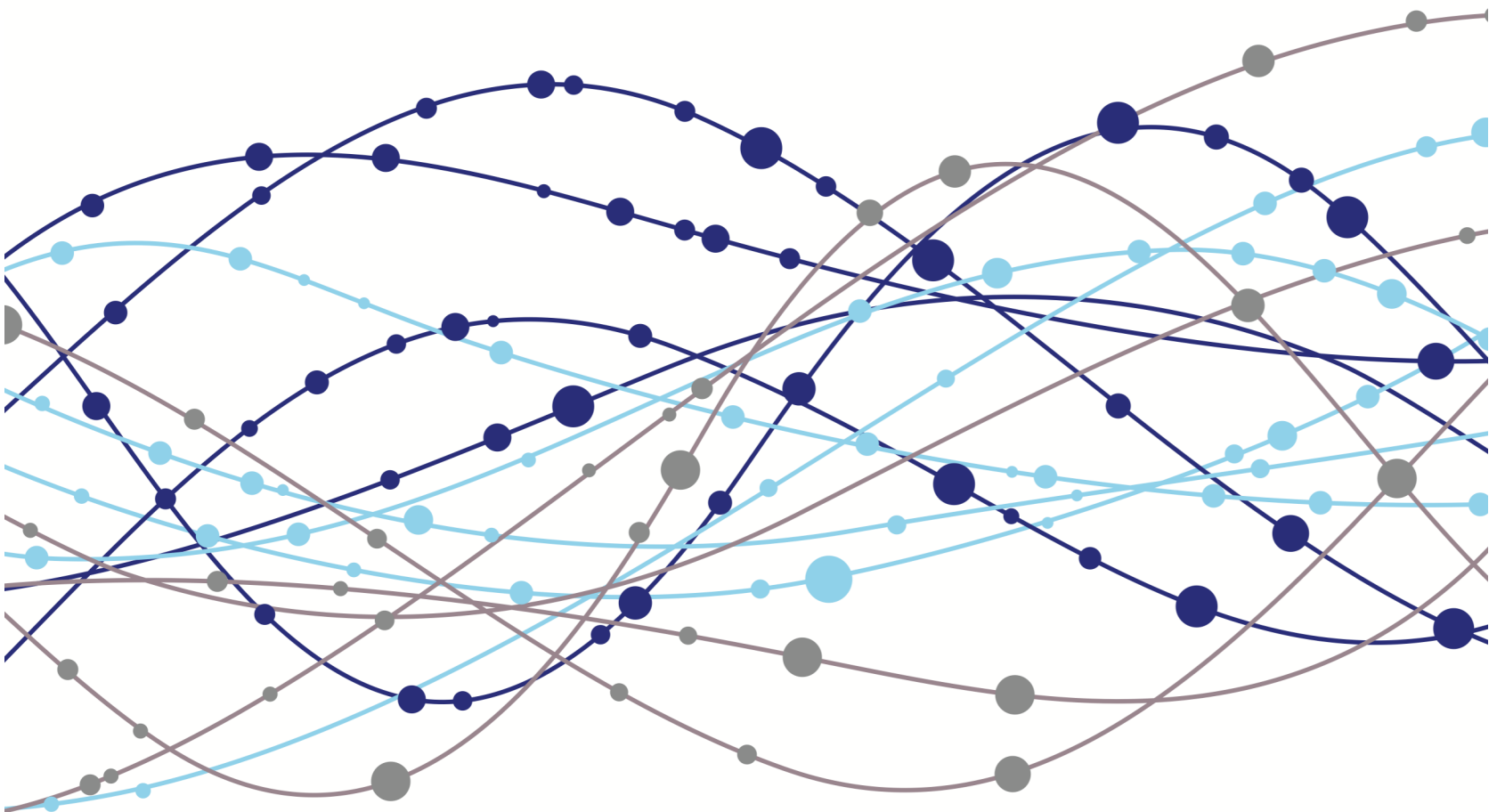

THE EVIDENCE BEHIND MEDICAL MISSIONS

Poster Presentation
Participants and Award Recipients



2016 Exploring Medical Missions Conference

POSTER PRESENTATIONS

Conference organizers welcomed participants to present posters of their completed and/or ongoing professional work during the 2016 Exploring Medical Missions Conference (May 20-21, 2016).

Poster Presentation Categories included:

- Global Health Education
- Research or Innovation
- Case Study

Special consideration was given to poster presentations that focused on the following topics:

- Impact of international rotations and experiences on students' and residents' development
- Providing public health services in communities with limited resources
- Clinical issues in resource-poor communities
- Sustainability implications for short-term international projects or partnerships
- Global Impact of medical mission
- Innovative approaches in global health
- Global health research

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The University of Toledo Disaster Response Mission: Nepal

K. Brickman¹, S. Hackman², B. Stransky³, V.Kazan⁴

Disaster medicine is at the crossroads of emergency medicine and global health. This is all too evident in the most recent earthquake disaster in Nepal in late April 2015. The Department of Emergency Medicine at The University of Toledo Medical Center with local community physicians responded with a self-sustained mission relief team within one week of the disaster.

Initial contact was made with a Non-Governmental Organization (NGO), Helping Hands, prior to arrival in Kathmandu. After meeting with officials from Kathmandu University, it was determined the greatest need was in an outlying village approximately 50 miles northwest of Kathmandu. While many groups arriving in Kathmandu to help were turned away, our team was embraced due to our self-sustained capacity with food, supplies, medical equipment and medications. We were graciously provided 10 students from Kathmandu University to serve as interpreters and setup a base camp for operations in a damaged elementary school. Over the ensuing 7 days our disaster relief team saw of roughly 1500 patients at our base camp and a mobile unit that would hike into the mountains to visit villages destroyed by the earthquake. Several patients were transferred from our base camp to Kathmandu for more definitive care. Most of the tents, supplies, remaining food, and medications were donated to the local village leaders upon our departure.

Upon leaving Nepal we met with officials from Kathmandu University to discuss our mission activity. It was here that we experienced the second 7.4 earthquake that we survived without injury. Our ability to manage independently without local support, other than interpreters, was critical to the success of this mission effort. This allowed us to set up our operation at a distant area that would not have received any healthcare. Despite the massive devastation, the Nepalese remained incredibly resilient and continued to rebuild and prepare for the upcoming Monsoon season.

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Development of a Sustainable Academic and Clinical Medical Mission: Honduras

K. Brickman¹, T. Ramsey², B. Crosby³, E. Kakish⁴

Medical mission activity has become an active part the Global Health Programs at many academic institutions. Commonly these programs involve annual trips to indigenous locations within the United States and around the world. Each one of these medical missions requires extensive resources and staffing and come at a high monetary and time cost. Medical missions by nature are brief and ensuring long term health and educational benefit to the community served can be difficult. The University of Toledo Medical Center (UTMC) sought to develop a *sustainable* mission that could improve educational and clinical value to both the local community and academic institution.

The Department of Emergency Medicine at UTMC has partnered with Salud Total, a small health clinic in La Ceiba, Honduras. Salud Total is staffed by a general practitioner, nurse and ancillary staff. As part of the partnership, UTMC has been organizing mission trips on a quarterly basis. During a mission visit, the clinical volume swells to over 100 patients a day. UTMC has three primary areas of focus in staffing the clinic; general and surgical care, specialty care and education. Staff and senior ED residents are responsible for seeing general medical complaints and performing small surgical procedures. Specialists, such as cardiologists and obstetricians see a subset of the clinical volume needing specialty care. Education is provided in the form of bedside clinical teaching and materials distributed to staff and patients. Through this approach, we have enhanced clinical capabilities, increased the knowledge and skill set of the local practitioner as well as provided education to the patient and local community.

The Department of Emergency Medicine at UTMC has developed a *sustainable* educational and clinical mission program. This mission has provided clinical services to an underserved population, providing specialty medical care that otherwise was unavailable to these patients. Returning every 3 to 4 months allows the mission team to follow-up on treatment or procedures initiated on prior visits. It also provides the opportunity to advance clinical care through ongoing teaching and education.

Future expansion involves incorporation of telemedicine to provide real-time support for this clinic population and medical staff.

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Physical Therapy Practice in the Dominican Republic: A Qualitative Study of Needs and Assets

L. Kietzman-Greer¹, N. Kietzman-Greer²

Introduction: External influences are part of the history of physical therapy (PT) in the Dominican Republic (DR), where international groups trained the first technicians during the 1960s polio epidemic and transitioned to Dominican-trained, bachelor-level therapists by 1998. To date, no peer-reviewed publications exist to describe the state of PT in the DR. The purpose of this study is to inform local and international health care providers about the current challenges and assets of the profession, to allow local PTs to reflect on the state of PT practice in the DR, and to stimulate discussion on sustainable health development practices internationally.

Methods: A mixed qualitative/quantitative study using conventional content analysis was performed with data from a cohort of PT providers in the DR. Purposeful sampling was used after an initial randomized, blindly selected sample of clinics was included in order to ensure that a variety of clinic characteristics were explored. Data collection from multiple sources included physical therapist interviews, clinical observation, and patient record audits, allowing for triangulation to improve validity. Data was systematically coded until a point of saturation was reached.

Results: Four major themes emerged. 1. Variable professional education and regulation: “auxiliar,” technical, and bachelor’s (B.A.) degree therapists practiced under scant regulation. 2. Challenging professional and working conditions: suboptimal interdisciplinary communication, high patient loads and reduced economic resources influenced PT care. 3. Variable clinical competence and practice: many non-individualized, non-specific treatments high in modality use were observed, along with low performance of PT evaluations. 4. An emerging professional profile, where B.A. education promoted an evaluating practitioner but clinical practice lagged at relatively technical levels. Professional behaviors were valued, advocacy and interdisciplinary communication was challenging, and therapists remained hopeful for the future of the profession.

Discussion: Results demonstrate the complexity of local health care contexts. Authors support research and reflection to improve awareness and sustainability towards ethical international health development practices.

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Organizing a Mission/Immersion for Student Nurses Hannah O'Handley RN MSN CPNP

Distinguished H. O'Handley¹

There are numerous details in the preplanning and organization of an immersion/mission which are unrelated to the desired service learning, cultural awareness, and language education for student nurses.

Student nurses learned about global health care, nursing education in other countries, cultural differences, and language skills while providing patient care in an improvised health care clinic in Costa Rica. The success of a student immersion/mission requires research and organization to meet goals of the students and faculty involved.

The leader needs to research the cost, housing, and available health care volunteer opportunities at the mission. An example of a recent mission is the following. Twenty student nurses achieved their personal and course goals by completing a cultural immersion/mission experience in Costa Rica. These students assisted children and staff in an improvised school health clinic. They performed physical assessments, screenings, and health promotion for over 600 children in an impoverished elementary school. The group stayed in a host family's home learning customs, language, salsa dancing and enjoyed Costa Rican food. The student nurses compared health care and nursing education in Costa Rica to the US while touring the hospital. The Medical director of the hospital spoke on health care and nursing education in Costa Rica compared to the United States.

Students evaluated the mission as a life changing adventure growing spiritually while serving children and experiencing cultural differences. The preplanning involved research and communication with student nurses, parents, faculty, and funding sources. International Volunteers HQ guided the leader through application process to Maximo Nivel who located the housing, volunteer opportunities and medical doctor that prepared the mission group for mission work in Costa Rica. The post immersion involved a group presentation to the college faculty and staff as well as individual journal entries and evaluation of the experience. The immersion was offered for community service learning or nursing seminar credit. Several student nurses evaluated the mission as the highlight of their nursing education. Student nurses developed poster presentations sharing their mission trip experience at professional nursing conferences. Several volunteered in medical missions as Registered Nurses after graduation. Cultural Immersion/mission service learning can be very effective but needs organization and pre planning.

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Helping Babies Breath (HBB) and Essential Care for Every Baby (ECEB) Grace Children's Hospital, Port-Au-Prince, Haiti

Rebecca A Propper¹, Carissa Armstrong², Jeannine Hatt³, Julia McDonald⁴

The HBB and ECEB courses were taught at Grace Children's Hospital (GCH) in Port-au-Prince, Haiti over a 3-day period by 2 HBB/ECEB Master Trainers and 2 pediatric residents trained in HBB and ECEB. The first course took place in Nov. 2015 and both HBB and ECEB were taught over a two-day period. This first course included 12 students. Students were selected by the senior nursing staff at GCH to participate. The second course was in Feb. 2016 was a half-day review course and included hands on practice sessions, and re-testing. 9 of the 12 students participated in this second course. The same 17-question HBB exam and 25-question ECEB exam was used for all testing. The tests were taken from the course material provided with both the HBB and ECEB courses. Tests were provided in both English and French. Translators assisted with teaching and hands-on skills stations.

The aim of these two courses and testing is to establish a core group of local trainers to provide education and training to both healthcare personal and traditional birth attendants (TBA) to optimize care from birth through the first days of life.

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On Bridge to Care, a needs-based refugee outreach program

Tran, Alexandria

Bridge To Care (BTC) is an interprofessional student-led organization facilitated by the College of Public Health's Center for Reducing Health Disparities at the University of Nebraska Medical Center. Its goal is twofold: 1) to provide need-based healthcare education and services to recently resettled refugees in the Omaha, NE community and 2) to provide students the opportunity to work with the growing Omaha refugee population, develop cross-cultural skills, and address local global health issues. BTC has three outreach programs which involve monthly health education sessions, a youth mentoring program through the largest public school system in NE, and a biannual health fair. The health fair is a linkage-to-care event that provides health education and free health care services, including influenza vaccinations; dental examinations; eye exams and glasses; weight; body mass index; and glucose level screens. With the aid of over 170 volunteers, BTC's November 2015 fall health fair provided services to 310 Omaha refugees. From BTC's November 2015 health fair, we will provide refugee preferences on clinical and health education services based on refugee feedback, critical lessons learned from our activities, and recommendations for other organizations interested in community engagement with the refugee community.

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Prevalence and Distribution of Malnutrition in a Rural Haitian Area: Trends Over Time

*Dana M. van der Heide, Margaret Carrel PhD, August Lindmark, Jessica Waters,
Christopher T. Buresh MD MPH*

Studies by UNICEF, the World Health Organization, Demographic and Health Surveys, and Multiple Indicator Cluster Surveys between 2007 and 2011 in rural and urban Haiti demonstrated 18% underweight (moderate & severe), 6% underweight (severe), 29% stunting (moderate & severe), and 10% wasting (moderate & severe). Compared to results from 2005-2006, UNICEF concluded that rates of childhood malnutrition in Haiti were decreasing at that time. However, the January 2010 earthquake in Haiti is still having effects on activities of daily life, especially in rural areas, despite \$3 billion in international aid. This study involved a survey of households in rural villages near Arcahaie, Ouest, Haiti, without a local formal malnutrition treatment or prevention program. Initial data were collected over a 6-week period in July-August 2013 to determine the prevalence of underweight, wasting, and stunting in children under 5. Follow-up data were collected over a 4-week period in May-June 2015. Our initial survey of 335 children demonstrated 27% stunting (moderate & severe), 13% underweight (moderate & severe), 2.7% underweight (severe), and 5.7% wasting. The follow-up survey included 319 children, 133 of whom had been measured in 2013; this demonstrated 19.75% stunting (moderate & severe), 28.8% underweight (moderate & severe), 5.6% underweight (severe), and 6.9% wasting. Geographic analyses were performed to stratify the data into semi-rural and more isolated communities. Preliminary data indicate that malnutrition continues to be randomly distributed in our catchment area, and the prevalence is remaining relatively constant. These results suggest that childhood malnutrition continues to be a significant problem in rural Haiti, as the result of many complex social and geographic variables. Further interventions should be tailored to meet the needs and abilities of rural communities.

DEFINITIONS

The United Nations Children's Fund (UNICEF) defines underweight as "moderate and severe - below minus two standard deviations from the median weight for age of reference population; severe - below minus three standard deviations from median weight for age of reference population." They define stunting as "moderate and severe - below minus two standard deviations from median height for age of reference population." Wasting is defined as "moderate and severe - below minus two standard deviations from median weight for height of reference population."

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Reciprocal Partnership of Project CURA and Tara Mobile Creches Pune

*Mollie Walton¹, Nathan Dewey², Kristina Field², Allison Lai²
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With many complex factors affecting the burden on health services in communities with limited resources, innovative and interdisciplinary global health collaborations are necessary. Project CURA is a student-run organization within the Creighton University School of Medicine (CUSOM) whose aim is to provide first year medical students with meaningful global service learning opportunities in cross-cultural contexts. Project CURA is a year-long commitment, beginning in the fall of the first year of medical education, and culminates in a four to six-week cultural immersion trip during summer recess. The immersive trips are developed with the intention of fostering sustainable partnerships with host communities abroad. Such community can be found on construction sites throughout Pune, Maharashtra, India.

The migrant construction worker community is growing alongside the industrial boom in Pune. Workers migrate from one project to another pursuing livelihood. Families on the construction site live amongst harsh, impoverished conditions. In 2007, the non-profit organization Tara Mobile Creches Pune (TMCP) was established to promote the safety, healthcare, education, and recreation of the children of these communities. TMCP accomplishes this by providing child care centers or “creches” on sites in and around Pune. Preventative and curative health care receive equal attention at TMCP. Qualified medical professional visit each crèche every week to attend to the health-related issues that the children may have. Immunization, dental and eye check-up are regularly held at every creche, and simple medical records are kept for each child in order to provide longitudinal health care. In essence, these “health camps” provide a means of primary health care. When children face serious medical issues, TMCP arranges for their treatment with specialists, takes the children for consultations and often accompanies the parents from the site to the hospital if the child is admitted.

Since Dr. Kunal Desai, who at the time was a student of CUSOM, initiated the first Project CURA trip, for one week each summer, CURA has sent a group of medical students, equipped with elementary clinical skill and abundant enthusiasm, to Pune to conduct primary health screens. Our experience last summer is a snapshot of this reciprocal partnership. With the assistance of Dr. Jayashree Paknikar, a CUSOM faculty and Family Medicine practitioner with dual medical license, we saw over 600 children during the week. Working through multiple language and cultural barriers, we diagnosed, treated, and referred various respiratory, skin, ear infections, nutrient deficiencies, heart murmurs, asthma, seizure disorders, goiters, hydrocephalus, precocious puberty, and rubella. The utility of this partnership is that while we were there for only a week, the efforts of Project CURA are enmeshed with those of practitioners from around the world, collectively providing public health services to communities with limited resources.

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Neurodiagnostic evaluation of acute neurological conditions in the United States and Mexico: knowledge, attitudes, and practices of health care providers

Primary Investigator: Britton Zuccarelli, MD, Chief Child Neurology resident PGY5;
Additional Investigators/Mentors: Jennifer Watts, MD, MPH, Director of Global Health Education for Residents and Fellows, Associate Professor of Pediatrics, John D. Cowden, MD, MPH, Associate Professor of Pediatrics

IRB Number:
Study # 15100465

Background:

Acute neurological conditions are among some of the most common presenting complaints to pediatric emergency rooms. Though evidence-based clinical practice guidelines for the management of frequently-encountered acute neurological emergencies exist, there is regional and international variation in providers' approaches to children with such emergencies. Understanding variation in the recognition, evaluation, and treatment of pediatric neurological emergencies could identify barriers to the use of a more standardized approach.

Objectives:

The primary objective of this observational study was to gain an informed understanding of the knowledge, attitudes, and current practices of health care providers regarding the neurodiagnostic evaluation and management approach to common, acute, pediatric neurological conditions in both the United States (US) and Mexico, specifically between urban children's hospitals in Kansas City, Missouri, USA, and Mexico City, Mexico, and suburban children's hospitals in Overland Park, Kansas, USA, and Pachuca, Mexico.

Methods:

Between December 2, 2015 and January 19, 2016, one investigator conducted semi-structured interviews with general pediatricians, pediatric emergency medicine physicians, and general child neurologists at four hospitals (two in the US, two in Mexico). Interviews addressed the recognition, neurodiagnostic evaluation, and management of three hypothetical common acute neurological patient scenarios: 1) first-time nonfebrile seizure, 2) status migrainosus, and 3) acute ischemic infarct. Interview transcripts (written and audio-recorded) were made anonymous and reviewed for common themes. Themes related to the knowledge, attitudes, and recommendations of providers were compared between the US and Mexico, between urban and suburban hospitals, and between provider specialty types.

Results:

There was no difficulty recognizing each clinical scenario presented. However, clinical management differed between all sites, most notably in the management of acute ischemia. US providers recommended a minimalist approach, while Mexican providers recommended a variety of laboratory and imaging tests. US and urban Mexican providers were familiar with US-based clinical practice guidelines and endorsed their utilization, while suburban Mexican providers were less familiar with guidelines, but confident in their ability to perform literature searches to answer clinical questions.

Conclusions:

The creation and dissemination of clinical practice guidelines for the evaluation and management of acute neurological conditions in children could standardize the neurodiagnostic approach, help reduce healthcare spending, and avoid invasive, potentially painful or dangerous procedures. International exchange of best practice approaches could benefit providers and patients in both the US and Mexico.

2016 AWARD RECIPIENTS

Research and Innovation Category - Winner

Britton Zuccarelli, MD – “Neurodiagnostic evaluation of acute neurological conditions in the United States and Mexico: knowledge, attitudes, and practices of health care providers”

Research and Innovation Category - Runner Up

Laurie and Nick Kietzman – Greer – “Physical Therapy Practice in the Dominican Republic: A Qualitative Study of Needs and Assets”

Global Health Education Category - Winner

Edward Kakish, DO – “Development of a Sustainable Academic and Clinical Medical Mission: Honduras”

Student Research Category - Winner

Dana van der Heide – “Prevalence and Distribution of Malnutrition in a Rural Haitian Area: Trends Over Time”



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