

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.”

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 Census)

USEFUL COMPARISONS

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

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

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

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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.

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

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

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.

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.

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 <i>plus</i>
8	Perform Caesarean delivery
9	Provide blood transfusion

Type of pregnancy complications	Type of Intervention	Total number performed	I = independent; A =Assistant; IS=Indirectly Supervised; DS = Directly supervised.	Obstetric complications managed by 10 Obstetric Clinician Trainees in 3 training hospitals from March-April to Oct-Nov 2018 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 VD = Vaginal Delivery
Obstructed 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	

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 Fallopiian 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

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)
			S	D	
Resuscitation needed at birth	FMV	180	151	29	DS = 146 IS=73 IM = 4
	FMV plus chest compressions	43	29	14	
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	10	8	2	DS =6 IS = 4

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.

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.

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

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.

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.

RECOMMENDATIONS

- 1. Task shifting 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**
- 2. The training programme for nurse anesthetists should be harmonized with the rest of the Task shifting programme**
- 3. Government should streamline the programme duration and designation**
 - Advanced Midwife Practitioner**
 - Advanced Neonatal Nurse**
 - Advanced Nurse Anesthetist**

Continued

- 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**

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

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"> Infermière d'état (Registered Nurse)/ Sage-femme d'état (Registered Midwife) 	1999	<ul style="list-style-type: none"> 2 years training in surgery 	2	90 (45 national, 45 foreign)		
Ethiopia	MSc in "Integrated Emergency Obstetrics and surgery"	Master of Science degree	<ul style="list-style-type: none"> BS or RN Secondary school (new program) 	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 	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)
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

THANK YOU