

Program/Project Purpose: Adequate medical diagnostic services require trained pathologists, but many low income countries do not have enough pathologists and most have been trained abroad. In Ghana, a country of 26 million people, there are fewer than 15 pathologists and all of them were trained abroad. To improve diagnostic services, local training is essential to create a cadre of pathologists likely to stay in Ghana. Korle-Bu Teaching Hospital (KBTH) in Accra and Komfo Anyoke Teaching Hospital (KATH) in Kumasi have developed pathology residency training programs accredited by the Ghana College of Physicians and Surgeons. The first cohort of Ghana-trained pathologists is close to graduation. To assist these training efforts, an ongoing collaboration was developed with the Pathology Department of the University of Illinois at Chicago (UIC), starting in 2014.

Structure/Method/Design: Instead of bringing trainees from Ghana to Chicago or US trainers to Ghana, pathology residents in Ghana take part in resident training sessions at UIC via videoconferencing. These one hour sessions take place three times per week in the early morning in Chicago (early afternoon in Ghana), presented by about 16 UIC pathologists. Although image transfer usually takes a few seconds, two-way sound and video interactions are possible without delays and result in real-time communication and question & answer interactions. Ghanaian participants also have internet access to a virtual slide box at UIC and can contribute cases. The basis for this program is a pre-existing Memorandum of Understanding between KATH and UIC and involves all sites of pathology training in Ghana.

Outcomes & Evaluation: This approach not only raises the level of resident training in Ghana, but also provides the opportunity on both sides to be exposed to pathology cases that are uncommon in one but not the other location. While videoconferencing at KATH is still in its early stages, it is essential to assess the value of this approach through an annual evaluation.

Going Forward: Participation of the Korle-Bu site in videoconferencing is still being developed. Videoconferencing to Ghana of pathology-oriented seminars at UIC could be added. To augment the program, development of telepathology allowing two-way consultations will be valuable, but requires sufficiently high quality image transfers and slide scanning equipment in Ghana. Videoconferencing and telepathology will facilitate an ongoing interaction between resident training faculty in Ghana and Chicago, which is essential for this program to succeed into the future and contribute to capacity building in pathology in Ghana. This overall approach may be a model for resident training programs in other medical specialties in low income countries.

Funding: Current partial funding is provided by the UIC Nuveen International Development Fund, but external funding will be essential to ensure sustainability of this program.

Abstract #: 02ETC008

Is a pre-award organizational assessment a reliable way to make donor funding decisions? Evidence from Ethiopia suggests it is not!

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Background: There is a high reliance on Community Service Organizations to deliver health services in low and middle-income countries. These organizations receive billions of dollars in funding from multilateral, bi-lateral, government, and private donors each year. To ensure organizations have the capacity to use funding effectively, and maximize the health outcomes, most donors conduct an organizational assessment prior to making funding decisions. Based on this

assessment, funding may be fully granted, conditions may be placed on the organization until certain levels of capacity are attained, or funding may be withheld. We conducted a study to determine if it is possible to determine the probability of organizational effectiveness or performance from a single organizational assessment.

Methods: 44 Ethiopian CSOs serving OVC, were enrolled into a longitudinal, observational study. Organizational development assessments were conducted using the Measuring Organizational Development and Effectiveness (MODE) Tool, developed by Boston University in India and modified for Ethiopia. Mode collects quantitative and qualitative data across 11 organizational domains, 43 sub-domains, and uses 224 indicators. Data was collected in 2012 and 2013. Organizational performance and individual beneficiary outcome data collected throughout the study were correlated to organizational development data. Ethics approval was granted by both the BU the Ethiopian National IRB.

Findings: Mean organizational development score at the 2012 baseline for the 44 organizations was 56% (Range 41% - 66%). In 2013, the mean had risen to 63% (range 50% - 76%) and in 2014 to 66% (range 48% - 84%). The increase of 7% between 2012 and 2013 was statistically significant $p = < 0.0001$ (95% CI 3.33% - 8.60%). The smaller increase of 3% between 2013 and 2014 was not significant $p = 0.11$ (95% CI 0.39% - 5.34%). Correlation with changes in immunization rates, educational outcomes, and nutritional status showed no association of organizational improvement or health outcomes. There was a weak association between the change in MODE score between 2012 and 2013 and health outcomes of children.

Interpretation: The lack of association between the baseline score and organizational performance (either in organizational capacity or organizational performance), suggests that it is not possible to predict an organization's performance based on a single measurement of organizational capacity. However, assessment at two periods of time does enable a donor to predict the likelihood of organizational performance. There is no advantage to conducting more than two assessments. These results suggest that the current practice of donors to make funding decisions of organizations based on a single organizational assessment is no-more accurate than making informed guesses, and should be replaced by a series of two assessments spaced a year apart. The implications for implementation of service delivery projects are significant.

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Abstract #: 02ETC009

Training leaders in global health: The global health delivery intensive (GHDI) program at Harvard University

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Program/Project Purpose: The Global Health Delivery Intensive (GHDI) program at Harvard University is a rigorous summer session that trains public health leaders and health practitioners how to apply principles of epidemiology and management science to real-world problems so they can improve the delivery of health care in low-resource settings. The program began in 2009, reaching its sixth year in 2014. The program was developed to bridge the gap between knowledge and practice in global health.

Structure/Method/Design: The program has created relationships with partner organizations and affiliated hospitals. Applicants showing a demonstrated commitment to global health are recruited through partner organizations as well as through informal networks

and word of mouth. Typically, applicants who have a prior doctoral or master's degree in a health-related field, and/or three years of relevant experience are selected. Students take three credit-bearing courses during a three-week summer session at Harvard School of Public Health. Harvard faculty teach a curriculum of epidemiology, management science, and global health delivery case studies. Students receive tuition funding from a range of means, including partner organizations and scholarships.

Outcomes & Evaluation: To date, the program has trained over 200 students representing 41 different countries. The program's success helped create a new Master of Medical Sciences in Global Health Delivery (MMSc-GHD) degree at Harvard Medical School in 2012. All MMSc-GHD students begin their two-year masters degree work by taking GHDI. Student evaluations show a high degree of satisfaction with the quality of course content and class discussions and suggest they are highly applicable to their global health work. Networking opportunities with peers and faculty are also identified as highly beneficial. Anecdotal reports from course graduates suggest ongoing benefits of course participation over time in terms of career growth as well as impact on health outcomes.

Going Forward: Challenges for the GHDI program include increasing scholarship funding for students from resource-limited settings. In addition, GHDI alumni have asked for additional offerings. Many of the GHDI alumni are enrolled in full time Master programs. Faculty are responding to student feedback, in how best to tailor courseware. Considerations include establishing prerequisites for the program and translation of articles and curriculum. GHDI alumni have been the subject of new cases, and serve as advisors to guide new pedagogy in global health delivery.

Funding: The program is supported jointly by Harvard Medical School and Harvard School of Public Health, in partnership with Brigham and Women's Hospital.

Abstract #: 02ETC010

Early medical education in Global Health Research: Development of a novel research track

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Program/Project Purpose: Despite increased awareness that research is an essential component of the graduate medical education, traditional training has emphasized clinical and basic science research in a US-based context. Global health research, however, utilizes a unique set of tools and methods less commonly employed in other realms of medical research. With this in mind, the Global Health Research Track was developed to provide students with a streamlined, peer-driven curriculum that offers foundational training in global health methods and principles.

Structure/Method/Design: Engaging students, faculty, and global health researchers from diverse backgrounds and specialties, a year-long curriculum was developed for first year medical students interested in global health research. This student-led initiative is composed of a comprehensive seminar series, journal club-style meetings, and an integrated practicum component. All of these aim to provide first-year medical students with foundational skills necessary to become productive junior members of global health research teams; a capacity to work in

diverse and interdisciplinary settings; and a fundamental understanding of the global health literature. Through the practicum component, students are paired with experienced faculty mentors and provided with an opportunity to participate directly as part of a global health research team.

Outcomes & Evaluation: An abbreviated curriculum was piloted between May and July 2014 with a group of eight first-year medical students. All students attended seminar sessions, participated in journal club meetings, and were offered the opportunity to be included in global health research teams. Follow-up interviews and surveys were used throughout the pilot program to refine and improve the curriculum. The participants unanimously regarded the program very favorably, but requested expansion of the curriculum to provide specific research skills training, such as database management and basic statistical analysis. This feedback was used to develop the curriculum of the Global Health Research Track, which will be offered as a formal certificate program through the Department of Medicine at the University of Maryland School of Medicine in the 2014-2015 academic year.

Going Forward: While this academic year's program will continue to follow a clearly defined curriculum, we will simultaneously integrate students' experiences and recommendations into real-time curricular changes to capitalize on existing opportunities for improvement and expansion. Formal surveys will be used throughout the upcoming academic year to characterize the effectiveness of the Global Health Research Track in achieving its training goals and to discern new areas for improvement and expansion in future years. Relationships with other institutions and the Schools of Nursing, Law, Social Work, Dentistry, and Pharmacy within the University of Maryland system will be cultivated to support the interdisciplinary aspects of this program and potentially promote the development of similar tracks outside of the University of Maryland School of Medicine.

Funding: None.

Abstract #: 02ETC011

Prevention of mother to child transmission of HIV/AIDS in Northern Uganda: A community-facility-community pilot project

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Program/Project Purpose: Northern Uganda continues to recover from nearly two decades of civil unrest. HIV lends a heavy burden on the health care system and residents of northern Uganda. Nearly 90% of HIV+ children in northern Uganda have been infected vertically from their mothers. The Uganda Ministry of Health has taken a lead in preventing mother to child transmission of HIV by scaling up programs and implementing WHO's Option B+ 2010 guidelines. The Food for the Hungry Uganda (FHU) HIV Free Generation for Northern Uganda pilot project at the New Life Medical Center applied a community outreach model to recruit 100 HIV+ pregnant women during their first trimester of pregnancy from Sept. 2012 to March 2014. The following outcomes were measured: 100 pregnant HIV + women receive free medical services throughout pregnancy, delivery and breastfeeding; 90% of all infants born to enrolled HIV+ mothers remain HIV-free throughout gestation, birth and breastfeeding; 100% of HIV+ infants (10 children) who were born to enrolled mothers receive early infant diagnosis and free HIV medical services.

Structure/Method/Design: FHU, in collaboration with the University of Washington (UW) Global Women, Adolescent and Children program selected a UW graduate student to complete a fellowship with FHU's HIV Free Generation Prevention of Mother to Child Transmission of HIV project in Kitgum, Uganda. The fellowship took place from Jan - March 2014 with a 2-week field visit. During the field