

Task Sharing Initiatives in Liberia(June 11 2022)

Dr Sarah Band MBChB MRCPCH DTM&H, Honorary Deputy Medical Director
Dr Rhona MacDonald MBChB MPH MRCGP DCH DRCOG, Hon. Executive Director
Professor David Southall MBBS, MD, OBE, FRCPCH Hon. Medical Director

MCAI working in partnership with the Ministry of Health in Liberia and in collaboration with the organisations below.

MCAI | Maternal & Childhealth
Advocacy International



MCAI | Maternal & Childhealth
Advocacy International



THE UNIVERSITY
of EDINBURGH



Session Outline:

- Introduction to MCAI and Task Sharing
- Introduction to Liberia
- Task Sharing – Obstetric
- Task Sharing – Neonatal
- Task Sharing - Paediatric

MCAI – Maternal and Child Health Advocacy International

‘Saving and improving the lives of seriously ill pregnant women, babies, and children in low-resource settings since 1995’



MISSION

To save and improve the lives of babies, children, and pregnant women in areas of extreme poverty,
by empowering and enabling our in-country partners to strengthen emergency healthcare.

VISION

For every baby, child, and pregnant woman to receive high quality emergency healthcare without
delay

VALUES

EQUALITY - HEALTH AS A HUMAN RIGHT - SUSTAINABILITY - CREDIBILITY - PARTNERSHIPS -
PARTICIPATION

Task Sharing

“The rational re-distribution of tasks among health workforce teams. Specific tasks are moved, where appropriate, from highly qualified health workers to health workers who have fewer qualifications in order to make more efficient use of the available HRH.” (WHO, 2008)

WHO estimates a projected shortfall of 18 million health workers by 2030, mostly in low- and lower-middle income countries.

Task Sharing – Why?

203 Liberian doctors (1 for 22,000 persons) and 95 international doctors.

Total 298 (1 for 15,000 persons)

= Liberia has the 4th smallest number of doctors (0.373 doctors for 10,000 people)

10 obstetricians based in only 3 of the 15 counties in Liberia, 6 in the Capital City

Of 15 counties in Liberia the most rural each have only 1 or 2 doctors

The WHO recommended Doctor: Patient ratio is 1:1000

Doctors in Liberia (Population 4.5 million) - Report by Liberian Medical and Dental Council July 2016



alamy

Image ID: EF2Y1D
www.alamy.com



dak FOUNDATION



THE UNIVERSITY
of EDINBURGH

Liberia DHS 2020 data

Maternal Mortality Rate 740 per 100,000 live births

(UK maternal mortality rate 7 per 100,000 live births)

Neonatal Mortality Rate 63 per 1000 live births

(UK neonatal mortality rate 2.7 per 1000 live births)

Under 5yr Mortality Rate 93 per 1000 live births

(UK under 5yr mortality rate 4.2 per 1000 live births)

Curricula for task sharing training based on 4 handbooks developed by MCAI with Irish Aid funding (for Liberia) and ALSG and MCAI (for Afghanistan)



Since April 2020, MCAI has developed 4 handbooks on hospital care in low resource settings.

Handbooks 1 and 2 involve the care of children with serious illnesses and injuries. They form part of the curriculum for the training of the first ever 12 paediatric clinicians in Liberia.

Handbook 3 addresses advanced hospital care for newborn infants and is used for the training of neonatal clinicians.

Handbook 4 addresses advanced hospital care for pregnant women and adolescent girls and is used for the training of obstetric clinicians.

PDFs of all 4 handbooks are available for download from MCAI's website: <https://www.mcai.org.uk/download-books>

A total of 2,000 handbooks (500 of each of the above 4) have been printed and distributed to nurses, midwives and doctors in Liberia and Afghanistan.

Task Sharing – Obstetric

3-year training programme for midwives to qualify as Obstetric Clinicians

- apprenticeship-based work supported by two fulltime Liberian consultant obstetricians in two hospitals
- weekly tutorials (via Zoom)
- written examinations from international experts in obstetrics in low resource settings
- MCAI has published an evidence-based, up-to-date handbook on advanced obstetric care

HANDBOOK OF HOSPITAL CARE FOR OBSTETRIC EMERGENCIES INCLUDING TRAUMA IN LOW RESOURCE AND EMERGENCY SETTINGS



2021 Maternal & Childhealth Advocacy International (MCAI)

Task Sharing – Obstetric

On completion of the programme the Obstetric Clinicians work in the rural districts providing:

- Antenatal ultrasound scanning outreach programme
 - Acute intrapartum care with medical and surgical skills in emergency obstetrics
 - MCAI provide equipment and supplies to enable healthcare
-
- 18 fully qualified after 3 years of training
 - 9 new trainees started August 2020 due to qualify August 2023



Task Sharing – Obstetric Outreach Programme

- Undertaken by 3 qualified obstetric clinicians in 3 counties in the most rural South-East of Liberia with support from MCAI logistician to clinics and refugee camp
- Includes obstetric ultrasound examination for all pregnant women
- Includes emergency kit to provide immediate investigation and treatment for emergencies such as APH and severe pre-eclampsia
- Total Outreach to date = 1,450 pregnant women seen, total high risk 665

(Grand Gedeh October 2019 to December 2021, Rivergee July 2020 to February 2022)

Many serious previously un-recognised conditions (for examples placenta praevia, severe pre-eclampsia, multiple gestation, malpresentations, teenage pregnancies, grand multiparity,) identified, referred to hospital when appropriate and managed

Task Sharing – Obstetric Procedures

Obstetric surgery undertaken by 2 obstetric clinicians and 4 doctors in one of 9 supported CEmOC facilities

	2021
Total Obstetric Operations	199
Caesarean section	172
Ruptured Ectopic Pregnancy	17 (1 Dr, 16 OBC)
Ruptured uterus	8 (3 Drs, 5 OBC)
Hysterectomy	2 emergency (1 Dr, 1 OBC)
Lead Surgeon: Doctor	13 (6%)
Lead Surgeon: Obstetric Clinician	186 (94%)
Maternal Death	0
Neonatal/Fetal Death	21

Typical case history of patient treated by an obstetric clinician

A 25-year-old pregnant woman spent 24 hours in obstructed labour at a clinic a long way from the county hospital before finally arriving for treatment.

On presentation, she was shocked and severely anaemic with an enlarged tender abdomen. An ultrasound scan confirmed rupture of the uterus and fetal death.

The obstetric clinician on call was the only person in the hospital with the skills needed to treat this patient.

The patient was treated for shock, given 4 units of fresh blood for transfusion obtained from relatives, and the obstetric clinician operated and successfully repaired major anterior and posterior ruptures of the uterus.

The patient eventually fully recovered and was discharged home.

Task Sharing – Obstetric



Above: Hannah Gibson (qualified obstetric clinician) leading a Caesarean section



Two obstetric clinicians undertaking an emergency Caesarean section at Redemption Hospital, Liberia

Task Sharing – Fetal Heart Rate (FHR) Monitoring by mothers during labour

Mothers in labour are invited to monitor the FHR of their unborn babies at the end of every uterine contraction using a hand-held battery-operated ultrasonic probe. Mothers are educated and enabled to alert the attending midwife if they detect any changes in their unborn baby's heart rate. Any confirmed changes are swiftly managed with appropriate clinical interventions, such as accelerated delivery by Caesarean section or vacuum. This fetal monitoring program is currently being undertaken in 4 rural hospitals with a view to scale up and roll out throughout Liberia.

The aims are to prevent stillbirth and long-term disability from birth asphyxia.

Mothers are trained by 3 nurse aid volunteers in each hospital and supervised by their midwife and obstetric clinician.

By March 2022, 3778 pregnant women and adolescent girls had monitored their unborn babies in this way. 245 changes in fetal heart rate during labour were identified

Initial results were published in the medical journals BMC Pregnancy and Childbirth and The WHO Bulletin

Here is a quote from one of these mothers: “I tell the midwife thanks for the care that was given to me. It empower me to listen to my own baby heartbeat and I hope that other women will do the same.”



Task Sharing – Neonatal

2-year training programme for midwives and nurses to qualify as Neonatal Clinicians

- apprenticeship-based work supported by one Liberian consultant and international nurse practitioner
- weekly tutorials (via Zoom) by international volunteer experts in neonatal care from UK
- written examinations constructed and marked by international experts in neonatal care in low resource settings
- MCAI has published an evidence-based, up-to-date handbook on advanced neonatal care

HANDBOOK OF HOSPITAL CARE FOR NEONATES JULY 2021



© 2021 Maternal & Childhealth Advocacy International (MCAI)

Task Sharing – Neonatal

On completion of the programme the Neonatal Clinicians work in the rural districts providing:

- Neonatal Resuscitation
 - Advanced Neonatal Care on dedicated neonatal units
 - MCAI developed 7 neonatal high dependency care units with equipment and supplies to enable healthcare
-
- 8 fully qualified after 2 years of training
 - 8 new trainees due to qualify August 2022



Task Sharing – Neonatal

A total of 2585 patients have been cared for with 319 deaths (12%) since 2019.

Prior to the establishment of these neonatal units, there were no NICUs in these 7 rural counties in Liberia.

We are still analysing the data and providing a report but the top causes for mortality in the biggest unit were:

Reason for admission in mortality cases:

Note: some patients have multiple reasons for admission

Birth Asphyxia	94
Prematurity	20
Tetanus	4
Risk of Sepsis	5
EONS	2
LONS	3
Jaundice	1



First of 7 rural hospital neonatal high dependency care units established and run by neonatal clinicians



unicef



World Health
Organization

dak FOUNDATION



THE UNIVERSITY
of EDINBURGH



ABOVE: Neonate receiving nasal continuous positive airway pressure (CPAP) for respiratory support

BELOW: Trainees with a newborn infant born by CS at 28 weeks (1.25Kg) whose mother died during delivery following eclampsia. "Success" was resuscitated for 3 minutes with bag and mask ventilation and later started to breath spontaneously and was taken to the NICU.

With much help from his father and the neonatal team, this baby went home



Success reviewed two months after discharge

Task Sharing – Neonatal clinicians



Task Sharing – Paediatric

2-year training programme for midwives and nurses to qualify as Paediatric Clinicians

- apprenticeship-based work supported by one Liberian consultant and international nurse practitioner
- weekly tutorials (via Zoom) by international volunteer experts in hospital paediatric care from UK
- written examinations constructed and marked by international experts in paediatric care in low resource settings
- MCAI has published 2 evidence-based, up-to-date handbooks on paediatric care

HANDBOOK ONE OF HOSPITAL CARE FOR INFANTS, CHILDREN AND ADOLESCENTS IN LOW RESOURCE AND EMERGENCY SETTINGS



2021 Maternal & Childhealth Advocacy International (MCAI)

Task Sharing – Paediatric

This is a new programme which started in March 2022

We have 12 trainees who will be due to graduate in March 2024

MCAI have with financial support from Irish Aid renovated the paediatric unit at this rural teaching hospital and provide essential equipment and medication



Before: asbestos in roof



One of 4 ward areas after renovation



Task Sharing – Paediatric Mortality

Data from admissions book for 4 rural county hospitals:

(Please note there was one hospital with no admissions book data presented)

Admissions: 7217

Deaths: 321 - This gives us a **mortality rate of 4.4%** in patients admitted to hospital.

Data from patients' case notes:

Deaths: 593 - Cases classed as dead before/on arrival: 49 (8% of all deaths recorded)

Deaths excluding dead before/on arrival: 544

(As we could not use admissions data from one of our hospitals in the data analysis we can only use the three remaining hospitals to provide a mortality rate using the case notes.)

Deaths: 542

Cases classed as dead before/on arrival: 49

Deaths excluding dead before/on arrival = 493

- This gives us a **total mortality rate of 7.5%**.
- If we exclude cases classed as dead before/on arrival the **mortality rate is 6.8%**.



unicef



World Health
Organization

dak FOUNDATION



Irish Aid
Rialtas na hÉireann
Government of Ireland



THE UNIVERSITY
of EDINBURGH

Task Sharing – 12 Trainee Paediatric Clinicians



Sustainable Change Requires Teamwork

- All Individuals – trainers and trainees, national and international
- Logisticians & IT, Finance Teams, Monitoring and Evaluation Teams
- Partners and Funders



Qualification ceremony for first two obstetric clinicians (Hannah and Naomi in white coats) with subsequent new trainees also present



Task Sharing Initiative in Liberia

- Comprehensive programme with the overall aim of:
prevention and reduction in maternal, paediatric and neonatal mortality and morbidity
- Investing in people through ***education***
- ***Partnership*** with the Ministry of Health in Liberia and **close collaboration** with other organisations
- ***Monitoring and Evaluation*** forms a core component
- Sourcing and ***provision*** of supplies to allow work to continue
- Keeping up to date with ***evidence-based*** practice
- Emphasis on ***professional standards*** and **medical ethics**



Thankyou

Any Questions?

MCAI | Maternal & Childhealth
Advocacy International