



Photo courtesy of Moon Lai Photography

FAME Laboratory

Modern hospital laboratories are the building blocks for successful treatment.

– The Hon. David Mwakayusa, Minister of Health and Social Welfare, United Republic of Tanzania, 2007

In 2008, thanks to the generous support of the Izumi Foundation, FAME secured the funding necessary to build a modern laboratory and diagnostic facility to complement our already thriving outpatient clinic and basic lab service. This would enable FAME to reliably diagnose and treat the most common ailments affecting the population, and to diagnose patients suffering from more complicated and/or chronic diseases. The FAME laboratory officially opened its doors to the community in April 2011.

Today, our laboratory has 13 staff members, eight of whom have diplomas or certificates in laboratory technology. Our Tanzanian lab

manager is a registered lab technician with a solid and diverse working history. FAME has also recruited a long-term US volunteer, who partners with the lab manager to supplement the staff's formal education with ongoing training and familiarize staff with new technologies. FAME's technical equipment is largely state-of-the-art. With a fully automated blood chemistry machine, our lab technicians can run critical chemistry profiles on patients, in addition to diagnosing the most common ailments, like malaria and diarrheal diseases. Our lab offers same day services for all lab work – a significant benefit for patients traveling long distances. We also have the capacity to run thyroid and PSA studies,

diagnose Hepatitis B and C, and perform the hemoglobin A1C test – necessary for managing diabetes. The FAME lab is the only lab within a 140-kilometer radius with these diagnostic capabilities.

In 2017, the lab served nearly 18,700 patients – a 90% increase in patient lab visits from 2012. Our patient profile has remained fairly constant over the years: 36% are women of childbearing age and 10% are children under age five. FAME is committed to nurturing leaders and creating a culture of Continuous Quality Improvement that can serve as a model to other medical facilities in the region. New lab initiatives are rolled out slowly and deliberately to maintain the accuracy of testing and quality and consistency of services.

Diagnostic Consulting Program

With the help of the American Society for Clinical Pathology, the College of American Pathologists and the American Society of Clinical Oncology, FAME has the necessary equipment to digitally capture images of patient blood smears and fine needle aspirations and transmit these to volunteer hematology/oncology consultants in the US for the preliminary diagnosis of leukemias and lymphomas. This program offers distance-learning opportunities for clinicians and guides referrals and treatment for a rural population that has virtually no access to these critical sub specialties.

Blood Services

In 2014, with the introduction of surgery and labor and delivery services, the lab acquired a blood storage refrigerator. In accordance with government protocol, FAME collects blood and then exchanges it for safe (screened) blood at the Regional Blood Bank Center in Arusha. Thanks to FAME's capacity to screen for seven of the eight government-required

tests, our lab is allowed to collect, screen, cross-match and deliver blood on our campus in emergency situations. As of December, 2017, FAME has been able to procure blood from the zonal bank on a regular basis. In a country where the blood supply is limited, FAME, on average, transfuses one patient every other day, using blood from the zonal bank or from relatives who volunteer to give replacement units for their loved ones. Severely anemic patients, especially women who have had post-partum hemorrhaging, have generated a large demand for blood – as have accident victims and patients requiring complex surgery.

Electronic Data and Digital Interface

In January 2016, FAME began transitioning from a completely paper-based form of recordkeeping to an electronic data system. Today, the record systems used by our lab technicians, pharmacists, receptionists and cashiers are consolidated into a new and customized Filemaker system. Test results are now promptly recorded in the computer and printed out for our doctors.

Bacterial Culture & Sensitivity

Each year, FAME sees an increasing number of patients with serious and resistant infections. In Tanzania, antibiotics can be obtained over the counter without a proper diagnosis or prescription. The problem is further compounded by the limited supply of antibiotics, especially second and third line drugs. In 2018, FAME will launch a bacterial culture and antibiotic sensitivity (C&S) program. With microbial C&S, we aim to identify specific, effective antibiotic treatments for these serious, recurrent, and/or persistent infections. We are also developing protocols to ensure that all staff have access to C&S training and safe and appropriate procedures.

