

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.

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### 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

visit, the fellow aimed to assess and evaluate current clinical practices and monitoring and evaluation procedures. Also, the fellow endeavored to provide guidance to staff on the most current HIV screening and treatment options and developing a final evaluation framework. The fellow engaged in key informant interviews to gather data on individuals' experiences with the project. An English interpreter assisted in interviews for those who spoke the local language.

**Outcomes & Evaluation:** Achievements: As of March 2014, 98 pregnant mothers enrolled 100% HIV exposed infants were negative at 6 week PCR test 50 different parishes/villages.

**Going Forward:** Challenges: Delay in enrollment at inception of program; Long wait time for HIV testing; 50% turnover of nurses; Recurrent stock rupture of HIV tests; 20% turnover of CHWs and inadequate supervision by nurses; Challenge for enrolled mothers to visit clinic monthly for medication refills. Recommendations: Final evaluation of project to highlight PCR results at 6 weeks of age; Long lab wait time may be reduced by allowing nurses and HIV counselors to complete HIV rapid testing; Assess supply of ARVs for exposed infants and provide >30 day supply of medications to adherent mothers who live in far away communities.

**Funding:** Food for the Hungry

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### Improving rural health through capacity building and training of rural health workforce using e-Learning

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**Program/Project Purpose:** India is the second most populous country in the world with a population of 1.21 billion. With nearly 72 percent of the country's population living in rural areas, there is a need to improve the quality of care for rural population. Huge disparities exist in the healthcare status of urban and rural India. The doctor patient ratio in rural India is 1:20,000, while the urban ratio is 1:2,000 against the statutory 1:250 ratio from WHO for which India requires 6,00,000 doctors. Capacity building of healthcare workforce at all levels has, thus, been a key focus of the National Rural Health Mission (NRHM), a flagship scheme of Government of India to improve healthcare delivery in rural India. However, continuous skill development is a huge challenge, given the large number of rural health workforce. As per the Indian Public Health Standards (IPHS) for Primary Health Centres (PHCs), training of health workers is crucial to maintain quality of services being offered at PHCs. e-Learning has evolved as a preferred mode to deliver training solutions for rural health workforce, globally. In one of the instances, African Medical & Research Foundation (AMREF), in partnership with the Nursing Council of Kenya (NCK), Accenture, Kenya Medical Training Colleges, several private and faith-based nursing schools and the Ministry of Health Kenya, pioneered a country-wide e-Learning program for upgrading community nurses in Kenya. Similarly, the Indian states, which have adopted e-training of rural health workforce of NRHM have demonstrated improved healthcare statistics owing to better delivery by highly skilled staff.

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### Implementation of a trauma response system, San Salvador, El Salvador

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**Background:** El Salvador has a high mortality rate caused by both accidental and intentional trauma. The World Health Organization estimates that trauma was responsible for 32% of all deaths between the ages of 15-60 in El Salvador in 2011. Currently, there is a lack of standardized, formal trauma training in El Salvador. We recently developed and administered a trauma response training in El Salvador. Here we report on the preliminary data from our first trauma training and its impact on trauma care during the single center, pilot phase of our study.

**Methods:** The pilot phase of the study is taking place at Hospital Nacional San Rafael (HNSR), a major hospital in the metropolitan area of San Salvador. Clinical residents and medical students observed emergency ward (EW) shifts, 24 hours per day, and filled out a standardized checklist of critical actions performed by clinicians during the trauma resuscitation, including use of bedside ultrasound. Victims of trauma over the age of 12 years that met the criteria for the American College of Surgery's trauma team activation were included in the study. Patients that were dead on arrival and refused consent were excluded. Critical actions assessed include checking vital signs, primary and secondary surveys, and measures such as EW to operating room time, mortality, and ability to use available ultrasound equipment to perform a FAST exam. Partway through the pilot phase, the medical personnel at HNSR underwent a two-day course in Primary Trauma Care (PTC), which is a trauma training curriculum developed in the UK that uses a sustainable train the trainer model to teach trauma care in limited resource settings. Additional didactic and simulation-based training such as hands-on ultrasound training were also provided. In addition, a two week in-service FAST training was performed in the EW by trained staff. The data from the observation checklists were divided into pre and post PTC training.

**Findings:** While data collection to get to our sample size of 200 is still ongoing, we have enrolled 162 patients, including 49 patients pre-intervention and 113 patients post-intervention. Significant results in the subgroup for use of FAST exam in trauma have been noted with 9.52% of correctly performed FAST exams occurring in the pre-intervention group compared with 23.90% in the post-intervention group ( $p = 0.034$ ).

**Interpretation:** This is the single center, pilot phase of a larger project designed to assess the impact of providing trauma-response trainings for emergency room staff at HNSR in San Salvador. The interim results show a dramatic improvement in physician FAST usage in major trauma cases. The final data collected in our study will be used to develop a nationwide trauma training program.

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### From global partnerships to pay for performance (P4P): Opportunities for achieving academic excellence in higher learning institutions in Rwanda

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