EDUCATION/TRAINING/CAPACITY BUILDING

Research ethics training of trainers: Developing capacity of Bolivian health science and civil society leaders

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Program/Project Purpose: The University of San Andres, Faculty of Medicine in La Paz, Bolivia in collaboration with Touro University California, Public Health Program was awarded a NIH Research Ethics Planning Grant in June, 2013 to develop strategies and processes for implementation of a comprehensive national research ethics program for Bolivia. Although the importance of scientific research based on ethical principles is highlighted in the Bolivian constitution and national health legislation, few Bolivian academics, researchers and health professionals have received formal training in the principles and practices of research ethics. A principle aim of the Planning Grant is to develop and implement a Research Ethics Train the Trainers (TOT) course with the goal of training faculty for future implementation of a national research ethics program.

Structure/Method/Design: A Project Directors Committee representing public health science universities from four participating Bolivian Departments/States (La Paz; Santa Cruz, Cochabamba & Chuquisaca) was formed to oversee all project activities including implementation of a three day in-person TOT followed by a 10 week online training. Training modules utilized materials developed by Bolivian academics and scientists and international research ethics programs at PAHO (Pan American Health Organization) and CITI (Collaborative Institutional Training Initiative), University of Miami. TOT University and civil society representatives were selected from each participating Department/State for a total of 26 participants. Upon completion of the training, participants were asked to implement educational research ethics activities in their local communities and institutions.

Outcomes & Evaluation: A pre-test/post-test study design was used to assess change in participant knowledge related to research ethics principles and practices. The mean score improved from 73% correct at baseline and 84% at course completion. Participants completed a course evaluation after the in-person and virtual components of the course. Participants highlighted the most useful topics in the course as respect for persons and human rights, principles of bioethics, informed consent and the function of research ethics committees. The most positive aspects of the in-person component of the course were the high level of participation, group work, communication and debate among participants representing different academic disciplines and social sectors. Eighty percent of participants completed the course with five dropping out during the virtual component. Most students reported that the instructions for using the virtual platform were clear and they received sufficient support from the Course Coordinator, however, most stated that some of the teachers provided insufficient academic support.

Going Forward: Integrating the group interaction strengths of the in-person TOT component with the flexibility of the virtual component recommends using a mixed methods approach while providing additional training to teachers related to virtual teaching methodologies.

Abstract #: 01ETC001

Cross cultural near-peer modules teaching emergency medicine skills and BLS in Haiti: Results and future directions

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Background: As with many low and middle-income countries, Haiti has inadequate emergency medicine (EM) services. Additionally, the medical training received at Institutions such as our partner school, Université Quisqueya (UniQ), does not provide students with sufficient instruction in EM and basic life support (BLS) techniques. We have previously reported results of a near-peer module in which American medical students and EM residents at Icahn School of Medicine at Mount Sinai (ISMMS) certify a group of Haitian medical students in BLS. In addition to BLS certification, the module includes didactic sessions on emergency response techniques practical to the Haitian environment, including response to motor vehicle accidents and trauma. Through participation in this program, UniQ students become more prepared for emergency response, contributing to an improved healthcare infrastructure in Haiti.

Methods: In our most recent module in March 2014, eight medical students and two EM residents certified thirty students from UniQ in BLS and gave lectures and practical skills sessions on EM techniques. The lecture topics included Approaching the Patient, Musculoskeletal Trauma, Wounds and Burns, and Central Nervous System Trauma. Each lecture lasted approximately one hour. The skills sessions included application of wound dressings, splinting of unstable fractures, patient transport, and other clinically applicable skills. Two instructors led each session that lasted approximately thirty minutes. Students were assessed based on a pre- and post- five point Likert Scale self-efficacy (SE) survey and an EM fund of knowledge (FOK) multiple-choice test.

Findings: In 2014, 30 UniQ students were successfully certified in BLS. UniQ student SE increased by 2.82 ± 1.06 (p < 0.001) on the 5-point scale. FOK scores increased by $41\% \pm 16\%$ (p < 0.001).

Interpretation: Our results demonstrate an improvement in both SE and FOK after students participated in the near-peer module. These results are consistent with data from our previous 2013 module, which demonstrated improvement in SE (2.75 ± 0.93) and FOK ($22\% \pm 15\%$). The greater increase in student scores in 2014 vs. 2013 suggests that our teaching module may be improving over time. To further advance our program, efforts to certify a group of Haitian UniQ students as BLS instructors are ongoing. An expansion of this program to neighboring schools that could benefit is also being formulated. In addition, a preparatory course streamlining the process of BLS instructor certification for future ISMMS students while simultaneously integrating topics on Haitian culture and current medical affairs is being implemented. Our ultimate goal is to establish a BLS training center in Haiti eliminating the need for our intervention and creating a sustainable, self-perpetuating teaching process.

Abstract #: 01ETC002

One health approach to workforce capacity building: A technology and curriculum partnerhip between Tufts university and an African University Network in Eastern and Central Africa

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Program/Project Purpose: Program/Project Purpose: To describe the collaborative effort and lessons learned building sustainable TUSK installations to support One Health education through partnership and training at One Health sites in a Central and Eastern African university network. The project's aim is to strengthen the African University network members' ability to deliver a One Health curriculum on site and through distance learning using an innovative comprehensive technological approach.

Structure/Method/Design: TUSK (Tufts University Sciences Knowledgebase) is a powerful, online, open source educational system which offers huge capacity building opportunities. Delivery of technology-based education is not yet second nature to resource constrained African countries. Given electricity, bandwidth and limited technology know how, implementation problems loom large even in the face of huge rewards. TUSK's key features include Course/content delivery by mobile or desktop Content repository and management Tools for active and distance learning Curriculum competency based management—for continuous improvement Administrative management—for evaluating and comparing training programs across any network of clinical sites or institutions, Internationalization- TUSK is translated into French and can be any other language Since 2009, through USAID's RESPOND Project, Tufts University has partnered with universities in the One Health Central and Eastern Africa (OHCEA) university network to implement TUSK. To date, TUSK has been installed and customized in several schools at Makerere University (Uganda), University of Nairobi (Kenya), Moi University (Kenya), University of Kinshasa (DRC), University of Lubumbashi (DRC), Umutara Polytechnic University (Rwanda), National University of Rwanda (SPH; Rwanda. Jimma University (Ethiopia) and Mekelle University (Ethiopia) await installation in early 2015.The multi-tenancy nature of TUSK, a system built around the One Health approach, allows for the sharing of content across multiple schools in a university.

Outcomes & Evaluation: System installations and trainings have been completed. Local technology staff assisted in the installation and attended technical training. The next success measure must be usage. We can also push the system beyond the academy for governmental training of local health care workers.

Going Forward: Sustainability efforts are multi-pronged 1. Continued training of technical staff to maintain the system and pull upgrades from GITHUB. 2. To entice faculty to use the system 3. To train on the depth of the tools within the system so that it does not simply become a digital file cabinet and 4. Encourage cloud-based models such as Kenet in Kenya which hosts systems for two Kenyan schools.

Funding: Funding from USAID. The software is open source — therefor free to all. The challenge is to encourage African Faculty to use the system and to learn the depth of the tools available through it. We will describe current and enriched efforts to find early adopter leadership to encourage use which has worked in India and Saudi Arabia.
Abstract #: 01ETC003

Uganda health worker training of non-communicable diseases

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Background: According to the World Health Organization, 25% of Uganda deaths are attributable to cardiovascular diseases, diabetes, cancers, and chronic obstructive pulmonary diseases. Care for patients with non-communicable diseases (NCD) is often fragmented and requires an integrated approach to care. As NCDs increase in Uganda, it has become increasingly more important to focus on NCD education for healthcare workers. The Ministry of Health has undertaken NCD training activities as one of its many responsibilities which fall under its capacity building agenda. This study aimed to look at whether the selected NCD training was an effective way of positively impacting NCD knowledge in this population.

Methods: The objectives to sensitize HCWs to the major NCDs in Uganda and to common risk factors in order to inform improved screening and early detection of NCDs through an integrated approach and to train these HCWs on how to appropriately refer patients with NCDs within the health system. Each five-day-long training activity for HCW, including nurses, clinical officers, medical officers, and consulting physicians. Cadres are combined due to the importance of a team-based approach to chronic care management. The training curriculum includes three components: group reading, role-plays, and group discussion.

Findings: There were 165 health workers who received the NCD training. The average age of the health worker in this training program was 56.6 (SD 9.7) and the majority of health workers were male (61.8%). Workers from 13 different hospitals were trained. There were four types of health workers trained including Nursing Officers (32.4%), Clinical Officers (29.4%), Medical Officers (14.7%), and Physicians (23.5%). Qualifications were grouped into nursing degrees (35.3%), clinical officer training only (5.9%), clinical medicine and/or community health degrees (23.5%), or an MBchB (35.3%). Experience levels were grouped in increments of 5, beginning with 0-5 years of experience and extending up to 35 years of experience. The average improvement in pre and post test score significantly increased by 11.9 percentage points after receiving the TOT training (S.D. 10.6, $p < 0.0001$). Score difference ranges from a 12 point decrease to a 36 point increase. ANOVA was done as a secondary analysis to determine if there were differences in those who reported positive scores versus those who reported negative scores based on age, sex, hospital, cadre, original qualification, and years of experience. No significant differences were detected.

Interpretation: The pre and post tests showed significant positive increases in scores after health workers had received the TOT training. Follow-up studies should look at differences in score improvements among those who receive the training from the second round. Studies should also look to see if there are observable differences in scores between those of different experience levels and training types.
Funding: No funding listed.
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Impact of congregation-based health intervention to promote birth outcomes − perspectives from the volunteer health advisors

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