

Consulting report on assessment on feasibility of bedside clinical and ultrasound training in Central and District Hospitals in Malawi

For UNHCH and Ministry of Health
Malawi

October 29 2016

Mori J Morikawa, MD, MPH

Ann S. & Anthony J. Asher Professor in Family Medicine & Community Health
Case Western Reserve University/University Hospitals Cleveland Medical Center
Cleveland, OH USA

Prakash Ganesh, MD, MPH

Global Primary Care Fellow, Department of Family Medicine & Community Health
Case Western Reserve University/University Hospitals Cleveland Medical Center
Lilongwe, Malawi

Introduction:

Malawi, a landlocked country in southeast Africa with a population of 15 million, became independent in 1964. Malawi's health indicators are despairing. MMR is ranked as low as Afghanistan and U5MR is ranked as the worst 30th in the world. It is puzzling to explain why Malawi struggles to achieve MDG goals despite its relatively small size with well paved major roads and no active conflicts in or between neighboring countries.

Like other countries in East Africa, Malawi has enormity of problems in its medical care system. First of all, there is a chronic shortage of well-trained health care providers, which is a product of inconsistent healthcare training programs. The system of post-graduate medical education is incomplete: residency programs are limited and primarily available in surgery, pediatrics, internal medicine, and OB/GYN between Kamuzu Central Hospital in Lilongwe and Queen Elizabeth Central Hospital in Blantyre. As a result, many physicians are trained in neighboring countries. The majority of the already limited post-graduate training is dependent on foreign initiatives, which often give priorities to research, not clinical education and are meant to exist for a limited period. Another salient point for lack of competent bedside healthcare providers is physicians' job trajectory. As a principle, the government employs most physicians. As they advance their career in the Ministry of Health (MOH), most experienced physicians become engaged in administrative duties rather than becoming experienced bedside educators.

The funding for the public health sector is dwindling. For example, vaccination supplies usually runs out at the beginning of the month. At the same time, the private sector practice is booming particularly in cities. It is hard to estimate, however, the overall impact of private sector accurately since it is unregulated and rapidly changing. 'PPP (Public-Private Partnership) has been recognized as one of the key elements to rebuild healthcare system in East Africa. In reality, however, the successful integration of these two systems is scarce and hard to find in Malawi.

The goals of my visit were 1) to assess the feasibility of providing clinical bedside teaching in district hospitals with limited resources, and 2) to obtain feedback from healthcare providers on a portable pulse oximetry device that is being developed by the collaboration between Case Western Reserve University Departments of Engineering and myself.

Findings/Assessments:

Dzaleka Refugee Camp Clinic, Dowa district, jointly run by UNHCR and MOH in the past 24 years (visited on 10/20 and 10/27)

- There were barely any cases that require urgent referrals among nearly 25 patients observed in two visits. Majority of refugee patients come to the clinic for medications they cannot afford and/or for non-medical complaints, which often are amenable to social services and/or cognitive psychotherapy.
- Obstetric services are provided actively, approximately 30 deliveries per week.
- A temperature adjusted medical storage donated by USAID is in operation. Medications are given away to patients for free.
- Refugees are in resource-deprived in many ways, housing, security, financial, and psychological dimensions. Medical care is only one of the interventions that can contribute to their well-being.

Kamuzu Central Teaching Hospital (KCH), Lilongwe (visited on 10/21)

- In this tertiary care teaching hospital, both resident and medical student education are provided by few numbers of local attending physicians and foreign expats.
- Unpredictable availability and questionable validity of diagnostic modalities such as laboratory works, radiological imaging studies make medical care extremely difficult in term of judgment and decision making. Often, unreliable diagnostic tests simply increase confusion rather than help clinicians to find solutions.
- As of January 2017, the government will stop paying salaries for interns.
- Inconsistency in patient care is exacerbated by different standards brought in by various providers trained in different medical schools in many different countries. Also, they accommodate non-Malawian refugees as unpaid interns to boost the manpower for patient management.
- Interns and residents are not trained at all as clinical problem-solvers since they do not have any role models at the bedside and they are simply overwhelmed by endless tasks with little guidance.

- Lack of continuity of care at the ward among interns and residents makes bedside teaching extremely difficult since they are missing learning opportunities from their patients.

Nkhotakota District Hospital, Nkhotakota (visited 10/24 &25), Dowa District Hospital, Dowa (visited on 10/26 & 28)

- Nkhotakota District Hospital is a newer facility between the two, with approximately 300 beds. This facility is expected to become a regional teaching hospital in few years. Dowa hospital is smaller (150 beds) and there was neither tap water nor electricity during our visit.
- In both district hospitals, clinical officers are directly responsible for their patients and they are assigned to the floor and rotate every month around different wards, such as adult male, adult female, pediatric, OPD etc.
- The District Health Officer (DHO) is the administrative head of the district hospital and also a physician, who is responsible to train and supervise clinical officers.
- In both hospitals, medical doctors, clinical officers and medical assistants are rounding together. Their activities and interactions made it difficult to understand the job descriptions of each specialty.
- The Health Service Assistants (HSAs) at the District level conduct anthropometric measurements with U5 patients. According to the chief medical officer at the Nkhotakota Hospital, they would be ideal personnel to measure pulse oximetry on U5 children. The HSAs at Nkhotakota Hospital are also all willing to learn how to triage sick children with Pox.
- In the pediatric ward, there is a pulse oximetry machine hooked up to blood pressure, pulse and thermometer machine. The Pox device is, however, the pincer type for adults. We tried it on a few times with an infant with supplementary oxygen for pneumonia, but could not get any readings at all. We had to place a number of toes into the Pox.
- The staff nurses might not be monitoring Pox on those sick children regularly. They were not aware of the fact that Pox readings were unstable and unreliable on children particularly U5. It seems like they don't check Pox often after they administer oxygen either. It is probably due to the fact their Pox device cannot capture stable reading on U5 children. Or they haven't seen the improvement of Pox after they administered oxygen to children.

- Like pulse oximetry reading above, other vital signs are not checked regularly or frequently in sicker patients. At rounds, vital signs were often missing after admission.
- Both clinical officers and nurses preferred our “stethoscope head Pox device” to the “grip hold Pox device”. They were interested in learning about our device and the clinical implementation. They were quick to ask when they would have a real prototype to work with and when they could be trained to use it.
- In both district hospitals, placement of care providers is quite persistent and stable. Naturally that will lead to continuity and consistency of medical care.
- The level of care at the district hospitals and the KCH are similar on both regular adult male and female floors.

Recommendations:

Refugee clinic

- Employ a comprehensive approach to promote well-being, rather than tackling aches and pains as diseases. Programs such as individual counseling, group-based problem-solving, or various social gathering are needed.
- Recruit healthcare personnel among refugees or at least Malawian providers to assure long-term continuity and sustainability.
- Recruit non-medical providers, social workers or counselors to better respond pervasive psychosocial/mental health issues found among refugee patients.
- Simplify the referral system from the refugee camp to the district hospital, so that patients do not have to wait for months to be seen at the referral hospital.

KCH Teaching hospital

- Recruit experienced bedside clinical educators to strengthen post-graduate medical education to interns, residents and clinical officers.
- Integrate post-graduate education as a hospital-wide program, not a department based program.
- Implement evaluation on both knowledge and performance of all learners and educators.

- Implement a faculty development program for both local and expat educators to improve their skills in teaching, supervising and mentoring.

District Hospitals

- Develop teaching programs for specific job levels such as physicians, clinical officers, and medical assistants and train the DHO, DMO and head clinical officers first as key educators.
- Introduce “point-of-care ultrasound” to enhance bedside diagnoses. Remember, if the pretest probability is low and scan every patient, false positive findings will be increased. That can lead to confusion.
- Focus on the interpretation of the results of point-of-care device, such as ultrasound or pulse oximetry. Train personnel how to incorporate the results to patient care effectively and timely.

Conclusions:

In the refugee clinic and the hospitals I visited, there are tremendous needs to build up bedside clinical skills and medical reasoning for healthcare providers in all levels.

The refugee clinic in the Dzaleka camp should be completely reorganized utilizing local resources within the camp to assure sustainability of the program. Our global primary care fellow should focus on precepting and teaching at the district hospitals in both OPDs and inpatient to improve patient care.

Implementation of bedside clinical training would work in the district hospitals as the motivated and dedicated providers are craving for knowledge and skills.

Our training should emphasize applications of skills and clinical problem-solving skills, not simply medical knowledge. It is also important to demonstrate that technology alone will not save patients’ lives, but technology makes a difference only with health care providers’ careful observation and timely medical decision-making.