

complement students' medical education by offering the opportunity to experience a different medical or research system where they will face challenges in communication, professionalism and scholarship (CanMEDS Framework). The purpose is to allow future physicians to gain academic knowledge and cultural sensibility in order to better serve a multicultural population.

**Structure/Method/Design:** 136 students from 4 Quebec medical schools were selected from 332 applicants through a match system between the 39 available countries and the choices of the applicants. Local officers in each university assisted the selected applicants in preparing the required documents. A pan-provincial mandatory pre-departure training is held to address issues that students can face on an exchange including culture shock, security and ethics. During the exchange, every student is required to complete a logbook, which tracks their academic progress and is required in order to obtain an official certificate. Upon return, surveys gathered students' ratings and comments on their exchange upon many criteria (on a scale of 0 to 3): the welcome, lodging, internship, supervision and social program.

**Outcome & Evaluation:** Surveys indicate that students were satisfied to very satisfied with their experience in all aspects mentioned previously (scores 2 and 3, ranging from 72.5% to 91.9% for each criteria). Individual responses were used to improve the program's structure and to give feedback to the countries if the score was low (0 or 1). Comments indicate that participants self-reported knowledge gained in both medical or research skills and cultural understanding. This suggests the programs' positive impact on participants' academic and personal progress. All participants have received their certificate.

**Going Forward:** Feedback from participants support the main objective to foster medical students' competences in communication, professionalism and scholarship in a novel cultural setting. Challenges remain in increasing the programs' visibility and accessibility to all medical students in Quebec, maximizing exchanges with countries with positive feedback and establishing the internship as a credited course in the remaining medical faculty.

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### Impact of an Evidence-Based Pediatric Electronic Knowledge System on Peruvian Physicians' Perceptions of Care Quality, Learning, Teaching, and Self-Efficacy

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**Program/Project Purpose:** Lack of access to current medical information is a limiting factor in practicing evidence-based medicine (EBM). While many hospitals and most physicians have computers and smart phones, integration of these devices into everyday medical practice is poorly-developed in most resource-limited environments. The objective of this study was to evaluate how access to an EBM knowledge system, on the web and as

a mobile application (app), impacts Peruvian physicians' perception of care quality, learning, teaching and self-efficacy.

**Structure/Method/Design:** KidsCareEverywhere (KCE) is a California charity that donates medical software, PEMSsoft (Pediatric Emergency Medicine Software), to resource-limited health systems. PEMSsoft is a vast, multi-media library of EBM written in English and widely used commercially in America and Australia. The mobile app requires the web only for initial download and updates, but not for ongoing use. EBSCO Health, Ipswich, MA donates PEMSsoft to KCE. Universidad Peruana Cayetano Heredia in Lima, houses the Peruvian school of public health and medical school.

KCE, in collaboration with Universidad Peruana Cayetano Heredia, visited two hospitals in Lima in July, 2016. 252 primarily Spanish-speaking physicians underwent a 75 minute PEMSsoft training, then were surveyed three months later.

**Outcome & Evaluation:** The subjects were diverse in age, training levels, and medical specialties, and almost all regarded themselves comfortable with technology and written English. Before PEMSsoft, subjects queried written references about clinical questions as frequently as web-based software or mobile apps.

On follow-up, 54 subjects reported that they used the mobile app more than any other written or software reference, with few barriers. 70% reported using the web-based version weekly; 89% used the app weekly inside the hospital, 87% outside the hospital. 91% thought PEMSsoft was easy to use; 96% thought it improved patient care. 74% said it helped them learn medicine more easily and 67% said it helped them teach medicine more effectively. 70% considered themselves more confident with PEMSsoft.

**Going Forward:** Providing an EBM electronic knowledge system to physicians in Lima, Peru resulted in substantial changes in patterns of access to information, perceptions of care quality, and attitudes toward learning, teaching and self-efficacy. Electronic programs, especially mobile apps, may be powerful tools to dramatically improve information access, knowledge dissemination, and physician attitudes toward practice.

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### Health Needs of Refugees: Port of Arrival versus Permanent Camp Settings

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**Background:** The world's refugee population currently stands at over 19 million, the large majority of whom reside in developing countries. The quality and accessibility of healthcare for refugee populations varies according to the geographic setting, availability of resources, and proper training of healthcare providers. This paper uniquely compares and contrasts two important settings for healthcare provision for refugees: the permanent "camp" settings of Za'atari, Jordan, versus the transitory location of Lampedusa, Italy—a major port of arrival for refugees. More specifically, we analyze governance and organizational structures, identify specific health needs, and propose gaps in health care that must be addressed.

**Methods:** We gathered background information on the most pressing health concerns of refugees and major barriers to healthcare provision in both Lampedusa and Za'atari. We then developed areas of priority and identified leaders and experts in the fields of international policymaking and refugee health in either Jordan or Italy. Finally, we formulated a set of questions and performed 12 semi-structured interviews with these leaders and experts. The questionnaire and project received IRB approval from the University of Chicago's Biological Sciences Division Institutional Review Board.

**Findings:** Our research identifies numerous unaddressed health needs of refugees in both temporary and long-term settings. While chronic disease management is one of the greatest areas of concern for refugees in Za'atari, infectious disease control and treatment is one of the biggest issues for refugees arriving to Lampedusa. Challenges with coordination among healthcare services severely limit the availability of resources.

**Interpretation:** Using the background research and information gathered through interviews of major stakeholders, we provide a set of recommendations to policymakers and providers involved in refugee healthcare services. Training of healthcare providers, especially in culturally-competent care, is critical for providing high-quality care in these low-resource settings. Screening and treatment of psychiatric disorders must be a priority for healthcare providers working with refugees, as these can greatly impact refugees' integration into new communities and present with other comorbidities. We propose ways for agencies currently working in the refugee health field to coordinate their activities more effectively, and support advocacy by health care providers for global support for refugees.

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### Promoting Health Professional Education: Improving the Health System's Response to Epidemic Control

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**Program/Project Purpose:** To address the HIV/AIDS epidemic in Sub-Saharan Africa, health systems need adequate numbers of quality health care workers (HCWs) who are able to provide the full continuum of HIV services. For five years, the President's Emergency Plan for AIDS Relief (PEPFAR) funded Medical Education Partnership Initiative (MEPI) has been one of the flagship programs helping to assure there are adequate numbers of well-trained HCWs who can provide the HIV/AIDS services needed to address the epidemic.

**Structure/Method/Design:** MEPI helped to alleviate the health workforce crisis and contributed to addressing the HIV/AIDS epidemic. Through a combination of interventions, MEPI addressed HCW education issues and assisted in laying the foundation for stronger health care systems. MEPI's accomplishments center on five key programmatic themes: Innovation and Capacity Building, Retention, Research, Communities of Practice, and Sustainability.

**Outcome & Evaluation:** To increase research capacity, MEPI strengthened research governance, support structures, and provided direct training in research methodology. Research support to MEPI schools resulted in 376 research publications.

MEPI piloted innovative eLearning strategies which are now being rolled out more broadly.

Lessons were shared electronically through the MEPI website where forums, webinars, and technical articles were accessed by users in over 192 countries. Monthly website access reached over 3,500 users.

A MEPI Network was created with 13 funded institutions in 12 countries that now fosters partnerships with more than 40 institutions around the world. More than 90% of new staff positions, initially funded by MEPI, will be sustained by local institutions, ministries or other grant funding.

In three countries alone, 54,000 individuals have received HIV-related services supported by MEPI-trained providers.

Under MEPI more than 2,000 non-physician HCWs directly participated in HIV/AIDS care, treatment and prevention training.

**Going Forward:** Students and faculty who participated in MEPI programs are on the frontlines of HIV/AIDS care and are modeling evidence-based practices. MEPI optimized host-country leadership and international collaboration to support medical education. MEPI struck a balance between accessing the technical expertise of high-income countries and grounding programming in locally-defined priority areas. MEPI has strengthening learning at local levels, to build health system resilience and responsiveness. By strengthening pre-service education and research capacity MEPI has helped bring the UNAIDS 90/90/90 goal within reach.

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### Developing Novel Competency-driven Professional Curricula in the US and Globally

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**Program/Project Purpose:** International aid organizations have spent billions of dollars building public health workforce capacity without effective measures of impact. Following trends in other professional workforces, public health training programs have begun to use competency models to guide classroom learning, continued education, and performance improvement.

Competency-based professional training programs expect that graduates demonstrate particular knowledge and skills, and the ability to apply them effectively in various environments. This is shown to support long-term career success by developing stronger self-awareness (ability to improve), better understanding of how they integrate with and serve their environment (ability to adapt to contextual needs), and commitment to ongoing self-assessment and life-long learning.

To better meet public health workforce needs, the public health training accreditation process in North America now requires