Addressing health equity worldwide through partnership and sustainability

INTRODUCTION

Touro University California (TUC) has made great progress towards the integration of global health into the curriculum and research agenda since the initiation of the first elective course in Tropical Medicine at Touro’s College of Osteopathic Medicine in 2003. Today, TUC has a nationally recognized program in global health that is respected by the osteopathic medical community and among our global partners.

Well-prepared and resourceful primary care physicians, pharmacists, physician assistants, nursing, and public health professionals are a critical part of an effective response to challenges of increasing population, the emergence and reemergence of infectious diseases, the growing problem of chronic diseases, the spread of HIV/AIDS, and migration caused by civil strife, drought, climate change, and economic pressures.

Global Health activities prepare our students to address global health challenges and attain health equity worldwide. TUC aims to deliver global health education, research and service using interprofessional and innovative approaches to close the gap between knowledge and action. We do this through an integrated curriculum of research apprenticeships, elective rotations, experiential learning in summer externships, and clinical and global health field study.

Global health activities at Touro University California promote the interest of students and faculty in Global Health through education, research and community service:

EDUCATION: providing curriculum to encourage compassionate, globally-oriented and effective health professionals.

RESEARCH: partnering with the global community to identify the needs and challenges of healthcare provision to the underserved and creating innovative research that responds to the changing global burden of disease.

SERVICE: improving healthcare delivery to achieve health equity in underserved communities by creating a robust network of international partners to exchange global health knowledge and skills.

GLOBAL HEALTH IN NUMBERS 2004-2014

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>274</td>
<td>The number of students’ experiential learning through summer externship</td>
</tr>
<tr>
<td>175</td>
<td>The number of students who completed a Public Health field study practicum in lower- and middle-income countries</td>
</tr>
<tr>
<td>168</td>
<td>The number of students’ clinical rotations</td>
</tr>
<tr>
<td>56</td>
<td>The number of published abstracts by the Global Health Program - College of Osteopathic Medicine students or faculty</td>
</tr>
<tr>
<td>35</td>
<td>The number of published abstracts by Public Health and Global Health track students or faculty</td>
</tr>
<tr>
<td>20</td>
<td>The number of participating faculty in Global Health</td>
</tr>
<tr>
<td>10</td>
<td>The number of national and regional awards to the Global Health Program at TUC’s College of Osteopathic Medicine</td>
</tr>
<tr>
<td>3</td>
<td>American Osteopathic Foundation Rossnick Humanitarian Grants</td>
</tr>
</tbody>
</table>
TUC’s global network

As of 2014, TUC’s Global Health Program extends across several countries worldwide: Bolivia, Cambodia, China, Ethiopia, Israel, Mexico, Taiwan and Tanzania, with other countries joining the Program in the near future.

**BOLIVIA**: Our students work with organizations across Bolivia, which include hospitals, universities, community clinics, UN Agencies, non-governmental agencies, and humanitarian organizations. For example, Nuestra Señora de La Paz University Hospital, Universidad Mayor de San Andrés, Centro Comunal El Carmen, Universidad Mayor de San Simón, Albina R. De Patino Nutrition Center, Pan American Health Organization, PROCOSI, RED CROSS, Save the Children, CIES, and the Colegio de Bioquímica and Farmacia La Paz.

**CAMBODIA**: KHANA is the largest national organization that is providing integrated HIV prevention, care and treatment in Cambodia and works with over 40 implementing partners throughout the country. MoPoTsyo Diabetes Patient Information Centre in Cambodia is a unique organization that has created a peer education network for marginalized populations for the diagnosis and management of diabetes and hypertension and conducts research in this area as well.

**CHINA**: The Prevention Center at Sias International University has formed a partnership with Touro University faculty and students to provide services in the areas of tobacco cessation, mental health and suicide prevention, oral health, and safe dating to over 20,000 campus students.
ETHIOPIA: The College of Public Health and Medical Sciences of Jimma University (JU) is a public higher educational institution and Ethiopia’s first innovative Community Oriented Institution for higher education. JU produces high quality multidisciplinary health care professionals through its community based educational philosophy. The partnership between Touro and Jimma, which was initiated in 2006, provides opportunities for both institutions to partner in research, service and teaching. It emphasizes local health needs, culturally appropriate approach, clinical observations and research.

DEBRA MARCOS HOSPITAL is a district referral hospital serving the Amhara region in Ethiopia. The Touro-Debra Marcos partnership provides exchange opportunities for Touro students and Debra Marcos Hospital staff to rotate in various clinical departments and carry out scholarly and service projects.

UNIVERSITY OF GONDAR is the first medical college in Ethiopia. It maintains a steady commitment to quality education, focused research and relevant community services. Touro students carry field studies and clinical rotations at Gondar University through the TUC-University of Gondar collaboration, which was initiated in Fall 2012.
TUC’s global network (continued)

**ISRAEL:** Laniado Hospital Tel Aviv, Sanz Medical Center–Laniado Hospital is the only hospital in the Netanya area and offers its services to over 250,000 people. Departments include internal medicine, ophthalmology, pediatrics, surgery, ENT, intensive care, gynecology, dialysis, hematology, angiography, gastroenterology, oncology, and orthopedics. The medical center offers a great opportunity for Touro students to get exposure to state-of-the-art emergency health care service and trauma during international health elective rotations.

**MEXICO:** Instituto Nacional de Salud Pública, Cuernavaca, México, Mexico’s National Institute of Public Health (INSP) in Cuernavaca, Mexico, is the public health think tank and one of the 13 National Institutes of Health of Mexico. Its mission is to contribute to social equity and the full realization of the right to health protection through the generation and dissemination of knowledge, state-of-the-art training of human resources, and innovation in multidisciplinary research in order to develop evidence-based public policies. As a leader in integral public health research and teaching in Latin America, the INSP strives to generate precise and current reference knowledge for the formulation, implementation and evaluation of health research policy on national and regional levels. Students are offered public health and clinical research internships as well as community based research and service opportunities.

**TAIWAN:** The Taiwan International Healthcare Training Center, Taipei Hospital, Department of Health, Executive Yuan was established on August 29, 2002 by the Taipei Hospital of the Department of Health, Executive Yuan. The objective for the establishment of the TIHTC is to provide training for international medical human resources, so that recipient countries would possess professional medical technical capabilities. The Center offers training and exchange programs for medical workers from various countries. In addition, delegates and guests from various countries are also able to participate in health-related activities and make significant contributions to the international community.
TANZANIA: Shirati District Hospital was founded in 1934 and is located in the Mara Region, which has a population of 1,743,830 inhabitants. In addition to being a district hospital for Lake Mara region, the hospital also provides the Leprosy Control and Treatment Center supported by the German Leprosy Relief Association (GLRA), Malaria and Burkitt’s Lymphoma Center and the Angaza Center for Voluntary Counseling and Testing for HIV/AIDS. TU COM and Shirati hospital collaborations have been very successful in reducing the incidence of schistosomiasis in several villages around Lake Victoria, as well as in providing annual screening for over 500 individuals for schistosomiasis.
Ways for students to participate in global health at TUC:

1. CLINICAL ROTATIONS
2. PUBLIC HEALTH FIELD STUDY PRACTICUM
3. GLOBAL HEALTH PATHWAY CERTIFICATE
4. LEARNING SUMMER EXTERNSHIP
PERCENTAGE OF NON-GHP VS. GHP GRADUATES IN THE RESPECTIVE RESIDENCY PROGRAMS

<table>
<thead>
<tr>
<th>Program</th>
<th>Non-GHP (%)</th>
<th>GHP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>IM</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Peds</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>EM</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Psych</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gen Surg.</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PM&amp;R</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>OB/GYN</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Anes</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Ortho Surg.</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Radio</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Neuro Surg.</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- FM: Family Medicine
- IM: Internal Medicine
- Peds: Pediatric
- EM: Emergency Medicine
- Psych: Psychiatry
- Gen Surg.: General Surgery
- PM&R: Physical Medicine and Rehabilitation
- OB/GYN: Obstetric and Gynecology
- Anes: Anesthesia
- Ortho Surg.: Orthopedic Surgery
- Radio: Radiology
- Neuro Surg.: Neurosurgery
1. CLINICAL ROTATIONS

The total number of students who have participated in international rotations is 168. Rotations are carried at Touro-affiliated sites offering a great opportunity for our students to carry their elective in several specialties. Students are exposed to:

- State-of-the-art trauma centers and emergency medicine in Israel
- Traditional Chinese medicine at an internationally recognized health care system in Taiwan
- Medical care for tropical and neglected diseases in Tanzania and Bolivia, and,
- Skills and creativity of physicians working in resource limited care settings in Ethiopia.

“I wanted to be trained on how to bring health not just to an individual patient, but the community as well. The two are inseparable. Healthy communities make healthy individuals, and vice versa. …Being part of my preceptor Dr. Abinet’s life for one month brought me back to the ideals I had before entering medical school, the ideals of serving patients and bringing health to the communities.”

— Katrina Chapman, Class 2011

2. PUBLIC HEALTH FIELD STUDY PRACTICUM

Over the last six years, 175 public health, medical, pharmacy and physician assistant students have travelled abroad to conduct their public health field studies. Students have travelled to Bolivia, Ethiopia, Cambodia, China, Colombia and Nigeria. They have worked with ministries of health, multilateral health organizations, universities, hospitals, clinics, and community-based organizations. They have studied topics ranging from child malnutrition and neonatal care to health literacy, medication inventory management and research ethics.

Kimberly Dauz (MPH ’13) conducted a project that aimed to identify simple, low-cost strategies for improving neonatal health in Cambodia. She partnered with the Reproductive and Child Health Association (RACHA) for her project and used participant observation methods to observe antenatal care, delivery and postpartum visits. A literature review of recently peer-reviewed research was conducted in order to complement her field observations. Kim, who presented her recommendations to RACHA’s program directors, recommended use of the WHO Safe Childbirth Checklist for standardizing practices, umbilical cord cleansing with the antiseptic chlorhexidine to reduce infection and the development of a mobile health program for improving adherence to antenatal and postnatal care visits.
3. GLOBAL HEALTH PATHWAY CERTIFICATE

The GH Pathway is a structured, longitudinal (4 years) track available to enrolled medical students which provides an academic platform for students interested in global health to gain deeper knowledge and practical experience in the field of global health. Students complete the course requirements; a minimum of three credits in the first two years followed by a minimum of two four-week international experience in the third and fourth year while maintaining flexibility in terms of both timing and content of these opportunities at Touro affiliated sites prior to graduation. Field investigative work must culminate in scholarly work in public health, basic science or clinical research that focuses on an important topic in global health. Students also must participate in community based and public health projects abroad or any local projects targeting migrant communities which address global health challenges.

4. LEARNING IN SUMMER EXTERNSHIP

The GHP offers summer externship at five global settings ranging from district hospitals, referral hospitals, clinics and academic institutions in Africa, Asia, Middle East and Latin America. The goal is for students to develop an awareness of challenges facing health care delivery in resource limited areas, develop sensitivity and compassion towards patients with different cultural background, and learn to collaborate and work with professionals from different specialties and cultural backgrounds. The summer externship is open to all first-year TUCOM students for credit as well as to students from other colleges in the California campus. The total number of students who participated in these internships since 2004 is 274 students.

“The most valuable thing I gained from my experience in Debra Marcos was perspective. This was an absolute inspiration to me as I gained perspective on the raw practice of distilled medicine.”

— Nathan Rheault, Class of 2013

“My experience with the GHP was one of the most fulfilling and memorable of my life. The opportunities that were afforded me as a pharmacy student were remarkable. I was able to see firsthand how each member of the health care team has a vital role to optimize patient outcomes. Despite just finishing my first year, the feedback that I received for my knowledge about drugs gave me confidence that will help me be a better-rounded clinician.”

— Amanda Do, College of Pharmacy, Class of 2016

“My experience allowed me to gain a small glimpse into the world of public health in Israel. Seeing first hand, for the first time, patient care through the admittedly academically immature eye of a student doctor was tremendously rewarding. It is an experience that I’m tremendously appreciative of and I hope to integrate lessons learned from Israel concerning the human condition in my future practice.”

— Jeremiah Pamer, Class of 2016
Faculty global health activities

FACULTY TEACHING EXCHANGES
TUC faculty has generously contributed to the international partnership through research, teaching and clinical services at host institutions:

**BIOCHEMISTRY:** Dr. Mary Mazotta, Jimma University, Ethiopia summer 2009

**INTERNAL MEDICINE:** Dr. Peter Baginsky, Shiratti District Hospital, Tanzania summer 2008

**RADIOLOGY:** Dr. Abraham Pera, Shiratti District Hospital, Tanzania summer 2009

**PATHOLOGY:** Dr. Eiman Mahmoud, External Examiner and lecturer, Jimma University, Ethiopia 2006-2012

**PEDIATRIC:** Dr. Yasmin Nibbe, Shiratti District Hospital, Tanzania summer 2012-2013

**EMERGENCY MEDICINE:** Dr. Rick Kahn, Debra Marcos and Jimma University Hospitals, Ethiopia summer 2012

**PUBLIC HEALTH EVALUATION METHODOLOGY:**
Dr. Carinne Brody, Australia Awards Cambodia Program

**RESEARCH ETHICS SYMPOSIUM:** Dr. Annette Aalborg and Professor Sarah Sullivan, Universidad Mayor de San Andres La Paz, Bolivia

**RESEARCH ETHICS TRAINING OF TRAINERS:**
Dr. Annette Aalborg and Professor Sarah Sullivan, Universidad Mayor de San Simon Cochabamba, Bolivia

International speakers have been invited to TUC to deliver talks and lectures including:

<table>
<thead>
<tr>
<th>Year</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Advancing technical excellence for better service delivery for people living with HIV in Cambodia</td>
<td>Dr. Siyan Yi, MPD Director of research for KHANA, the largest HIV service organization in Cambodia</td>
</tr>
<tr>
<td>2012</td>
<td>“Social Determinants and Health Outcomes in Bolivia”</td>
<td>Oscar Lanza MD, MPH Universidad Mayor de San Andrés</td>
</tr>
<tr>
<td>2011</td>
<td>Gondar University and its Role in Medical Education in Ethiopia</td>
<td>Professor Mengesha, President, Gondar University</td>
</tr>
<tr>
<td>2009</td>
<td>Interprofessional Education: Jimma University Experience</td>
<td>Dr. Abraham Haile Amlak, Professor and Dean, Jimma University</td>
</tr>
<tr>
<td>2006, 2013, 2014</td>
<td>“Population Policy in the Developing World”</td>
<td>Dr. Malcom Pott, Professor, UC Berkeley</td>
</tr>
<tr>
<td>2005</td>
<td>“Health Care Strategy in Eritrea”</td>
<td>Dr. Salih Mekki, Minister of Health, Eritrea</td>
</tr>
</tbody>
</table>

Collaborative Research Awards
In 2013, the Universidad Mayor de San Andres in La Paz, Bolivia, received a National Institute of Health/Fogarty International Center Research Ethics Education award for a proposal submitted in collaboration with the Touro University California Public Health program.
GHP leadership at Touro University

COLLEGE OF OSTEOPATHIC MEDICINE
Eiman Mahmoud MD, MPH, TUCOM Global Health Program Director
Athena Lin, PhD
Teresita Menini MD, MSc
Tamira Elul, PhD
Patricia Rehfield, DO, MPH
H. Eduardo Velasco, MD, PhD
Yasmin Nibbe, MD
Rick Kahn, MD

PUBLIC HEALTH
Carinne Brody DrPH, MPH
Sarah Sullivan RN, MSN, PNP, MPH
Sahai Burrows, MALD, PhD
Assefaw Ghebrekidan, MD, DrPH
Siyan Yi MD, MPH – Cambodia Adjunct Professor
Oscar Lanza MD, MPH – La Paz Bolivia
   Adjunct Professor
Armando Basagoitia MD, MPH – Sucre Bolivia
   Adjunct Professor
NATIONAL AND INTERNATIONAL ABSTRACT PRESENTATIONS (2004-2014)

The College of Osteopathic Medicine (COM) students and faculty have participated in national and international conferences with a total count of 56 abstracts during the period 2004-2014.

Public Health Students and faculty have participated in national and international conferences with a total count of 35 abstracts during the period 2004-2014.

Three research works from the COM GHP received three awards of first place in research and outreach categories, six awards of second place in outreach and research categories and one award in innovative research in national conferences.

GHP SCHOLARLY ACTIVITY

![Graph showing presentations and poster awards from 2004 to 2013.](image)
Success stories of global health alumni

TUC Global Health Program offers students opportunities to grow as lifelong learners as they seek to make their own contributions to the health of the population they serve.

Jesse Rhode, DO, Class of 2008, is the first alumni of global health activities at TUC and founder of the Jesse Rhode Foundation, a movement for social justice, health care and hope in rural Africa.

“The Touro University Global Health Initiative gives students the opportunity to dream; the opportunity to see what is possible internationally; the opportunity to take what is inside of us and turn it into tangible change in the fields of international health and global health care.”


Benjamin Abo, DO, Class of 2013, Founder of U.R.G.E.N.T, a nonprofit group dedicated to improving emergency care and training to underserved areas of developing countries in a culturally sensitive and needs-appropriate manner with a focus on maternal and child health.

Deng Jongkuch, MPH Global Heath Track, Class of 2010
The 20-year civil war in Sudan left the newly independent country of South Sudan practically devoid of infrastructure, services or health care. Deng, a graduate of Touro University California, College of Education and Health Sciences, is passionately committed to improving literacy in South Sudan. In 2009, he worked with funds from ImpactAVillage to direct the building of a primary school in Malek, South Sudan. He is currently the director of a health clinic near Malek in Southern Sudan.
SCHISTOSOMIASIS CONTROL INITIATIVE

Over a period of 10 years, students at Touro University California College of Osteopathic Medicine (TUCOM), in partnership with local communities, have effectively provided community based intervention programs for prevention, screening and treatment of parasitic endemic diseases. This includes schistosomiasis, which affects rural communities in the Lake Victoria region in Africa. The intervention has led to the decrease in incidence of schistosomiasis in several villages in the Mara region in Tanzania. This work was awarded first place among outreach programs by osteopathic students at the BIOMEA conference 2011-2012.

HELPING BABIES BREATHE (HBB) PROJECT

TUCOM GHP has partnered with several international sites in Ethiopia and Tanzania to initiate the HBB project. HBB is an evidence-based educational program to teach neonatal resuscitation techniques in resource-limited areas. It is an initiative of the American Academy of Pediatrics (AAP) in collaboration with the World Health Organization (WHO), US Agency for International Development (USAID), Save the Children’s Saving Newborn Lives program, the National Institute of Child Health and Development (NICHD), and a number of other global health stakeholders.

The objective of HBB is to ensure that all babies are born with a skilled birth attendant capable of the assessment of every baby, including: provision of temperature support, stimulation to breathe, and assisted ventilation as needed, all within “The Golden Minute” after birth.

After the successful launching of the HBB program in Tanzania and Ethiopia in June 2014, the GHP at TUCOM was invited by the Director of Medical Services for the entire Amhara region in Ethiopia to teach HBB material at all five midwifery schools in the region, as well as in five medical schools. The area serves 22 million people.
HANSEN’S DISEASE

Touro students have demonstrated both competency and compassion in identifying and addressing the physical and psychosocial manifestations of leprosy and the long-term effects on patients’ quality of living, social status, and family life. While it is commonly acknowledged that poverty increases the risk of contracting this bacterial infection, it is seldom recognized how the disease perpetuates poverty. The implementation of community-rehabilitation by TUCOM students in Tanzania has been shown to decrease the perpetuation of leprosy-associated disabilities. This work was awarded the first place in outreach category at the BIOMEA conference in San Diego in 2010.

ASSENDABO HEALTH RESOURCE CENTER

In collaboration with Jimma University, Global Physician Corps and the local community, TUCOM students have successfully established the foundations of the first health resource center available for the public in rural Ethiopia in Assendabo Village. The goal of the center is to provide access to knowledge and hence empowerment. The center provides members of the community health education materials and health education sessions carried by an interprofessional team from Jimma University public health student and faculty and Touro University medical students. Women’s health, diarrheal diseases and nutrition are the main areas of focus of the center activities.