Faculty-led Small Group Experiences

Care of Patients with Liver Diseases: A Comparative Study between the US and China

Faculty Mentor
Anna S. Lok, MD, Alice Lohrman Andrews Professor of Hepatology; Professor of Internal Medicine; Director of Clinical Hepatology; and Associate Chair for Clinical Research, Department of Internal Medicine

For the past several years, Dr. Anna Lok has been collaborating with Professor Lai Wei, Peking University, Hepatology Institute, Second Hospital in Beijing, on a hepatitis C project funded by the University of Michigan Health System and Peking University Health Sciences Center Joint Institute for Clinical and Translational Research (JI). Their project has been highly successful in patient enrollment and retention, as well as in data and sample collection. Since 2012, they have been sending M1 students to China as part of the Global REACH Faculty-led program.

The main goal of this program is to provide M1 students an opportunity to witness how medical care for patients with liver disease is delivered in China and in the US and to compare Chinese and US patients’ knowledge about their liver diseases, satisfaction with their care, and preferences in management decisions. The project comprises 5 parts: 1) introduction to liver disease and its management, 2) observation at UMHS liver clinic, 3) observation at Peking University Second Hospital’s liver clinic, 4) survey of patients in liver clinic, and 5) analysis of survey data.

M1 student Fanny Du was selected for the 2014 project. She was joined by an UM undergraduate student Angela Xie to collect the data in China, while two other new UM graduates, Cassandra Rodd and Shanna Cheng, worked on the US portion of the project. Angela, Cassandra, and Shanna have been working in Dr. Lok’s lab as part-time research assistants.

Global REACH developed faculty-led small group experiences to encourage stronger student mentorship by faculty, continuity of engagement with our international partners, and team-based learning.
The Genetic Basis of Deafness in Bangladesh

Faculty Mentor
Glenn Green, MD, Associate Professor of Otolaryngology

With approximately 162 million people, Bangladesh is one of the most populous countries in the world, including an estimated 15 million people who suffer from severe to profound hearing loss. The genetics of individuals with deafness in Bangladesh has not been characterized, although both syndromic or non-syndromic caused deafness are normally related to gene mutations.

Working with partner otolaryngologists at the Specialized ENT Hospital serving Society for Assistance to Hearing Impaired Children (SAHIC) in Bangladesh and the Integrated Pre-School of Hearing Impaired Children of SAHIC in Mohakhali, Dhakha, the UM team (including two M1 students) set out to collect, analyze, and characterize the extent of genetic deafness by examining DNA from individuals from consanguineous families with deafness. Unfortunately, final IRB approval was not received until the students were ready to return to Ann Arbor so data collection has been postponed.

In addition to participating in all stages of the study development and IRB process, the students were able to shadow in the surgery and audiology departments of SAHIC. They witnessed a variety of surgeries including tonsillectomies and adenoid removals, thyroid removals, a submandibular gland removal, deviated septum procedures, the drainage of abscesses, and tympanoplasties. Almost daily, they observed mastoid exploration procedures. Often, as a result of chronic middle ear infections lasting many years, infection can spread to the mastoid. In some cases the bones of the middle ear are destroyed, and in extremely advanced cases the infection can spread to the dura and brain.

M1s Yael Braunschweig* and Silas Carwell* were funded by Global REACH to participate in this inaugural project.

*UMMS Global Health & Disparities Path of Excellence Student

“T he diseases we saw were much more advanced than what is usually seen in the US. We saw firsthand the medical consequences of not being able to treat childhood ear infections, the resulting morbidity, and the specialized surgical techniques developed to treat advanced cases.”

– M1 Yael Braunschweig
Community Based Cohort Study in the Western Region of São Paulo

Faculty Mentor
Michele Heisler, MD, Professor of Internal Medicine, UMMS

This research project partnered with the Pediatrics Department at the Faculdade de Medicina of Universidade of São Paulo (FMUSP) to examine the social determinants of health in a subpopulation of mothers and infants in São Paulo. Led by Dr. Heisler and her FMUSP colleague, Dr. Alexandra Brentani, the summer team of 3 UMMS students, a Harvard college student, and a social worker from USP’s Hospital Universitario (HU), developed a thorough, semi-structured interview protocol and a home observation survey.

One project team identified 100 babies (from a cohort of 3,000) who were living in some of the highest-risk areas in São Paulo and conducted 12 home interviews with the mothers using questions structured to gain an understanding of the social determinants of health (i.e., access to healthcare services, extent of toxic stresses in the environment, health conditions of the mother and infant, living conditions in the home, development of the infant, and the mother’s resiliency and problem solving techniques). Local community health agents (CHAs) served as guides and facilitators.

Another team conducted over 40 home visits with about 20 CHAs based at Vila Piaui, a Sao Paulo health center. They observed and assessed the results of a pilot diabetes self-management intervention that trained CHAs to use motivational interviewing to improve patient outcomes. Evaluations were compiled using an adapted fidelity checklist. Data was also collected for the 50 patients participating in the study and for 50 control patients.

2014 UMMS students on this project were: Pooja Agrawal*, Marlon Bohorquez, Stephanie Chalifour, Simanjit Mand*, and Miquel Rovira*.  
*UMMS Global Health & Disparities Path of Excellence Student

UMMS M1s Miguel Rovira, Marlon Bohorquez, Stephanie Chalifour, Simanjit Mand, and Pooja Agrawal (shown left to right), are joined by visiting UM student Steven Kapeles (center) on a tour to Rio de Janeiro

UMMS M1 students Marlon Bohorquez (left) and Stephanie Chalifour (right) are given a hospital tour

UMMS M1 students Simanjit Mand (center left) and Pooja Agrawal (center right) are shown in the CHA booster training session
Faculty-led Small Group Experiences

Clinical Research Training in Meru, Kenya

Faculty Mentors
Dan Clauw, MD, Professor of Anesthesiology, Professor of Internal Medicine, Professor of Psychiatry, UMMS
Jeff Punch, MD, Jeremiah and Claire Turcotte Professor of Transplantation Surgery and Professor of Surgery, UMMS

The clinical research training program in Kenya is integrated into the existing NIH-funded Multidisciplinary Clinical Researchers in Training (MCRiT) Program directed by Dr. Clauw. The MCRiT program, funded as a NIH T32 Roadmap grant in 2005, includes a “summer immersion” program that is offered to medical, dental, pharmacy, and nursing students to expose them to clinical research early in their training. Students help implement a community health survey in the rural Kenyan region of Meru, contributing to the ultimate goals of establishing educational, research, and clinical care partnerships between Kenyan universities and various UM schools and faculty.

The 2014 team spent most of their time at Consolata Hospital in Meru reviewing patient files and observing C-Sections. They completed a review of every C-section, maternity, and newborn file over the past year, laying the basis for a comparative analysis of C-section outcomes and cost at Consolata Hospital and UMHS. In addition, they performed physical exams on all the children of Amani House, the orphanage where they lived during the project. They created an electronic data base for each child so that medical records can be easily accessed and updated. Their third project involved teaching sexual education to primary and secondary students, something that is not part of the normal curriculum. This provided excellent teaching and learning opportunities about sexual anatomy, menstruation, hygiene, safe sex, pregnancy, contraception, and sexually transmitted infections.

Four UMMS students were funded by Global REACH to participate in the Kenya Summer Clinical Research Program: Erica Heisel, Vikas Jayadeva*, Shailly Prasad*, and David Sanford.

*UMMS Global Health & Disparities Path of Excellence Student

(top photo)
Vikas Jaydeva weighs and measures a child from the Amani House Orphanage in Meru, Kenya

(middle photo)
Erica Heisel shares the sounds of her heart with friends from the Amani House

(bottom photo)
Shailly Prasad (upper left) and Erica Heisel create a growth chart for physical exams at the Amani House

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Improving Chronic Illness Care in Bolivia Using Mobile Health Tools

Faculty Mentor
John Piette, PhD, Professor of Internal Medicine, UMMS

The Program on Quality Improvement for Complex Chronic Conditions, directed by Dr. John Piette, develops resources for chronically-ill patients and their clinical teams and supports telehealth services in low/middle income countries, as well as across national boundaries. Student summer projects include rigorous implementation of science methods and collaboration with experts in international health research to ensure a stimulating experience for students and the development of a service delivery model that has the greatest possible impact on the health of chronically-ill patients around the globe. The program emphasizes community engagement, experiential learning, and work on specific, results-oriented research project. It also offers an opportunity for students to practice medical Spanish.

Building on the work of the 2013 student group, the 2014 students conducted the same cross-sectional survey with a new cohort of patients, and re-contacted and surveyed a previous subset of chronically ill patients in hopes of converting the cross-sectional study into a longitudinal study. The ultimate goal is to follow this cohort for the next five years in order to monitor how the treatment and management of chronic diseases changes over time.

Three specific projects were conducted during Summer 2014 at three different public hospitals throughout La Paz:

• A longitudinal survey focused on chronic diseases such as hypertension, diabetes, and depression. The survey assessed demographic information, access to healthcare, past medical history, tobacco and alcohol use, chronic care management, and medical adherence. Students also took measurements of height, weight, and blood pressure.

• Implementation of an Interactive Voice Response (IVR) system through which hypertensive or diabetic patients received weekly automated calls to collect information on medication compliance, medication supply, and disease symptoms.

• A pilot study that focused on supporting patients with depression using the IVR system. Patients who screened positive for depression according to a patient health questionnaire, but who had not yet been diagnosed by a physician, completed baseline surveys, then received automated calls for six weeks. The calls were a way to both monitor their health and offer support through discussion and awareness.

Three UMMS students participated in the 2014 project: Emily Morgan*, Chelsea Reighard, and Philip Asamoah*.

*UMMS Global Health & Disparities Path of Excellence Student
Cognitive and Family Intervention Trials: Summer UM Medical Student Research Placements in Uganda

Faculty Mentors
Bruno Giordani, PhD, Professor of Psychiatry, Professor of Neurology, UMMS; Professor of Psychology, College of Literature, Science, and the Arts, UM
Michael J Boivin, PhD, MPH, Adjunct Associate Professor of Psychiatry, UMMS; Associate Professor of Psychiatry and Neurology/Ophthalmology, Michigan State University

Drs. Boivin and Giordani have been collaborating in cross-cultural studies in African and Southeast Asian settings for over 20 years. Their partners in Uganda include: Drs. Robert O Opoka, Paul Bangirana, and Noeline Nakasujja, Makerere University Medical School; and Dr. Patrick Mutono, Kanginima Hospital, Pallisa District and member of the Ugandan Parliament.

This ongoing research project, funded through the National Institute of Mental Health, represents the first study to systematically evaluate the effectiveness of computerized cognitive rehabilitation therapy in improving cognitive performance and behavioral outcomes in Ugandan children with HIV. Another important component of this study is a systematic evaluation of how the HIV subtype and the corresponding immunological status of the children modify neuro-cognitive performance gains and psychiatric symptom reduction that may be seen as this intervention proceeds.

Students on this project assisted medical officers and nurses in all aspects of their work, including clinical evaluations of study children and in-home healthcare programs, as well as analyzing laboratory work. Students had short placements at the large University-based Mulago Hospital and in the rural-based Kanginima Hospital, including ward experiences and distribution of medical and other supplies in outlying Ugandan areas.

“T he way the doctors work in these under-staffed and under-resourced areas was inspiring to me. It was an absolute pleasure to learn methods that most in the US would call antiquated... and helped me realize that we cannot take a single thing in the US health system for granted, from the most complex to the very simplest.”

– M1 Eric Spencer