

medical students, interested in global health often feel that course offerings are inadequate. Thus, exposure to global health through experiential learning, such as observerships and electives, provide students with immersive opportunities to develop skills required for global health practice. This study prospectively examines what health professionals need to know to work in globalized communities, and how global health electives and observerships impact medical students' personal and professional development.

**Methods:** Medical students participated in a pre-global health assessment survey; a pre-departure training session; completed an observership, research placement, or clinical elective in a low-resource setting; participated in a post-departure debrief, and a post-global health assessment survey.

**Findings:** Global health placements impact students' personal and professional development in the following areas: awareness of the social determinants of health, awareness of resource utilization, adaptability to resource limitations, understanding of community needs and how to address those needs, communication skills, and compassion in clinical care. Global health placements also influenced medical students' future speciality choices, and approach to practicing medicine.

**Interpretation:** Global health placements create opportunities for students in the health professions to develop competencies required to work in low-resource settings in Canada and abroad. This prospective study identifies some of the practice competencies required to address global health challenges, and allows us to determine whether placements abroad are associated with the development of global health competencies. Gaps in knowledge or skills that create barriers to working in global health settings need to be investigated.

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**Abstract #:** 1.023\_HHR

### Feasibility of Standardizing Prehospital Communication in Cuenca, Ecuador

J. Carter<sup>1</sup>, M. Hopkins<sup>2</sup>, E. Trieu<sup>3</sup>, E. Morocho<sup>4</sup>, C. Mosquera<sup>4</sup>, J.L. Prieto<sup>5</sup>, F. Siguencia<sup>5</sup>, N. Naik<sup>6</sup>, M. Rains<sup>6</sup>, D.A. Martinez<sup>7</sup>, J.C. Salamea Molina<sup>8</sup>, D.S. Jayaraman<sup>9</sup>; <sup>1</sup>Virginia Commonwealth University School of Medicine, Richmond, VA, USA, <sup>2</sup>Virginia Commonwealth University, Richmond, Virginia, USA, <sup>3</sup>VCU, Richmond, VA, USA, <sup>4</sup>Universidad de Cuenca, Cuenca, Ecuador, <sup>5</sup>Universidad del Azuay, Cuenca, Ecuador, <sup>6</sup>Virginia Commonwealth University, Richmond, USA, <sup>7</sup>Hospital Vicente Moscoso, Cuenca, Ecuador, <sup>8</sup>Hospital Vicente Corral Moscoso, Cuenca, Ecuador, <sup>9</sup>Virginia Commonwealth University Health, Richmond, USA

**Program/Project Purpose:** Prehospital to hospital communication in Cuenca, Ecuador has been shown to be limited and inefficient, with minimal communication of critical variables such as vital signs. We aimed to design and conduct a course based on a standard checklist used in high-income country settings to improve prehospital to hospital communication for injured patients in Cuenca.

**Structure/Method/Design:** An hour-long communication course in Spanish and a communication checklist were designed based on the Mechanism-Injuries-Vital Signs-Treatment (MIST) checklist, and customized with input from local stakeholders and observations of current prehospital to hospital communication. The course was incorporated into a mandatory training by the Ecuadorian Ministry of Health (MSP) for all prehospital employees in Cuenca including doctors, firefighters, paramedics, ambulance operators, medical dispatchers, medical auditors, and MSP administrators from all four regional ambulance agencies and main ECU911 dispatch center. The course was designed to ensure reporting of 14 critical variables including vital signs and neurologic disability using the Glasgow coma score and included lectures, a case study, interactive, scenario-based simulated practice sessions, and a Q&A session. Wallet-sized checklists, approved by the MSP, were created for distribution to reinforce the training and facilitate routine use.

**Outcome & Evaluation:** The course was taught in Spanish by two local physicians and six medical students to 337 prehospital staff from the Cuenca region. Staff was composed of MSP (n=80, 23.7% of total attendees), social security (n=70, 20.8%), firefighters (n=117, 34.7%), Red Cross (n=30, 8.9%), and other employees (n=40, 11.9%). The course consisted of 10 sessions, 2 one-hour sessions per day over 5 days and reviewed 14 critical variables including: demographics, vital signs, mechanism, injuries, treatment, allergies and medications.

**Going Forward:** A standardized prehospital communication course and checklist could be created and implemented in Cuenca to address communication from the prehospital to the hospital setting. Since the course, the MSP has mandated use of the customized checklist by all dispatch and ambulance staff in the region to standardize communication. Simple interventions such as checklists may be effective methods of improving prehospital communication in LMIC settings.

**Source of Funding:** Virginia Commonwealth University School of Medicine Dean's Fund.

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### A Qualitative Evaluation of the Impact of a Rural Short-Term Service Learning Elective on Medical Students

B. Chang<sup>1</sup>, E. Karin<sup>1</sup>, J. Ripp<sup>2</sup>, R. Soriano<sup>1</sup>; <sup>1</sup>Icahn School of Medicine at Mount Sinai, New York, USA, <sup>2</sup>Mount Sinai Hospital, New York, NY, USA

**Background:** The number of global health opportunities offered by US and Canadian medical schools has nearly tripled over the past 20 years, and nearly one-third of medical school graduates have participated in at least one global health service learning trip. There have been numerous studies elucidating the impact of global health service learning trips that are of longer duration (i.e. > 1-week) but not for shorter ones (i.e. <1-week). Therefore, the goal of this study is to determine qualitatively the immediate and long-term effects of a 1-week global health service learning trip on medical students' development.

**Methods:** Student participants (n=7) on a 1-week service learning trip to Nogales, Arizona were asked to journal daily reflections on

their experiences. These journal entries were analyzed utilizing a grounded-theory approach to identify major themes and determine the short-term effects of the trip. Content was additionally analyzed for the positive or negative tone with which students described their experiences. To evaluate long-term effects, participants will complete a survey derived from the salient themes of the journal entries.

**Findings:** All participants completed a total of 35 unique journal entries with 667 out of 958 sentences coded (70% coverage). Analysis revealed ten major themes, which we grouped into 3 broad categories: (1) knowledge, (2) attitudes, (3) perceptions. In a majority of the entries (89%), participants reported learning about a breadth of topics including border politics, Native American health, and rural healthcare. 43% of entries described experiences that would impact the participants' future medical career decisions, and 37% noted experiences that improved their clinical knowledge and skills such as patient education and communication. The participants' reflections also revealed more abstract benefits such as becoming aware of privilege within society (40%) and the importance of studying an individual's motivations when evaluating his/her actions (51%).

**Interpretation:** This study suggests that, participation in short-term service learning trips (<1 week) has a significant impact on medical students' educational development and on how they envision themselves as medical professionals and their role in society. Analysis of survey results will clarify the enduring impact of this experience on the student participant's medical education.

**Source of Funding:** None.

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### The Right Diagnosis: The Role of Pathology in Health System Strengthening

K. Fleming<sup>1</sup>, W. Cherniak<sup>2</sup>, J. Flanigan<sup>2</sup>, S. Horton<sup>3</sup>, S. Sayed<sup>4</sup>, R. Sullivan<sup>5</sup>, M. Wilson<sup>6</sup>; <sup>1</sup>Oxford University, Oxford, United Kingdom, <sup>2</sup>National Cancer Institute, Washington DC, USA, <sup>3</sup>University of Waterloo, Waterloo, Canada, <sup>4</sup>Aga Khan University Hospital, Nairobi, Kenya, <sup>5</sup>King's College, London, United Kingdom, <sup>6</sup>University of Colorado School of Medicine, Denver, USA

**Background:** The drive to Universal Health Care coverage, and the need for strengthening health systems, has led to the examination of the role of core elements of the system such as surgery and radiology. Until recently, pathology (which, along with radiology, is key to correct diagnosis and treatment), has been relatively neglected within the global health framework.

Resource-constrained governments and patients paying out-of-pocket have tended to underestimate the importance of laboratory testing. International donors have looked to point-of-care tests as a way to overcome the difficult task of strengthening national laboratory networks.

Without strong pathology systems, however, there is the danger of development of multi-drug resistance, inaccurate tissue diagnosis and delays in identifying new emerging epidemics. Diagnosis and treatment of cancer and other non-communicable diseases is compromised.

**Methods:** We utilize survey data from regional associations of pathology to describe the current situation in different regions.

We conduct an expert survey of existing literature, and combine this with previously unpublished economic data from selected institutions. We synthesize these data to provide a comprehensive picture of the current situation of pathology in low and middle-income countries.

**Findings:** Key factors needed to strengthen pathology systems in low and middle income countries including the accreditation, education and training systems, payment for service and the balance between the public and private sectors. The organization of pathology systems is important, with advantages and disadvantages of different modalities ranging from point-of-care testing, to "lab-in-a-box" approaches, and a tiered networked system. We make estimates of the costs required to strengthen systems as well as describe the benefits.

**Interpretation:** Strengthening pathology systems is an essential underpinning of a quality Universal Health Care system. There are lessons in how to do this in an effective and cost-effective way.

**Source of Funding:** Funding for writing meetings came from the National Cancer Institute.

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### Did an Innovative Approach to Technical Assistance by Nurse Mentors improve PMTCT Standard of Practice among Community Health Extension Workers at Primary Health Care Centres in Ebonyi Nigeria?

A.F. Chizoba<sup>1</sup>, C. Nwadike<sup>2</sup>, E. Ezeobi<sup>3</sup>, N. Kehinde<sup>4</sup>, E.E. Ezeanolue<sup>5</sup>, A.E. Nwandu<sup>6</sup>; <sup>1</sup>Center for clinical care and clinical research Nigeria, Owerri, Imo, Nigeria, <sup>2</sup>Maryland Global initiative Nigeria (MGIC-Nigeria), Enugu, Nigeria, <sup>3</sup>Center for clinical care and clinical research Nigeria, Ebonyi, Nigeria, <sup>4</sup>Center for clinical care and clinical research Nigeria, Abuja, Nigeria, <sup>5</sup>University of Nevada School of Medicine, Las Vegas, NV, USA, <sup>6</sup>University of Maryland, Baltimore, MD, USA

**Program/Project Purpose:** Globally, Nigeria accounts for 30% of childhood HIV infections. Mother-to-child transmission remains the major route of acquisition of new infections among children. Decentralization and task shifting to primary health centres (PHCs) and community health extension workers (CHEWs) has been used to scale effort aimed at prevention of mother-to-child transmission of HIV (PMTCT). To be effective, the capacity of CHEWs to provide standard of practice in PMTCT needs to be enhanced. We engaged and trained Nurses as Nurse Mentors to provide PMTCT technical assistance to CHEWs at PHCs and evaluated the effectiveness of this intervention on PMTCT standard of practice.

**Structure/Method/Design:** From January through March, 2014, we used a 50 question checklist adopted from the National PMTCT guideline to conduct a baseline evaluation of CHEWs implementation of the PMTCT standard of practice during antenatal, labour/delivery and up to 18 months postnatal period across 59 PHCs in Ebonyi state. A score of >70% score was considered standard while a score <70% was considered substandard. Following baseline evaluation, we implemented a 14-month (April 2014 to June 2015) intervention comprising of quarterly TA visit by Nurse Mentors