

HIV-related services. An empirical study should be conducted to assess

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### Structured career development for global health research in resource-limited settings: A pilot of career development series for faculty at Makerere university college of health sciences

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**Program/Project Purpose:** Effective mentoring is critical to sustainability of global health research leadership in low and middle income countries (LMICs). Experiences of clinicians, academicians, educators and researchers in LMICs should be utilized to design locally appropriate case studies to mentor the next generation of scientists that will understand and take up critical gaps in global health research leadership. A structured staff career development (SCaD) program at Makerere University College of Health Sciences (MakCHS), was established to develop evidence-based culturally-appropriate training modules to build global health research mentors among junior and mid-career scientists.

**Structure/Method/Design:** Under SCaD, skills' building workshops for junior and mid-level faculty (including doctoral and post-doctoral fellows) were facilitated by senior faculty, two-hour bi-monthly meetings were held for discussion of case studies based on local experiences in academic career development, and expert-speaker talks were organized to tackle listed priority areas such as practical steps in personal development planning. Targeted participants were all academic faculty, clinicians and researchers; invited through the staff mailing lists and notice board announcements. Lessons learnt and frequently asked questions were documented to contribute the institutional staff career development plan. An institutional-led career development working group is established, with departmental representation. Departmental-specific faculty career development needs were addressed to enhance faculty productivity and sustainable research engagement/funding.

**Outcomes & Evaluation:** Between February and October 2014, six career development series were held, including one five-day scientific writing workshop and 5 two-hour meetings on authorship, grantsmanship, balancing career development and family, and the role of research interest groups with a good mix of junior, mid-career and senior researchers to enhance mentoring in academic research. A highlighted major challenge was limited protected time for faculty to engage in academic research, due to overwhelming clinical and administrative responsibilities. Real-life culturally-appropriate case studies of common challenges to faculty career development were developed and discussed to generate evidence-based strategies to strengthen sustainable career development for global health research. To enhance leadership, ten (2 senior, 3 mid-career and 5 junior) faculty attended an international John-Maxwell leadership workshop in Uganda.

**Going Forward:** We recommended structured implementation of personal development plans by faculty at MakCHS, and strengthening

institutional research interest groups to increase opportunities for senior faculty to mentor junior faculty to engage in academic and research-

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### US aid in the time of Ebola – Liberia and Nigeria

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**Program/Project Purpose:** a. Context The Office of the Assistant Secretary of Defense for Health Affairs OASD(HA) supports effective Global Health engagement. We conducted research analysis to determine whether U.S. aid projects helped Liberia and Nigeria with their national health outcomes and their medical response to the Ebola crisis. b. Program/Project Period From 2009 to 2013 c. Why the program/project is in place, in one or two sentences One of the priorities of the Joint Medical Chair for Global Health at National Defense University (JMC) is to identify those global health engagements that are most effective and efficient in supporting the host nation. d. Aim To assess the effectiveness of U.S. foreign assistance and their impact on health outcomes and capabilities in Liberia and Nigeria.

**Structure/Method/Design:** a. Program/Project Goals, Desired Outcomes Liberia and Nigeria were selected based on their response to the Ebola crisis and strategic U.S. interests. Based on their GDPs, U.S. aid, national healthcare infrastructure and expenditures, health outcomes and medical response to the to the Ebola crisis were compared. b. Participants and Stakeholders: How were they selected, recruited? Stakeholders include Liberia and Nigeria, Department of Defense, USAID, and Department of State, based on their participation, funding, or existing efforts in these countries. c. Capacity Building/Sustainability: What is the plan, structure in place to encourage viability? Health priorities that focused on preventive medicine, community health, and education/training were successful.

**Outcomes & Evaluation:** a. To date, what are the successes and outcomes achieved? Amount of funding/aid received is not in direct correlation with a country's ability to provide or improve healthcare. Nigeria received significantly more aid than Liberia but did not have better health outcomes on basic health metrics. However, Liberia's weak health infrastructure was overwhelmed with the Ebola epidemic. Nigeria was able to contain the Ebola outbreak quickly because their health infrastructure was more robust and the government quickly and effectively administered contact tracing and isolation of exposed persons. b. Monitoring & Evaluation Results (if conducted)

**Going Forward:** a. What are the ongoing challenges? Ongoing challenges include halting the spread of the Ebola virus, rebuilding the health systems and infrastructure that have been compromised as a result of the epidemic, and ensuring that U.S. aid dollars continue to b

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### Developing a trauma response system in San Salvador, El Salvador

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**Program/Project Purpose:** El Salvador is one of three Central American countries with no emergency-trained physicians and one of five with no emergency-trained nurses (WHO, 2011). It has the lowest percentage of seriously-injured patients who are transported to hospital by ambulance (WHO, 2011). Given these statistics, there is a significant need for a comprehensive emergency response system, including trauma trained physicians and nurses and a functioning transport system. Emergency care is currently fragmented, with a lack of comprehensive emergency medical services, trauma training and high mortality related to traumatic injuries.

**Structure/Method/Design:** We met with hospital leadership from hospitals in San Salvador, El Salvador and offered Primary Trauma Care (PTC) training. Participating organizations included the Hospital Militar de El Salvador, Hospital Nacional San Rafael, Instituto Salvadoreño del Seguro Social and El Sistema de Emergencias Médicas (SEM). PTC provides a systematic approach to the management of trauma patients. It uses a sustainable train the trainer model and does not require access to high-tech facilities. The curriculum covers the evaluation of trauma patients, the primary and secondary surveys, priorities in resuscitation and stabilization. Simulation cases and skill stations allow participants to practice airway management, immobilization, insertion of intraosseous lines and tube thoracostomy (PTC Manual, 2014).

**Outcomes & Evaluation:** The first course included 38 participants and was conducted at Hospital Nacional San Rafael. It was led by three certified PTC volunteer instructors from Venezuela, Guatemala and Mexico. The course took place over two days. A registration fee was charged to cover the cost of flying the instructors to El Salvador. Glasswing International, a local non-governmental organization, and Hospital Nacional San Rafael provided materials including mannequins, intubation and immobilization equipment. The chest tube station was not offered during the first PTC training as the majority of the participants were surgeons with prior experience in tube thoracostomy. A focused assessment with sonography in trauma (FAST) station was offered instead. This was the first time a FAST skill station was offered at a PTC course in Latin America and the third time in the world. A multiple choice test written by PTC was administered before and after the training. Of those that past the post-test, 19 individuals were selected to complete an additional one day PTC instructor course.

**Going Forward:** The PTC training is a part of a larger program assessing trauma care delivery in El Salvador and the effect on critical outcomes such as door to operating room time and mortality. The new PTC instructors have started offering their own courses, and the su

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### Applying classical learning theories to quality improvement interventions among mid-level providers in Kenya

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**Program/Project Purpose:** Quality improvement processes are important globally for strengthening health systems yet few studies have described educational methods to demonstrate quality improvement in non-western settings. This ongoing pilot describes a series of interventions rooted in classical learning theories that aims to improve quality across multiple metrics for a common primary care

diagnosis. Changing practice behavior of mid-level providers in Kenya provides novel insight to adult learning in Sub-Saharan Africa.

**Structure/Method/Design:** In this pilot, clinical leadership (stakeholders) at two private facilities deploy three brief interventions using different learning methodologies to improve diagnosis and management of urinary tract infections (UTI) among females ages 14-49. As per terms of employment, all mid-level providers (participants) attend brief interventions led by site-affiliate physicians, which last less than 45 minutes and occur on average every 2-3 months. The first intervention utilized processes from a behaviorist orientation, including a PowerPoint lecture to review a clinical practice guideline. The second intervention of peer-to-peer chart review followed by facilitated discussion incorporates processes of cognitive orientation (case examples/problem-based learning) and social learning theory (collaborative learning). The third intervention reveals locally relevant antibiotic resistance data followed by facilitated discussion. This adaptive learning process is rooted in the constructivist approach, which encourages providers to construct meaning of the data and implications for practice. Patient charts are scored before and after each intervention on a series of five metrics to evaluate desired educational outcomes of mid-level providers' guideline adherence. To ensure sustainability, clinical leadership will refine the onboarding process for newly hired mid-level providers using the findings of this pilot.

**Outcomes & Evaluation:** To date, the first educational intervention (behaviorist theory) has been performed at both sites. Preliminary results show significant improvement in quality metric scores in the diagnosis and management of urinary tract infections. Monitoring and evaluation of all UTI charts will continue throughout the duration of the pilot with subsequent interventions, and then of a representative sample per provider on performance reviews.

**Going Forward:** Brief theoretically-based interventions provide the basis for understanding mechanisms of learning processes among mid-level providers in Sub-Saharan Africa. The educational interventions utilized in this pilot move from passive transfer of facts to activ

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### An orthopaedic clinic for osteomyelitis in Port-au-Prince, Haiti: Past experiences and the need for further epidemiological study

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**Program/Project Purpose:** Although seldom a life-threatening disease in developed countries, osteomyelitis poses a serious threat to life and limb in areas with inadequate resources to provide proper healthcare. Haiti is a country in which very little data exists regarding the prevalence and morbidity associated with osteomyelitis, though anecdotal evidence suggests the burden of the disease is severe. Reports indicate many chronic osteomyelitis patients require prolonged inpatient treatment due to a lack of available treatment resources and may take up a hospital bed for weeks or months at a time. Orthopaedic Relief Services International (ORSI) has provided infrastructural support to Hôpital de l'Université d'Etat d'Haiti (HUEH) to assist in establishing an osteomyelitis clinic staffed by local orthopaedic surgery residents over the past 2 years.