

# Global Health

## OPPORTUNITIES ABOUND



In addition to helping conduct the HIV assessment that summer, Buelow trudged up the hills outside Tegucigalpa to deliver mosquito abatement supplies to people living in shacks to which water was piped only every 20 days. She and the others warned the residents about the dengue fever epidemic that had flared up and how best to avoid it. She also shadowed a Honduran infectious disease specialist as he saw patients at the vastly different public hospital and semiprivate hospital.

In a world that's becoming increasingly interconnected and interdependent—and a country that's attracting more and more immigrants—it's no surprise that American medical students are drawn to programs that encourage them to do this kind of international learning.

For SMPH students, the Center for Global Health (CGH) is the first place they often begin their explorations.

"We would like all medical students to be exposed to global health in one form or another," says CGH director Cynthia Haq, MD, SMPH professor

of family medicine. "Global health experiences enhance physicians' abilities no matter where they practice."

The center reaches out, in fact, to all UW-Madison health sciences students, offering a continuum of options.

Students can begin by dropping in on any number of global health lectures, seminars and symposia. One of the many selections from the past year included Dr. Linnea Smith's (MD '84) description of her clinic in Peruvian Amazonia.

On the CGH Web site, <http://www.pophealth.wisc.edu/gh/>, students can also find a variety of resources, from a comprehensive global health bibliography to links to interactive Web sites.

For deeper involvement, medical students often choose to supplement their standard MD courses, particularly during years one and two, with elective courses offered by teachers from across campus. Courses span the spectrum, with titles such as "Global Environmental Change and Disease Risk," "Clinical and Public Health Microbiology" and "World Hunger and Malnutrition."

Approximately 60 medical students go on to participate in credit-based global health field study each year. Some enroll in faculty-led group courses at sites where the CGH has established fruitful ongoing relationships, as in Uganda, Thailand, Mexico and Ecuador.

Others, like Buelow, may choose to do independent field experiences. Those occurring after the students' first year usually focus on public health and health education, with some clinical shadowing. International clinical rotations typically occur during the fourth or late third year, after students have acquired clinical skills through their family medicine, pediatrics and obstetrics rotations.

CGH staff and faculty affiliates assist students at all stages with placement, planning, mentoring and academic and cultural orientation. Independent global health field experiences and clinical rotations have taken place in Uganda, Tanzania, Ethiopia, Kenya, India, Thailand, China, Vietnam, Ecuador, Mexico, Guatemala and Belize.

"In all these exposures, students are learning about diversity and poverty and

by Dian Land

Medical student Michelle Buelow found the summer of 2007 to be both challenging and extremely rewarding. It was just the global health experience she had hoped for. With future plans of practicing medicine in a low-resource setting either abroad or in the United States, she wanted access to a public health learning opportunity in a developing country. And she wanted to supplement it with a solid foundation of relevant coursework on campus.

It was one of the many reasons Buelow chose to attend the University of Wisconsin School of Medicine and Public Health (SMPH), she says.

"The school really values global health," says the Milwaukee native, who will earn a certificate in global health by the time she graduates in 2010.

Buelow spent that summer following her first year of medical school in Tegucigalpa, Honduras, working on a project for a small non-governmental organization (NGO) that wanted to locate and assess the needs of the poorest children living with or vulnerable to HIV/AIDS.

Using the only map she could find—from a tourist hotel—Buelow spent the next nine weeks interviewing patients who came to the HIV clinic in the public hospital for their medications, learning where the children lived around the capital city and surveying factors related to their daily lives and the care they were—or were not—receiving.

"Honduras is the second poorest country in the hemisphere," says Buelow, who also had been there before she began medical school. "There is a lack of infrastructure that is especially evident in the healthcare system."



Michelle Buelow interviews a patient at the HIV clinic within the public hospital (opposite) in Tegucigalpa, Honduras. Nate Gundacker meets a family of farmers outside Guadalajara, Mexico. Connie Gundacker visits with another farmer as part of the research project.

how to communicate in other cultural settings,” says Haq.

Students desiring an even more concentrated learning experience may enroll in the certificate program. Begun in 2006, it is a collaborative offering sponsored by the SMPH, the Division of International Studies and the UW-Madison schools of nursing, pharmacy and veterinary medicine.

CGH staff member Lori DiPrete Brown, MPH, directs the program while UW-Madison nursing professor Linda Baumann, PhD, is the faculty advisor.

“The certificate program focuses on building core global health competencies, combining academic preparation and a global health field experience,” says DiPrete Brown.

Students must prepare an academic paper and keep a reflective journal that focuses on cross-cultural issues, ethics and professionalism.

The curriculum emphasizes health and disease in developing countries, but students may also choose to work among the increasingly diverse populations of Wisconsin and the United States. Studies may address health promotion, detection and treatment of disease, prevention and management of outbreaks, health policy, environmental health or other interdisciplinary topics.

“The program encourages students to reflect on the strengths and weaknesses of their own cultures,” says DiPrete Brown. “This is the beginning of developing cross-cultural skills, which we call cultural humility.”

Certificate courses and activities are open to all students interested in international health, she adds.

To date, 73 people have been admitted to the program, which typically takes two to three years to complete. Eighteen have graduated so far and another 10 are expected to obtain their certificates in May 2009.

The certificate program is extremely popular, says James Conway, MD, SMPH associate professor of pediatrics, who oversees the selection of certificate candidates.

“Choosing who to admit is tough, as we have twice as many applicants as we can accept, with more interested in participating each year,” he says. “The program attracts increasingly interesting and well-qualified people.”

Second-year students Nate and Connie Gundacker signed up even before they arrived at the SMPH.

The couple had spent the year after graduating from UW-Madison and before beginning medical school teaching young students in Guatemala.

With that experience under their belts, they knew that their futures as physicians would very likely consist of working abroad in some way, although details are still unclear.

They’ve immersed themselves in global health as much as possible during medical school. Together they lead the student-run Global Health Interest Group, which promotes increased awareness of international health issues, provides exposure to the international work of UW faculty and gives medical students the opportunity to learn by developing and participating in their own global health projects.

As required for the certificate, each is currently enrolled in a two-credit class: Connie is taking “Medical Anthropology” and Nate is taking “Health and Disease in Thailand.”

And last year, in the midst of their busy schedule of standard first-year medical school classes, they designed and prepared for their own summer field project in Mexico. Their five-week stay was facilitated by faculty at Centro Universitario de Los Altos, a satellite of the University of Guadalajara, where the CGH has a well-established relationship.

The project dealt with health and safety among children living and working on farms in a rural, agrarian region

outside Guadalajara. Working with a local agricultural cooperative, PROLEA, the Gundackers explored whether safety guidelines that had been developed by researchers at the Marshfield Clinic could be adapted for use in this area of Mexico.

“We did a survey to determine the kinds of jobs kids were doing on the farms, types of farms they were working on, injuries they sustained,” explains Connie. The native Wisconsinites, whose families run farms in the Badger State, visited 30 Mexican farms, observing children at work at some of them.

The students also spent time in clinics and hospitals, getting doctors’ perspectives on the kinds of farm injuries they were seeing. And they conducted a review of 1,000 medical records, looking for cases involving injuries on farms.

With their Marshfield collaborators, the Gundackers hope to share their findings in an academic journal. Their recommendations will include, among other things, better pesticide management and wider use of gloves, goggles and boots.

The work in Guadalajara will continue this summer, when five additional UW students participate in a service-learning project at a local clinic. DiPrete Brown will serve as the principal investigator on the project, funded by a competitive Baldwin/Reilly grant.

The Gundackers say the certificate program has helped them in several ways.

“On our field trip, keeping track of activities on a daily basis helped us stay focused,” says Nate. “And the courses gave us a system perspective that let us compare healthcare in other countries and ours.”

Adds Connie: “With the rising Latino population in the U.S., it’s good to be able to understand some of the different health beliefs people have.”

The certificate program is open to practicing MDs and master’s in public health (MPH) candidates in addition to medical students.

Jaime McCord, MD, a third-year resident in the Department of Surgery at UW Hospital and Clinics, recently completed the required course work and her field experience.

McCord first got a taste of global health during an elective in the West African country of Togo, when she was a medical student at Temple University.

“I was determined to get to Africa and experience working in an area where good, basic medical help was greatly needed,” she says. She served as first assistant to an American surgeon at a small rural hospital, helping on some 90 cases. Over the course of two months, she learned to be innovative, she says, and found she loved the people.

Two years into her five-year general surgery residency at UW, McCord became a postdoctoral research fellow searching for the right project. A series of serendipitous events—an introduction to SMPH family practitioner Michael Fleming, MD, MPH, who offered her an 18-month fellowship; contact with UW vascular surgeon Girma Tefera, MD, originally from Ethiopia; and a meeting with Haq, who explained how the CGH certificate program worked—came together to provide an unusual opportunity.

Working with Tefera and with the blessings of the UW surgery department, McCord completed the “Foundations in Global Health Practice” course and then designed a project to create a registry of trauma cases seen at two teaching hospitals in Addis Ababa, Ethiopia, where no formal injury surveillance programs exist.

“The idea was to collect data so that, ultimately, action could be taken, policy written and resources allocated to reduce

disabilities resulting from various forms of injury,” she explains, noting that trauma is a significant health issue in the developing world.

Among other things, McCord met with local collaborators, observed procedures in “trauma rooms” at the two hospitals, satisfied all institutional review board requirements, trained data collectors, instituted quality control measures and began analyzing data during four trips to Ethiopia.

“I hope the data we collect will be good enough to be useful in a practical way,” says McCord, who made her last trip in March 2009.

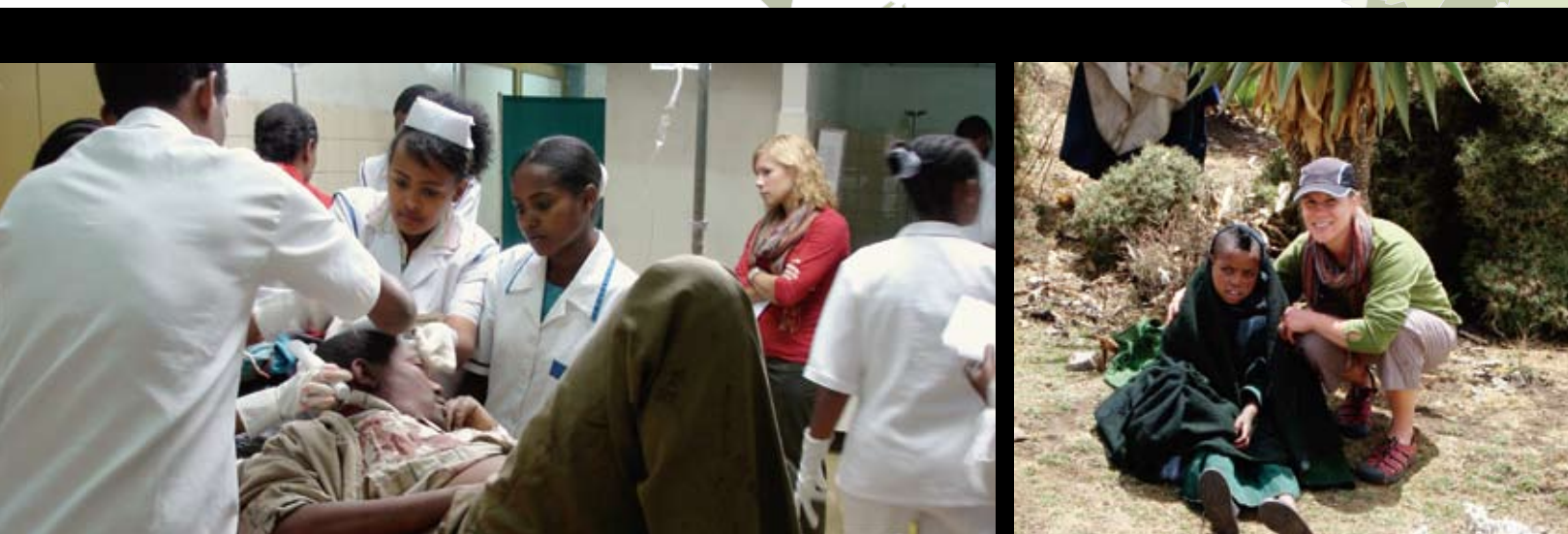
In the end, McCord overcame cross-cultural barriers, learned a great deal by trial and error and persisted in the face of many frustrations.

“The experience stretched me as a person, a physician and a resident,” she says. “Overall, it reaffirmed what my heart had been telling me—that I needed to work in a developing country.”

McCord isn’t sure where she and her teacher husband, Peter, will end up working, but she knows she could thrive in Africa.

Whether any of the global health participants ever actually work or live abroad may not be the main point. The experiences they have had have enriched them beyond measure.

“What I gained from the people of Honduras was so much more than what I gave them,” says Buelow, who was delighted to learn recently that the survey she conducted helped the small NGO win a Global Fund grant to care for children living with and vulnerable to HIV/AIDS. “If you understand where people are coming from and the issues they are dealing with on a daily basis, you’ll be able to serve them much more effectively as a doctor.”



Before beginning her research, surgery resident Jaime McCord (in red) observes activities in the “trauma room” at a teaching hospital in Addis Ababa, Ethiopia. Touring the countryside later, McCord is happy with the outcome after treating a young girl who had been bitten badly by a dog.