internship	1	20	91	Considering introduction of BSc

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