APHL’s vision statement: A healthier world through quality lab practice

Edited by Carren Bersch, Editor

This month, MLO is delighted to introduce to its International Corner Lucy Maryogo-Robinson, the director of global health at the Association of Public Health Laboratories (APHL). The association provides strategic planning, training, infrastructure development, and other related services to support development of integrated laboratory systems in 20 countries worldwide. Maryogo-Robinson answers several questions about APHL global activities that are sure to enlighten readers.

APHL’s interest in global laboratory capacity building began more than 10 years ago. The association responded to a request from the U.S. Centers for Disease Control and Prevention (CDC) to help improve capacity for HIV testing in India. Our next big project was to help reconstruct the laboratory systems in the Caribbean nations devastated by hurricanes Mitch and Georges in 1998. In addition to laboratory renovations, though, APHL consultants helped to instill the concept of public-health laboratory practice in countries like Haiti that had only a quasi-public-health lab. When the project ended in 2002, the laboratory leaders in the region established their own public-health laboratory association. We could not have been happier.

At this moment, APHL has one overseas office in Mozambique, which is the base of operations for two full-time consultants. We also have full-time consultants working in Lesotho and Haiti — but without separate brick-and-mortar APHL facilities. We would like to establish offices, at least regionally, so we can readily provide technical assistance on an “as needed” basis. It is challenging to do that from the United States when most of our clients are in Africa.

MLO: What are the major differences between laboratory systems in the United States and in the developing nations where APHL works? Is government oversight of private laboratories the norm?

Maryogo-Robinson: Obviously, challenges vary somewhat from country to country. In general, though, human resource challenges are significantly more severe in developing nations than in the United States. We see a huge shortage of trained laboratory personnel, and this is one area where we try to help.

The other major challenge we see is laboratory infrastructure. For example, in some countries, you may not have functioning equipment or even power to turn on your equipment. If you do have functioning equipment, you may not know how to use it; it may have been donated and dropped off without training or even a manual.

Let us say you do have equipment and know how to operate it. You still may be stymied, because you do not have reagents because of all the procurement issues in the country. Procurement is often centralized in the national government, and there

Lucy Maryogo-Robinson, the director of global health at APHL, provides assistance to help strengthen national laboratory systems in developing countries around the world.

MLO: As the national association representing laboratories and laboratory leaders in public health, what are APHL’s global interests? What prompted this interest, and when did it begin? Is APHL planning to open overseas offices?

Lucy Maryogo-Robinson: APHL’s Global Health Program provides customized technical assistance to strengthen national laboratory systems for health promotion. We provide support to in-country health officials and laboratorians in resource-constrained nations to help them achieve their own goals. Usually, this means building up the physical and human laboratory infrastructure so that it is eventually self-sustaining, and we are no longer needed. While HIV/AIDS testing has been a big focus for us, we try to transfer knowledge and institute quality systems that will carry over to all the work of the laboratory.
can be challenges navigating that bureaucracy.

In addition, many countries lack a strategic plan to provide focus and direction to their laboratory operations. I also think there is a lack of professional networking of the kind that is fairly well established here in the United States. And in some countries, there are systems development issues. You may be getting requisitions on random pieces of paper, and there may be no standardized results reporting or quality-assurance/quality-control programs.

Since we only go into a country when it is absolutely safe, political strife is generally not a concern.

Government oversight of private labs differs from country to country, but, generally, I do not think it is the norm in those countries where we work.

**MLO: How is APHL working to advance laboratory systems in developing countries? How does this work differ from domestic APHL initiatives? And how has APHL involved commercial vendors in its overseas work?**

**Maryogo-Robinson:** The first and probably most profound way we address issues in developing countries is through technical assistance. APHL is lucky to have a pool of experts among our membership. We also hire non-member consultants, some of whom are stationed in-country for a year or longer and others who fly in to address a specific need. Our primary activities are knowledge transfer, problem-solving, and systems development.

An exciting new program APHL is participating in has to do with laboratory accreditation in Africa. The program is being spearheaded by the CDC and the World Health Organization’s Regional Office for Africa (WHO AFRO). The idea is to promote quality laboratory improvement using a tiered accreditation system giving laboratories something for which to strive. APHL is one of the program partners.

Since the project was just begun in summer 2009, we are still in the initial phase. Right now, we provide laboratory-management training and targeted training in laboratory information systems (LISs) and equipment-maintenance programs. As the program moves forward, we expect to support efforts to establish quality-management systems, develop standards for facility infrastructure, conduct strategic planning, develop laboratory policies, and strengthen national reference laboratories.

Another interesting APHL activity is what we call our “twinning program.” This program, also supported by the WHO, links overseas national laboratories with U.S. public-health labs to improve quality laboratory practices and international infectious-disease surveillance. The Guyana National Public Health Reference Laboratory, for example, is “twinned” with the North Carolina Public Health Laboratory. We have four twinning agreements so far and hope to establish many more.

APHL partnered with the architecture and engineering firm CUH2A on laboratory design projects in Tanzania and in Mozambique. The Abbott Foundation is sponsoring the Tanzania project, which involves renovation work in all 23 of the country’s regional laboratories.

**MLO: Can you share some success stories?**

**Maryogo-Robinson:** We are fortunate to have many success stories. In Ethiopia, we had a consultant on-site on and off for about two years. She helped establish an EQA [External Quality Assessment] program for HIV serology chemistry, CD4, and hematology testing. She is now long gone, but the processes are in place to carry on that important work.

APHL has been most active in Mozambique, where we are supporting more than 25 laboratories with all kinds of assistance from equipment and reagent procurement to LIS implementation. APHL is committed to continuing its support until a critical mass of Mozambique laboratories are performing consistent quality work in critical areas.

Just last year, APHL and Miami Dade College collaborated on a training program in medical laboratory science for 12 biologists from Mozambique. We actually flew the biologists to Miami for a three-month intensive course of study. They went back to Mozambique for a month and then returned to the United States for two months of practical training in a state public-health laboratory, focusing on a chosen specialty area.
INTERNATIONAL CORNER

can respond. In-country leaders choose what they deem to be the best solution from among those presented. Tanzania, for example, has a customized electronic LIS.

**MLO: What personal and professional challenges do APHL representatives face when working on-site in developing countries? What are personal and professional rewards of this work?**

**Maryogo-Robinson:** APHL always works with the national Ministry of Health and the local CDC office. One of the biggest challenges is making sure we are following national priorities; that is, working within the Ministry of Health guidelines and agenda for any given country.

Another big challenge is finding experts who can commit to long-term assignments. We often have requests for technical assistance that require a longer-term assignment, and finding experts who can stay on-site for three to six months or longer is difficult.

On the ground, our huge challenges are transportation — especially when we are working outside of the capital city — and lack of reliable power and Internet access. We have tried to come up with creative solutions, such as using cell phones to report data between labs. We are also looking into solar-power solutions for remote sites. Since we only go into a country when it is absolutely safe, political strife is generally not a concern.

In terms of rewards, I think our consultants find it very satisfying to help set the public-health agenda for another country. That is what we are doing when we contribute to a national five-year strategic plan for a country’s laboratory system. We are really shaping and molding the laboratory field.

Building sustainable laboratory systems that can accurately diagnose diseases like HIV and tuberculosis also saves lives and offers hope to people who may be in dire circumstances. It is a good thing to be doing.

**MLO: How does the quality of laboratory systems in developing nations impact the United States? What opportunities are available to U.S. laboratorians who want to contribute to APHL’s global work?**

**Maryogo-Robinson:** It is important to have high-quality, laboratory-based disease surveillance in developing countries, because diseases do not respect borders. Influenza is a recent example. With globalization, we are more and more interconnected, for better or worse. Even APHL’s vision statement — “A healthier world through quality laboratory practice” — reflects a worldwide focus, without quality laboratory systems in place in every region of the world, we are simply less prepared for emerging pathogens and, potentially, for global epidemics. It matters to us whether or not Tanzania can detect influenza.

APHL is always looking for qualified individuals who are interested in international public-health work and would like to work either in the United States or overseas. We need people who can provide training in subjects like biosafety, laboratory management, HIV rapid testing, and EQA for ASB [acid-fast bacilli] smear microscopy. Work that would not necessarily involve traveling includes reviewing technical documents and strategic plans.

MLO readers who want more information should send e-mail to Globalhealth@aphl.org, or visit www.aphl.org and go to the Global Health Program page.