

portion of participants (women of smaller stature and diminished cardio-vascular health induce by endemic exposure to soil borne helminths and malaria) were unable to complete. For site Kindu, YMCA step test (lower step and slower cadence) was implemented. All participants completed the test. The primary limitation of YMCA is lack of calibrated VO₂max data, and thus derived work capacity metrics must be a direct function of heart rate.

Findings: For site Idjwi and QC: 24% of participants post step-test heart rate was <120 bpm, 36% between 120 and 130 bpm, 10% between 130 and 140 bpm, 25% between 140 and 150 bpm, with 6% greater than 150. For site Kindu and YMCA: 4% of participants post step-test heart rate was <120 bpm, 36% between 120 and 130 bpm, 37% between 130 and 140 bpm, 19% between 140 and 150 bpm, with 0% greater than 150.

Interpretation: The YMCA step test did yield improved results for participant heart rates, with fewer unduly high heart rate post step test (QC 41% > 130 bpm, YMCA: 19% > 140). Lack of VO₂max data for YMCA minimized usefulness of results. Therefore, a measure of work capacity is required with similar characteristics (limited equipment), is calibrated to accepted physiological measures (VO₂max or other), and that considers study population characteristics (smaller stature), and cultural considerations (minimal tradition of purposeful exercise, and sensitivity to underdress for purpose of test administration). Such a test is being researched/developed.

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Developing an oral health education work plan utilizing a non-dental professional workforce in resource challenged communities in Rwanda: University of Maryland Baltimore Global Health interprofessional program experiences

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Program/Project Purpose: There are approximately 122 dentists and dental therapists in Rwanda serving 11 million people. This scarcity of oral health care providers creates an opportunity to build the workforce and human resources to promote and expand oral health education for the people of Rwanda. This shortage is even more apparent in rural villages where access to oral health professionals is rarely available. In the rural village of Rukira, Huye District and the Urukundo Home for Children in Muhunga, smooth surface caries were evident on the anterior teeth of many children. Seeking to improve oral health literacy in rural Rwanda, a work plan was developed for a private school (Urukundo) and a health sciences university student-led organization Rwanda Village Concept Project (RVCP) which works in rural villages. Through the oral health education work plan, it is expected to 1) increase the oral health knowledge of non-dental healthcare professionals (RVCP members) as well as community leaders (teachers in Urukundo); 2) promote an inter-professional partnership; and 3) increase the oral health knowledge and outcomes in two rural communities in Rwanda.

Structure/Method/Design: NIH and ADA guidelines for oral health education were used as a reference in designing and adapting an *oral health education work plan* to meet the circumstances in each group. The plan was reviewed by the teachers in Urukundo and students in RVCP, and revised to incorporate traditional and cultural values. We are seeking additional funding to continue this project.

Outcome & Evaluation: In a preliminary oral health survey done at an elementary school in Rukira, 52% of the children brushed their teeth and 50% missed school in the past year because their mouth or teeth hurt, illustrating a need for oral health education and care. RVCP has carried out teaching sessions with primary age children and given out donated toothbrushes.

Going Forward: Progress and challenges will be tracked using surveys as RVCP and Urukundo teachers continue to disseminate the oral health work plan. An innovative use of social media will allow for the maintenance and growth of the relationship as well as continuous communication, feedback and charity support.

Funding: None.

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Level of hepatitis B virus protection of first year medicine and nursing students in Mbarara University

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Background: Worldwide 2 billion people are exposed to hepatitis B infection, 350 million have chronic infection, 65 million in sub Saharan Africa. In Uganda the prevalence of hepatitis B Infection is estimated at 11%. A 2010 study found that 60.1% of healthcare workers had evidence of hepatitis B infection and only 6.2% of Ugandan health workers were vaccinated. A university study indicates an exposure of 79.6% of Makerere students in the first clinical year, therefore students, through their clinical work are at high risk of acquiring HBV infection. Although HBV immunization for students is recommended, it's not strictly enforced. Routine childhood vaccination was begun in 2002. However this protection only applies to individuals under age of 12. The main objective of the study was to determine the level of hepatitis B virus protection of first year medicine and nursing students in Mbarara University.

Methods: Data collection was done in October of 2014. It was an exploratory study in Mbarara University of Science and Technology, Uganda, convenience sample of first year medical and nursing students; A six item questionnaire was used. Frequencies and descriptive statistics were run on variables. The study was approved at the department of nursing.

Findings: 122 students were invited. 73 students completed the questionnaires, 29 females, 44 males, average age 23.2 years, 49 first year medicine and 24 first year nursing students. 54 direct students from high school and 19 students who joined with a prior diploma. 78.1% had never been vaccinated (n = 57), 2.7% had received one dose (n = 2), 6.8% had received two doses (n = 5) and 12.3% were fully immunized with three doses (n = 9).

Interpretation: The data indicates that direct medical and nursing students from high school have no prior HB protection and only students who have a prior diploma in medicine or nursing had

received any HBV vaccination. Therefore there is need to fully vaccinate all first year medical and nursing students in Uganda.

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A community health worker program for hypertension control in tribal India

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Background: Cardiovascular disease is the leading cause of death worldwide, including low- and middle-income countries. India bears a significant burden of this disease, with skyrocketing rates of hypertension, diabetes, and myocardial infarction. Most of India's population lives in rural areas, and there exists an excellent opportunity for effecting systems-wide change in this burden of disease by training community health workers in under-resourced regions in India to diagnose and manage cardiovascular disease risk factors. Chart reviews in the remote tribal region of Sittilingi Valley in Southern India have shown hypertension prevalence rate of forty-one percent in the above-60 population. The purpose of this intervention was to train community health workers in an under-resourced region of India with a high burden of hypertension to diagnose, manage, and refer hypertensive patients appropriately.

Methods: In partnership with local non-governmental organization, the Tribal Health Initiative, we have trained 24 community health workers in the Sittilingi Valley to diagnose hypertension through six three-hour training sessions over a seven-month period. We worked with the head nurse to train the community health workers to check blood pressure, document blood pressure values in a log, refer patients with uncontrolled hypertension to the central clinic, and provide patients with well-controlled hypertension with continuing medications and lifestyle advice.

Findings: After a year of this program, community health workers have screened 598 patients over age 60 and 245 patients have been identified as hypertensive, defined as blood pressures greater than 140/90. We found a baseline hypertension prevalence rate of 44% in the over-60 population. All patients who were initially screened as hypertensive received initial evaluation and medication initiation by a physician and were then followed in the field by community health workers. The community health workers only referred patients with uncontrolled hypertension back for physician management. After one year, 51.8% of hypertensive patients had blood pressures less than 140/90. An average of 82 days were needed to first achieve blood pressure control in hypertensive patients, an average of 2.8 visits were needed to first achieve blood pressure control, and twelve percent of patients never achieved blood pressure control up to eleven visits later.

Interpretation: A teaching program educating community health workers about hypertension followed by screening, diagnosis, and management of hypertension by community health workers in the field is a feasible mechanism for achieving hypertension control in a remote tribal community in India. These promising results show that community health worker training is a potentially good avenue for decreasing hypertension rates in remote global settings with physician shortages.

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Developing a global health research workforce: Basic competencies for health professional trainees, their mentors and host collaborators

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Program/Project Purpose: The escalating interest in global health among medical students, residents, and other health professionals includes a desire to pursue research while engaged in global health electives. If trainees were adequately prepared, they could augment the existing research workforce and positively contribute to health education, research, and clinical service worldwide. However, to date, formal training in research is rarely included in current medical curricula. Lacking experience in both global health and research methods, trainees' research efforts are unlikely to be successful and may be disruptive for their hosts. The aim of this presentation is to communicate proposed core competencies in global health research for trainees, challenges of trainee research in resource-limited settings, identify the types of global health research experiences that are most appropriate for trainees, and articulate specific steps necessary for trainees and their host partners to engage in productive research in diverse resource settings.

Structure/Method/Design: In an effort to close the gap between training and research implementation by trainees, we have developed a set of competencies for aspiring global health researchers. These competencies aim to identify the essential knowledge, attitudes, and skills required for global health research at a level commensurate with the experience of most medical and other health professional trainees.

Outcome and Evaluation: The competencies outlined in this presentation are under review by members of the CUGH education subcommittee and others with global health education and research expertise. Feedback gathered through the review process will be used to further refine the proposed global health research competencies.

Going Forward: Establishing global health research competencies will help guide novice researchers and their mentors, clarify partnership expectations for host preceptors, and serve as an outline for formal curricula in global health research.

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Development of an effective mentorship program for preclinical medical student global health research training

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Program/Project Purpose: The University of Texas Medical Branch (UTMB) sends approximately 50 preclinical medical