



Clinical Laboratory Science

Clinical Laboratory Scientists Advance International Health

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“Amazing” and “life changing” were words used by two young women as they described a summer spent in the African countries of Malawi and Tanzania. Annadele Herman, a senior in the Clinical Laboratory Science (CLS) Program, and Timica Campbell, B.S. CLS '06, participated in a 2010 summer internship through the UNC Project. The Project, housed in Lilongwe, Malawi, is a collaborative program whose mission includes reducing the risk of HIV and STD transmission through research, strengthening the local research capacity through training, and improving the care of persons with HIV and AIDS. Since the early 1990s, UNC Health Care and public health professionals have partnered with the Kamuzu Central Hospital of Malawi in these efforts.

Malawi, a small and impoverished country in southern Africa, is highly deserving of the Project's attention. Twelve percent of the population is HIV-positive, doctors are in very short supply, and the people suffer from a variety of other infectious diseases including malaria. The average life expectancy is 37. Bibi (“spinster” or “grandma”) Ann was the nickname given 25-year-old Annadele by the children of Amani Children's Home in reference to her advanced age. Timica was frequently asked how many children she had. Her coworkers were amazed that at age 27, she had none, and was not even considering beginning a family until fully established professionally sometime in her thirties.

Simply being female in the clinical laboratory profession is less common in Malawi than in the U.S. The average clinical laboratory technician in Malawi is male and holds a secondary degree and a diploma from a two-year program in the health sciences. Girls receive a secondary education less often than boys do, and investing in their education is often considered an unwise use of family resources because it is expected that females will be occupied with raising children. “It was unusual to see a woman of child-bearing age without an infant slung around her back with chitenje,” said Timica.

The clinical microbiology laboratory at Kamuzu Central Hospital (KCH) was Timica's focus during her internship. With three years of experience in UNC Hospitals McLendon Laboratories microbiol-

ogy lab, she provided expertise in current methods, problem solving with difficult organisms, and staff education. Writing up-to-date procedures was a large part of her work, leading the lab director to praise her “excellent secretarial skills.” Presently, clinical laboratories are not accredited or inspected as in the U.S., although this is a goal of the Ministry of Health which oversees health care in Malawi. The UNC Project and the Malawi College of Medicine are collaborating on a five-year CDC/PEPFAR grant to improve the overall standard of all public clinical laboratories in Malawi and establish an accreditation program. Timica's activities were part of this grant effort.

Both CLSs noted that clinical laboratories in the country lag behind U.S. labs in availability of equipment, reagents, and instruments. Because all purchases, even for critically needed items, must go through a lengthy approval process, reagent shortages are a common occurrence. Phoning-in a replacement order for an expired reagent, such as catalase, simply wouldn't work. Annadele and Timica were impressed with the resourcefulness of the KCH staff in dealing with supply shortages and with the ingenuity of the Malawians in general.

“We learned a great deal about how to work with what we had at hand and how to prioritize based on what is most vital for patient care,” Annadele explained.

Working in the UNC Project Tidziwe laboratory for her internship, Annadele completed the annual Standard Operating Procedures Review for the Project's six clinical laboratory sites. She also performed qualitative HIV DNA assays for diagnosing at-risk neonates, conducted student training, and helped prepare a research proposal for a rapid method for speciating Plasmodium. Assisting Timica at the KCH lab afforded her the opportunity to work a few overnight shifts where she released whole blood for transfusions and processed samples leftover during the day shift in microbiology, hematology, and serology alongside a technician.

Along the way to Malawi, Annadele stopped off for two weeks to assist the Amani Children's Home in Moshi, Tanzania, where she delivered a high quality laboratory microscope. She trained staff in the detection of common fecal and urinary parasites as a supplement to more formal training conducted at the nearby Kilimanjaro Christian

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Left, Annadele Herman with children in Malawi. Above, Timica Campbell and a friend in Malawi.

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Dr. Tony Hilger Retires

In the summer of 2010, Dr. Tony Hilger retired after teaching microbiology in the Clinical Laboratory Science Program for 30 years. The CLS faculty hosted a reception for Dr. Hilger in April before classes ended. Dr. Hilger enjoyed visiting with friends and the many graduates of the program who came to the reception. The faculty, graduates, and students in the Division of CLS wish Dr. Hilger all the best in his retirement. We are grateful for all his years of teaching and service to the program and the profession.

A Note from Dr. Hilger

To all my former students: Well, I have actually retired! Everyone asks me what I'm going to be doing now that I have retired. The answer is lots of different things! My wife, Faye, has never had a shortage of ideas to keep me busy around the house, and now I have no excuse to escape her "honey-dos." We might do some traveling; I certainly plan to play more golf; and I have found that volunteering with Habitat for Humanity is fun. I'm sure more opportunities will present themselves.

I felt a little lost as school started this fall. It was only the third year I have been out of school since I was in kindergarten. (The other two I was in the Army!) But I am happy and I know the CLS program will continue to excel because of the outstanding faculty and, best of all, the students! It has been an honor and a privilege to teach for all those years. Thank you.



Top photo, Hilger with his wife, Faye, their daughter, Jennifer, and granddaughters, Kamryn and Reagen. Above, Dr. Hilger with CLS graduates Stacy Cox Pope '08 and Jeanne Taylor '07.

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Medical Center. The microscope and basic supplies were purchased in the U.S. with funds she was awarded by the Department of Allied Health Science's June C. Allcott Fellowship. During her nine-hour trip in an over-crowded bus from the airport in Dar es Salaam to Moshi, Annadele carried the microscope and supplies in a backpack on her lap.

"Bus travel in Africa is not for the faint of heart," Annadele said. "And as a general rule of thumb, I've learned that it's preferable to purchase supplies in the country where you're working if possible."

Both CLSs were impressed with the natural beauty of Malawi and the warm, courteous people. Time off on weekends was used to travel and explore the mountains and the beaches lining Lake Nyasa, dubbed the inland sea of Malawi. They also enjoyed shopping at a local produce market and watching the World Cup soccer matches with the locals in a downtown bar. Because both Chichewa and English are official languages, communication was usually not a problem.

Timica's internship in Malawi was funded by a combination of three grants, including one from the UNC School of Medicine where she is currently a second-year medical student. Annadele paid for her travel and living expenses with money she saved from working in a research lab on campus. Part of her tuition costs are paid

by a scholarship awarded by the McLendon Laboratories at UNC Hospitals. Both women are extremely grateful for the assistance they received in making their internships possible.

As a result of their summer experiences, both CLSs are committed to professional futures that include an international component. Annadele noted that her internship "sealed my interest in international health," but she will first work at UNC Hospitals for a few years after graduation in 2011. Timica plans to get a master's degree in public health along with her MD, and would like to ultimately work internationally in academic medicine.

Both clearly stated the great need for CLSs in medically underserved countries in Africa and elsewhere. They are advocating that the UNC Project in Malawi include an ongoing one-year position for a recent CLS graduate to serve as full-time laboratory advisor and trainer at KCH. They believe, "a recent graduate of a U.S. program, educated in all areas of the clinical laboratory, would gain immensely from the experience personally and professionally and would be a tremendous resource to a clinical laboratory in a developing country".

For more information about the UNC Project, please visit www.med.unc.edu/wrkunits/2depts/medicine/id/malawi/ and www.med.unc.edu/wrkunits/2depts/medicine/id/malawi/documents/aids_malawi.pdf.

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Please include your year of graduation and where you are living. If you are working, tell us what you are doing and, if you have any advice for current CLS students, please share. THANKS!

Remember that you can keep your contact information up-to-date on the CLS Web site (www.med.unc.edu/ahs/clinical). Carolina's General Alumni Association has created a UNC-Chapel Hill Clinical Laboratory Science Alumni online database that is available to all CLS / MT alumni. You can use this service for FREE and find the contact information for your classmates. Several graduates of the program have asked if they could update their information but not receive mailings from the GAA. Please contact Kyle Gray (kyle_gray@med.unc.edu or 919.966.3352) if you would no longer like to receive mailings from the GAA. Keeping your information current will ensure that you get the newsletters and any program announcements.