



Surgery at FAME

Challenges in Tanzania

Every year, 17 million people in low and middle-income countries lose their lives to surgically treatable conditions, such as appendicitis, bowel obstructions, burns and obstructed labor. This represents one-third of the global disease burden, exceeding tuberculosis, malaria and HIV/AIDS combined. For millions more, it means a life of suffering and disability simply because safe surgery is inaccessible and/or unaffordable. As the Lancet Commission on Global Surgery

reported in 2015, it is not only surgical capacity that is lacking in places like sub-Saharan Africa, but also anesthesia care, a safe blood supply, functioning equipment, and the necessary infrastructure to insure sterile environments and a consistent power supply.

Tanzania has an estimated 253 surgeons and 30 practicing anesthesiologists for a population of 55 million people. A recent World Health Organization study looked at 48

¹Safe Surgery 2020: A Partnership for safe surgery in Tanzania, slide presentation.

World Bank, 2016 and Safe Surgery 2020/Tanzania, press release, March 2018

health facilities across 16 of Tanzania's 26 regions. Of the public hospitals under study, only 64 surgical specialists were identified – with 88 percent employed at the six largest hospitals. Yet, the needs in Tanzania are considerable: around 34 percent of all hospital admissions require either minor or major surgical intervention. Nearly 20 percent of deaths in Tanzania are the result of diseases that can be treated with surgery.



Volunteer Surgeon Dr. Jean Gillon and Dr. Gabriel Kissima with recovering burn patient.

The vast majority of physician surgeons are drawn to city centers, administrative posts and/or medical schools. The situation is particularly dire for those living in decentralized, rural locations, like the District of Karatu. People seeking surgical care must travel, on average, 74 miles to reach a first referral hospital. Even if people manage to

pool the resources necessary to travel, they may reach a health facility only to discover that there are no doctors trained to perform the surgery they need, no functioning anesthesia machine or only intermittent access to oxygen.

In response to a country-wide emergency, in 2007 the World Health Organization (WHO), in partnership with the Tanzanian Ministry of Health and Social Welfare (MoHSW), introduced a program for emergency and essential surgical care. This effort focused on training non-physician health care providers to deliver select surgical services such as Cesarean sections. In 2018, the Tanzanian MoHSW, in union with the President's Office and Regional Administration and Local Government, launched a national plan to improve access to safe and affordable surgical, anesthesia and obstetric care by 2025. Funded by the GE Foundation, the plan was developed as part of Safe Surgery 2020, an initiative bringing global and local surgeons together to work towards safe and affordable surgery for all. However, performing safe surgery is a system-wide endeavor, involving the creation of surgery specific infrastructure and a well-equipped workforce. In a country as geographically vast and diverse as Tanzania, it will take years for rural communities across Tanzania to experience the impact of these important government initiatives.



Dr. Gabriel performing a procedure on a patient

³ *Emergency and surgery services of primary hospitals in the United Republic of Tanzania*, bmjopen.bmj.com, May 28, 2012.

⁴ *Ibid.*

⁵ *Safe Surgery 2020/Tanzania*, press release, March 2018.

⁶ *Emergency and surgery services of primary hospitals in the United Republic of Tanzania*, bmjopen.bmj.com, May 28, 2012.



Nurses Safi and Ruhama transporting patient to OR for emergency C-section

FAME's Response

While FAME established surgery as a strategic priority area in early 2017, surgery has been a part of our mission from the very beginning. We believe that surgical care is essential to comprehensive primary healthcare and a quality maternal health program. Our original hospital building plans included two operating rooms, a recovery room, plumbing for medical gases and an anesthesia machine. As part of a multi-phase roll out of services, our inpatient facility opened to the public in 2012, with the operating room in place in 2013. Our staff already included two non-MD Tanzanian doctors equipped to perform C-sections and some uncomplicated general surgery.

We hired our first Nurse Anesthetist to work under the supervision of FAME Medical Director and Anesthesiologist, Dr. Frank Artress, in 2013. In early 2014, FAME

developed protocols for blood collection, screening, cross matching and transfusion in emergency situations. On January 16, 2014, our FAME team partnered with American volunteer surgeon, Dr. Duane Koenig, to conduct our very first surgery. This surgery, like many to follow, would be an opportunity for our small OR team to learn and work under the guidance of accomplished volunteer surgeons from the US and Europe.

“Quality surgical care strengthens the entire health system, and contributes to safer care at the district, regional and zonal hospital level...”

– Dr. Zainab Chaula, Deputy Permanent Secretary of the President's Office, Regional Administration and Local Government, United Republic of Tanzania



FAME team responding to a trauma

With the introduction of labor and delivery services in late 2014, FAME launched a rigorous in-house education program focused on building the surgical skills necessary to respond to obstetrical emergencies. We invited OB/GYN trainers from Kilimanjaro Christian Medical Center (KCMC) to implement multi-day trainings in Structured Operatives in Obstetrics (SOO). Our team also participated in intensive two-week rotations in the Obstetrics and Gynecology department at KCMC, four hours away in Moshi. To date, FAME has trained seven members of our clinical team in SOO. FAME's medical volunteer program also continues to play an important role in building and broadening our team's surgical capacity.

In 2016, GE Healthcare Africa expedited our progress on the surgery front, making a very generous in-kind donation that included two additional anesthesia machines, two monitoring systems, two ventilators, an

ultrasound machine, X-ray and CT capabilities and a 220 KVA backup generator. We also have a second reliable water source and will soon be adding a third layer of power safety with a large-scale solar and battery bank back up system.

With this critical infrastructure now in place, and a team ready to build and broaden their skills, FAME is now poised to expand its surgery program, thereby filling an enormous gap in surgical care in our district and beyond. We aim to have the capacity to not only respond to time-sensitive, surgical emergencies, but also perform elective surgeries that can prevent life-long disabilities and dramatically improve quality of life.



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