Cross-Disciplinary Linkages in Global Public Health at CSU

Dr. Lorann Stallones shares global health opportunities at the Colorado State University campus – including the Global Health and Health Disparities Track in the Master of Public Health program.

By Molly Terhune

A growing interest

A 2008 Washington Post Headline says it all, "For a Global Generation, Public Health Is a Hot Field;" a sentiment that has since been reiterated by the Seattle Times and others.

In campuses across the country, globally-geared public health education continues to draw scholars from numerous disciplines.

The Colorado School of Public Health is working on many levels to accommodate this surge in student interest across its own three campuses - the University of Northern Colorado, in Greeley; the University of Colorado Anschutz Medical Campus, in Aurora; and Colorado State University, in Fort Collins.

The Global Health and Health Disparities track in the Master of Public Health (M.P.H.) program at Colorado State University (CSU), part of the inter-institutional Colorado School of Public Health, is a testament to this expanding interest among students.

Built on the core M.P.H. curriculum, the Global Health and Health Disparities track also addresses topics like history, power, privilege and structural inequality to reveal how health disparities are created. The curriculum teaches how key issues like gender, race, poverty, migration and culture affect public health practice in international settings.

Lorann Stallones, M.P.H., Ph.D., Professor in Psychology, Director of the MPH program at Colorado State University and Professor in Epidemiology at the Colorado School of Public Health, believes the crosscutting nature of global health is attractive to students, “Recently, there seems to be an upswing in student interest [in global public health issues]. Publicity from the Gates Foundation, USAID and increased concerns around issues like food safety, and avian flu barrage us with the interconnectedness of things going on in other places.”

Since the accreditation of the Colorado School of Public Health in 2010, Stallones estimates that roughly one third of the students interested in the M.P.H. program at CSU have sought out the Global Health and Health Disparities track.

Faculty members were also enthusiastic about developing the

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Kaitlin Ahern, third-year student in the CHA/PA Global Health Track shares her month long clinical experience in Guatemala.

Kaitlin Ahern, a third-year Child Health Associate/Physician Assistant (CHA/PA) student at the University of Colorado School of Medicine spent this past June at Clinica Barbara, a small clinic in the town of San Juan Sacatepequez an hour outside of Guatemala City, the capital of Guatemala.

Kaitlin has always had a love for international work and is a participant in the Global Health Track. She has had the opportunity to work abroad before. Prior to this trip, Kaitlin has worked in the countries of Peru, Costa Rica, Chili and Colombia. The rotation in Guatemala was set up by the CHA/PA programs partnership with the Universidad Francisco Marroquin (UFM), a private medical school in Guatemala City.

Kaitlin was one of five third-year CHA/PA students to journey to Guatemala to put their knowledge to the test at Clinica Barbara, where they worked with eleven medical students from UFM.

On Kaitlin’s first day in clinic she was introduced to the world of prenatal care. Kaitlin noted, “I had taken Women’s Health in the first year of the CHA/PA program but the majority of my rotations during the past two years of school were pediatric-based. I had no idea what to do when Alejandra, a Guatemalan medical student I was working with, asked me if I wanted to do the Leopold maneuvers to determine the position of the baby. She walked me through where to place my hands and how to determine the placement of the baby’s spine, buttocks, and if they were “encajada” (if their head was descending into the pelvis).”

It was not uncommon for a local comadrona, a traditional midwife, to arrive at the clinic with 20+ pregnant women under her care for their prenatal visits. The Guatemalan medical students and the five CHA/PA students immediately got to work by arranging school desks and plastic chairs around the clinic to see 8-10 women at a time in different corners.

Patients would range from first time pregnant women coming for their first visit at 9 weeks gestation to women who had seven previous pregnancies who were coming in for the first time at 37 weeks gestation.

As an outsider, Kaitlin shared that it was easy to get frustrated when women came back for subsequent prenatal visits without the requested lab work or ultrasound.

At Clinica Barbara, ultrasounds were only performed on Fridays and women had to arrive at the clinic at 5:30am to select one of the 20 slots for ultrasounds that day.

Kaitlin stated, “I could appreciate that some women couldn’t afford the tests and came to realize that others didn’t do it because they already had six healthy pregnancies without doing labs or imaging so why do it now?”

The CHA/PA students witnessed some very dramatic deliveries performed by the Guatemalan medical students when women would present to the clinic in labor with their comadronas and the baby was in breech or transverse position.

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track. The Colorado School of Public Health gave faculty members from other schools and departments on the CSU campus a forum to share the public health knowledge that was otherwise blended into their respective specialties.

Bringing together disciplines with a public health slant, such as environmental sciences, engineering, technology and media, and veterinary medicine, CSU’s faculty prepares students to employ novel solutions to today’s complex global health issues.

One Health, One Medicine

Colorado State University’s renowned College of Veterinary Medicine may seem worlds apart from its public health program. However, the father of modern pathology, German-born doctor Rudolf Virchow once said, “Between animal and human medicine there are no dividing lines – nor should there be.”\(^1\)

In fact, zoonotic diseases, defined as animal illnesses that can be transmitted to humans, contribute to at least 61% of all human pathogens, and have represented 75% of all emerging pathogens during the past decade.\(^2\) Zoonotic diseases have come more into the public eye given the recent global scares with swine flu and avian flu.

As the map below demonstrates, countries that are hit hardest by zoonotic diseases are also some of the poorest countries, whose citizens keep their livestock in or near their homes.\(^3\) Not coincidentally, many of these ‘hot spots’ in sub-Saharan Africa, and south and southeast Asia are targeted for a broad range of other global health interventions.

Affirming Virchow’s “one health, one medicine” perspective, Stallones states, “Animals, people and the environment are intimately intertwined. Some of the most common diarrheal diseases, like salmonella and e-coli come from animals and plants. Reducing exposure to these pathogens is key to reducing deaths worldwide.”

In the shared ecology of today's global village, close interaction among humans and their pets and livestock has tremendous public health implications. With expertise in environmental sciences, animal health, and human health, Colorado State University is poised to educate students about the public health issue of zoonotic diseases.

In an effort to create more opportunities for students to learn in international settings, Stallones explains that Colorado State University is actively establishing partnerships with universities around the world.

CSU has strategic relationships with 17 international entities, which relate to the full complement of CSU’s academic disciplines – not just the school of public health.

This comprehensive approach to inter-institutional partnership characterizes CSU’s style of collaborative multi-disciplinary academics, and also realizes Virchow’s desire to see seemingly divergent disciplines working collaboratively to solve complex problems.
Health Disparities at Home

Stallones herself has an M.P.H. in international health from the University of Texas School of Public Health in Houston. Although she anticipated early on that she would be traveling all over the globe, she found instead that her path led to multicultural settings within the United States.

Her original research has centered on occupational health risks of agricultural professions. In her work with farming communities, she has examined relationships between pesticides and mental health, risks associated with adolescent farm work, suicide among farmers, health issues among migrant farm workers, and agricultural safety practices.

While at times this work has taken her abroad, most recently to rural China, Stallones has found that her occupational health research with migrant workers keeps her here in Colorado and neighboring Midwestern states. Similarly, other Global Health and Health Disparities faculty members have domestic experiences working with Native American reservation populations.

Low-literacy populations are strong areas of focus for students in the track. Students have conducted capstone and practicum projects in the Five Points neighborhood, a historically affluent, but currently under-resourced pocket of north-central Denver. For these populations, students in the track have developed educational materials and literacy campaigns.

This dual focus on health disparities at home and globally distinguishes CSU’s global health track from other schools’ tracks that work primarily in international settings. Exploring issues related to the multiculturalism of the United States helps students consider a broad range of future employment opportunities.

Graduates of the Global Health and Health Disparities track have gone on to a variety of careers both at home and abroad; a few students have found employment at CSU, another with the Colorado Department of Public Health and Environment.

One student is in Zambia doing work as a Global Health Fellow funded by the Association of Schools of Public Health and the Centers for Disease Control and Prevention, while another student has ties to Africa as a Program Associate for West and South Africa at Ipas, an international non-profit organization based in North Carolina.

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Lorann Stallones, M.P.H., Ph.D., Professor in Psychology, Director of the M.P.H. program at Colorado State University and Professor in Epidemiology at the Colorado School of Public Health

A Blended Learning Experience with the Peace Corps

For those students with an itch to explore the four corners of the globe, CSU offers a unique program with Peace Corps Masters International (PCMI).

The program is not only for students of public health. In fact, four other schools within CSU have PCMI programs (Agricultural Sciences, English, Food Science and Human Nutrition, and Natural Resources).

In the case of public health, the PCMI program is a blended learning experience, integrating public health training with international development practice.

Since 1987, this program has married theory and praxis for advanced degree students.
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Colorado State University has had a longstanding relationship with the Peace Corps. The late Maurice Albertson, Ph.D., an emeritus professor of civil engineering at CSU was one of the Peace Corps’ founding members. Stallones states, “In general, CSU has had a lot of undergraduates go on to become Peace Corps volunteers. PCMI was already operating in other departments here. It was natural for the school of public health to create a similar opportunity with PCMI for its students.”

The Colorado School of Public Health will send off its first two Peace Corps students later this year. Kyle Roesler and Bridget Haug are awaiting their country assignments. The students have already completed two semesters on campus, and will complete a two year stint abroad before returning for a final semester.

Haug was attracted to the Global Health and Health Disparities program because of its relative newness and flexibility. When asked how she chose the PCMI program specifically, Haug explained, “A great part of my reasoning for choosing the M.P.H. program at CSU was the option to engage in the PCMI program.

I had initially applied to the Peace Corps during my senior year of undergrad but decided to pause the application process because I wasn’t yet ready to go abroad for such a long period of time. After doing a year of domestic service focusing on barriers to health access in Sacramento, C.A., I had no hesitations about participating in the Peace Corps and I applied to PCMI.”

Roesler, who will likely be placed in Eastern Europe, has said that upon graduation he would like to be a program manager for projects overseas which involve HIV/AIDS education and prevention or working with an organization that delivers ophthalmological care in developing countries.

Both Roesler and Haug agree that global health is a growing career field. They cite the increasing public awareness about the unmet healthcare needs of men, women, and children around the world.

Roesler believes that, “Globalization continues to push this awareness forward by making it easier to communicate, travel, and coordinate aid projects internationally. With the global population and scarcity of resources increasing, I only see more people being pulled in the direction of global health.”

At Colorado State University, the future holds promise for collaborative, interdisciplinary work toward improving health care and health outcomes for all.


2http://www.who.int/neglected_diseases/diseases/zoonoses/en/


To learn more about: the Global Health and Health Disparities Track, visit: http://www.publichealth.colostate.edu/GPPH/MPH_CSU_GHD.pdf

Faculty author and editor—new global health texts

From asking "Will today's economic systems sustain tomorrow's health?" to taking an inside look at the strategies advocates use to promote childhood health, faculty share their global health expertise through these new texts:

"Global Public Health: An ecological foundation" - authored by Dr. Lorann Stallones, Colorado State University Director and colleagues

"Global Child Health Advocacy: On the Front Lines" - edited by Dr. Stephen Berman, Center for Global Health Director and colleagues

The 2013 Global Health Symposium will take place on the Anschutz Medical Campus, November 15th.

Call for Abstracts: Want to present at the Symposium? Submit a 250-word abstract about your current international work to Molly Terhune at molly.terhune@ucdenver.edu.

Deadline is September 1, 2013
It was in these cases that Kaitlin realized the importance of working with and educating comadronas about how tradition and medicine can work together in prenatal care.

The inclusion of traditional healers, midwives, and health promoters into medical practice is a particular interest of Kaitlin’s in global health, “I recognize the strengths of working with women like comadronas in Guatemala but also understand that there is a range in their capabilities and knowledge. Obstetrics and Gynecology is not a common field for physician assistants to enter in Colorado so I cherished these opportunities to work with comadronas and pregnant women in Guatemala.”

Among pediatric visits, the most common patient complaint was diarrhea.

During the CHA/PA students first week, they saw a patient whose chief complaint was a fever. From the history given by the mother, they were stumped on what was ailing the child. During the exam however, the little one had diarrhea and the Guatemalan medical students easily diagnosed Rotavirus just by glancing at it.

Kaitlin states, “It was different for us since in the United States, Rotavirus is not commonly seen anymore due to the introduction of the vaccine for use in less than six month olds. I quickly learned the questions to ask to differentiate between diarrheas caused by Rotavirus as compared to diarrheas due to bacterial or parasitic origin.”

Cases of diarrhea were only one example in which empiric treatment based on a patient’s clinical picture was pursued before getting cultures to confirm a diagnosis while working at Clinica Barbara.

It was accepted practice to treat the most likely or common cause of someone’s symptoms without laboratory evidence to support the diagnosis due to the unavailability of certain tests, the extra expense of ordering a test and the probability the patient wouldn’t return for the test results.

Kaitlin shares, “Although it could be frustrating at times for us Americans, who just completed two years of classroom instruction regarding the standard work-up for various conditions that dictate the inclusion of laboratory evidence for a diagnosis, I could appreciate why the Guatemalan medical students pursued the course of treatments that they did.

It makes me think twice about whether or not a lab result is absolutely necessary for my assessment and plan for a patient. I think it is a good clinical skill to have acquired this day in age due to the rising costs of healthcare in the United States and will be a lesson I carry with me throughout my career.”

One the most enjoyable aspects of Kaitlin’s time in Guatemala was the opportunity to work with Guatemalan medical students.

They proved to be great teachers in the clinic and she admired their strength and fortitude when working in some of the conditions that their training has put them through.

They knew a great deal about the physician assistant profession in the United States and asked thoughtful questions about the CHA/PA students training and future careers.

The UFM medical students taught Kaitlin a great deal, “They walked me through some of the visits that I was most nervous about. I was able to suture my first conscious patient while in Guatemala and was nervous since I’ve only ever practiced suturing on pig’s feet and bananas at home. The Guatemalan students passed a lot of suturing cases my way.”

Kaitlin shared, “The month-long experience flew by and taught me a great deal about the challenges and shortcomings of working in global settings with limited medical resources all the while allowing me to foster friendships with Guatemalan students who tackle these issues on a daily basis.”
The Global Health Track, established in 2010, is an official interdisciplinary track in the School of Medicine that is committed to equipping PA students with global and public health skills. The track admits two CHA/PA students each year. This track goes beyond medical tourism, and requires a true commitment to one site during the students three year. The track seeks to promote in-depth projects, completed by students, in developing nations that are sustainable and create lasting positive change in a community.

David Eckhardt, M.S., P.A.-C., Assistant Professor, Department of Pediatrics at the University of Colorado School of Medicine works with Jennifer Whitfield Bellows, M.D., M.P.H. Director of the Global Health Track in the School of Medicine on behalf of the CHA/PA Program.

The Global Health Track has nearly 40 mentors, most with their own projects abroad in Africa, Asia, Latin America, Eastern Europe, and the Caribbean. Currently, there are 8 sites to choose from including South Africa, Guatemala, Haiti, Tanzania, India, Rwanda, Peru, and Uganda.

The CHA/PA Program accepts 44 students per academic year. Three to five of those students apply to be a part of the Global Health Track; only two are selected.

The first graduate, Beth Hewes, of the CHA/PA Global Health Track, graduated Spring 2013.

The CHA/PA Global Health Track

Established in 1968 by Dr. Henry K. Silver, the Child Health Associate/Physician Assistant (CHA/PA) is a master’s level, primary care PA program which prepares graduates to provide comprehensive medical care for patients of all ages with specialized education in the care of infants, children and adolescents.

Although the program continues to provide expanded training in pediatrics, the PA program’s primary care curriculum prepares graduates to diagnose and treat illness in patients of all ages. Functioning within the University of Colorado School of Medicine, the program has gained national recognition for its innovative curriculum.

The Global Health Track at the University of Colorado School of Medicine (SOM) is designed to provide educational and experiential opportunities for students interested in international health care.

The track, established in 2006 by the Center for Global Health, is a four-year commitment, which meets students’ MSA (Mentored Scholarly Activity, a longitudinal project) requirement for graduation and affords them the opportunity to earn certification in Global Health.

Students must apply to the Global Health Track during the fall of their first year of medical school. Twelve students are selected each year. The track is directed by Jennifer Whitfield Bellows, M.D., M.P.H., Assistant Professor, Department of Emergency Medicine at the University of Colorado School of Medicine.

Students gain a strong knowledge base of the fundamentals of global health and tropical medicine through engaging didactic courses in their first and fourth years. Over the summer months, students put knowledge into practice, traveling abroad to experience the difficulty, reward and application of international health interventions.

The Global Health Track has established nine* international partnerships with organizations located throughout the world. Medical students from the Global Health Track work on long-standing, health related projects that complement the mission, outreach, and service of our partners. The track provides future physicians with independent educational opportunities, while providing partners with continuity of resources and care.

*Countries: India, Haiti, Rwanda, Tanzania, South Africa, Uganda, Mexico, Guatemala and Peru

Number of students in the Track each graduating year:
- 2013—12 students
- 2014—16 students
- 2015—12 students
- 2016—12 students
Nationally, pediatric residencies are incorporating global health training into their curricula. In a 2006 survey, only 6 pediatric programs reported offering a formal global health track or certificate program (Nelson et al., 2008), whereas in 2011, 24 programs were identified as having a formalized pediatric global health track (Suchdev et al., 2012).

Starting July of this year, the Department of Pediatrics at the University of Colorado School of Medicine residency program expanded their curricula to include a Global Health Track to their residents.

The three-year track offers a variety of activities, i.e., global health journal club, global health lecture series; designed to help residents attain a multicultural understanding of medical care. Accepting only four residents from each entering class makes this track a competitive and exciting opportunity.

Pediatric residents have the opportunity to participate in the two-week Global Health & Disasters Course, sponsored by the Center for Global Health each November, to gain exposure to many of global health’s most pressing areas of focus. Following the course, a two-month rotation at a clinical site in Guatemala gives residents a chance to strengthen physical exam and procedural skills, while gaining skill sets to work in low-resource settings.

The curriculum also includes clinic time at Children’s Hospital Colorado in one or more of the following: adoption clinic, refugee clinic, TB clinic, and/or travel clinic. Residents are also encouraged to work in underserved continuity clinic at Denver Health or Children’s Hospital Colorado.

All residents work with a mentor and are required to complete a scholarly project with a topic relevant to global health.

November 4-15, 2013

Learning Objectives for the Two Week Course

Global Health Portion
- Students will learn to diagnose and treat major tropical diseases, including malaria, dengue, typhoid, and intestinal parasites.
- Students will learn about the major public health issues facing communities in the developing world.
- Students will learn about the impact and management of TB, HIV, and chronic disease in the developing world.

Children in Disasters Portion
- Students will understand what makes a disaster.
- Students will recognize the components of disaster response.
- Students will understand the need for disaster preparedness and training.
- Students will learn about the American Academy of Pediatrics (AAP) and Pan American Health Organization (PAHO) Pediatrics in Disaster training program.

To register, click here. Deadline is September 15, 2013.

Faculty from the Center for Global Health and the University of Colorado recently attended and presented at the first National Congress of International Obstetrics/Gynecological Practitioners. The event took place in Coatepeque, Guatemala July 10, 2013. Attending & Presenting:

- Edwin Asturias, M.D., Associate Professor, Pediatrics—Section of Infectious Diseases, University of Colorado School of Medicine & Senior Investigator, Center for Global Health
  Lectures: 1) TORCH in Pregnancy, 2) Immunizations during Pregnancy and 3) Helping Babies Breathe®

- Amy Nacht, M.S.N., C.N.M., Director, Nurse-Midwifery Faculty Practice, University of Colorado, College of Nursing
  Lecture: Obesity and Pregnancy

- Gretchen Heinrichs, M.D., D.T.M.H., Assistant Professor, Obstetrics & Gynecology, University of Colorado School of Medicine and Director, Maternal Health Programs, Center for Global Health
  Lectures: 1) Detection, Manage and Consequences of RCIU and 2) Detection and Manage of High Risk Pregnancy and Labor

- Gretchen Domek, M.D., M.Phil., Global Health Fellow, Center for Global Health

- Jessica Cataldi, M.D., Resident, Department of Pediatrics, University of Colorado School of Medicine
  Lecture: Immediate Manage of the Premature