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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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Background: The Healthy Beginnings Initiative (HBI) is a congregation-based program designed to promote birth outcomes through an integrated approach to health education, depression screening and prenatal laboratory testing in Southeast Nigeria. HBI creates a network of community churches and local health facilities and use trained lay volunteer health advisors (VHAs) to recruit, test and educate pregnant women and their male partners. The aim of this study was to evaluate the impact of HBI through the VHAs perspectives.
Methods: A cross-sectional survey conducted during a 2-day training in September 2014, among 60 males and females VHAs selected by their communities from 40 churches in Southeast Nigeria. We utilized a mixed method approach using a structured and semi-structured 17-item questionnaire and a focus group analysis. The VHAs received training on preventable illnesses during pregnancy such as anemia, malaria, HIV, syphilis, sickle cell disease and hepatitis B and implemented an education program with onsite laboratory testing during church-organized baby showers from March 2013 through June 2014.
Findings: Ninety-seven percent of participants completed the survey and participated in the focus group meeting. A majority of the participants were females (78.9%), aged 40-49 (49.1%), married (82.5%), college educated (64.9%) and were employed (77.1%). The most commonly identified impacts of HBI were support for pregnant women (87%), increased awareness of these diseases (86%), male partner involvement (70%). Commonly identified barriers included insufficient support for completing tasks (69%), insufficient incentive (39.7%), lack of church leader support (43.1%) and losing participants during follow up (67.2%). A majority (82.5%) said they will continue their participation and role without an incentive.
Interpretation: Most church-based Volunteer Health Advisors indicate HBI had tremendous impact in their community and would like to see the program sustained even if they do not receive any financial incentive.
Funding: Supported in part by the National Institutes of Health and PEPFAR through grant #R01HD 075050, HealthySunrise Foundation and PeTR-GS.
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Shared learning in a mozambican clinic - internal medicine residents as medical student preceptors

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Program/Project Purpose: Interest in global health continues to grow among US medical students and residents as evident by the growing number of global health curricula. Emphasis has been placed on developing educational frameworks for US trainees, teaching about global burden of disease, health disparities, cultural competencies, health care systems and sustainability. Conversely, less attention is given to the education of medical students in developing countries whose training experiences intersect with these visiting US trainees. The University of Pittsburgh and Catholic University of Mozambique have partnered to create a shared clinical learning experience for Mozambican medical students and US medical residents which focuses on partnering resident preceptors with a group of medical students in a busy outpatient clinic with the aim to provide bidirectional learning.
Structure/Method/Design: Second and third year internal medicine residents from the University of Pittsburgh Medical Center's Global Health track joined 4th and 5th year medical students from the Catholic University of Mozambique in a busy urban clinic. The rotation was designed such that students evaluated patients individually then presented patients to the residents. Residents then saw patients with students allowing for bedside teaching, further history taking and clinical decision-making. The staff physician provided the role of consultant, seeing difficult cases in person when requested by students or residents and providing teaching to both sets of learners. Medical students and residents were surveyed on the educational benefits and drawbacks of working in this model.
Outcomes & Evaluation: Mozambican medical students and US residents reported strong overall satisfaction with the shared clinical learning experience model. Medical residents valued seeing a larger volume of cases and the balance of teaching students on chronic disease evaluation and management while having the appropriate supervision to learn management of common tropical infectious, respiratory and dermatologic diseases. Medical students valued increased preceptor availability, increased teaching particularly on diabetes, hypertension, and heart failure and instruction on EKGs and ultrasound use. Both groups noted benefit from comparing differences in disease management between countries. Both groups reported language barriers and increased patient visit length as primary drawbacks.
Going Forward: We find that a shared clinical learning experience model incorporating US residents as supervised preceptors to Mozambican medical students has benefits to both groups of learners. Mozambican medical students were particularly interested in US resident's teaching on non-communicable diseases, which had not been emphasized elsewhere in their training. Appropriate supervision from a local staff physician was identified as a key component for success. Future development of specified curricula for both groups of learners may increase the educational yield of this experience. This collaborative educational partnership may also allow for expansion to partnered quality improvement and scholarly projects.
Funding: None.
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Developing rheumatology capacity in Haiti: Piloting a rheumatology training program, establishing a teaching clinic, and advancing medical curriculum

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Program/Project Purpose: As of September 2014, Haiti has only two rheumatologists for a population of nearly 11 million, thus rheumatic diseases are often undiagnosed and undertreated. At the population level, there is demand for serologic testing and antirheumatic drugs, but diagnostic capabilities are limited, as are therapeutic options. Improved diagnostic and therapeutic modalities are possible, but no developmental incentive exists without practicing rheumatologists. The medical curriculum at the State University of Haiti (UEH) calls for rheumatology training, but the UEH Medical