

student development of one or more of the CanMED roles. This is not only a way of standardizing the value obtained from student experiences but it also promotes the “core competencies” that are integral to effective physicianship.

In addition, SHINE hosts monthly journal clubs, quarterly workshops (on leadership, advocacy, preventative medicine, etc.), and annual events with world-renowned leaders, to allow SHINE students to envision their own impact in the greater context and receive feedback and insight from individuals who have dedicated their lives to improving the human condition.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** SHINE partners with institutions and community-based organizations (CBOs) serving marginalized populations, both in Calgary and abroad. Partnerships entail a reciprocal relationship that enable medical students to develop their CanMED roles (“core competencies” integral to effective physicianship), while at the same time assisting CBOs/institutions to achieve a desired program goal/execute their mandate.

Current partners include 1. the YMCA (to develop a Youth Wellness Program targeting Youth Age 12-17), 2. Bo School of Community Health Sciences and Bo Government Hospital (to create a sustainable Neonatal Resuscitation Program that aims to reduce neonatal mortality attributable to birthing asphyxia by increase the number of health professionals in Bo trained in neonatal resuscitation), 3. WoodsHomes (to create of a framework and curriculum for addiction cessation that uses a combination of harm-reduction strategies, and targets youth 16-24), and 4. Remand Center (to sensitize students to the unique challenges of working with prison populations and develop a tailored health assessment questionnaire).

**Summary/Conclusion:** Sixteen students across a multitude of disciplines have been enrolled for the 2013-2014 program. Each placement is supported by a physician mentor. A sustainability plan has been created to ensure placements remain available from year to year.

### Creating collaborative connections across a continent: Seven children’s hospitals striving for a sustainable global health partnership

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**Background:** The St. Damien Collaborative to Improve Pediatrics in Haiti (SCIPH) is a newly established partnership among six US-based pediatric institutions and St. Damien Pediatric Hospital (SDH) in Tabarre, Haiti. SCIPH aims to foster academic collaboration and support SDH through international exchange of medical trainees, quality improvement initiatives, support of SDH subspecialty training, an annual conference with all participating institutions, and fundraising.

**Structure/Method/Design:** SDH is a 120-bed children’s hospital dedicated to providing quality inpatient care and outpatient programs to over 90,000 Haitian children. SDH includes a maternity ward, NICU, PICU, dental clinic, and oncology ward, in addition to providing care for children with HIV, TB, malnutrition, and other

chronic conditions. Each SCIPH member is an equal partner with a collective strength that outweighs the mere sum. A US-based partner has hosted Haitian medical trainees; each US-based partner sends two pediatric residents to St. Damien Hospital for 1 month each year. A US-based SCIPH partner has accepted five cardiothoracic surgery patients from Haiti, in addition to supporting the development of SDH’s own cardiac care and surgical programs. One partner continues to teach and improve ultrasound techniques to Haitian providers. Coordinated efforts for evidence-based quality improvement projects include the provision of copies of the WHO Pocket Book of Hospital Care for Children for SDH residents and the creation of order sets and clinical pathways for commonly seen medical conditions. Educational efforts include development of problem-based learning and supporting small-group, self-directed learning. Responsibility for organizing the annual SCIPH conference is rotated among each US-based partner, with a long-term goal of a Haitian-hosted academic conference. The goal of the SCIPH conference is collaboration, increasing awareness of SDH and SCIPH at the host’s institution and community, and fundraising for SDH.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** St. Damien Pediatric Hospital, Akron Children’s Hospital, Hasbro Children’s Hospital, Children’s Hospital of The King’s Daughters of Eastern Virginia Medical School, UMass Memorial Children’s Medical Center, University of Minnesota Amplatz Children’s Hospital, University Hospital Rainbow Babies and Children’s Hospital, University of Notre Dame Haiti Medical School

**Summary/Conclusion:** The strength of the program has been its multifaceted approach to collaboration, leading to the challenge of effectively coordinating efforts and communication among institutions. Striving for evidence-based, sustainable practices that fulfill the expressed needs of St. Damien is a continued commitment of the group. The establishment of a residency program at St. Damien will bring further opportunities for collaboration and another dimension to all projects.

### The effect of standardized protocols for trainees on a global child health program in Haiti: Improved diagnosis and treatment accuracy

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**Background:** An increasing number of pediatric health professionals and medical trainees are interested in working with underresourced communities abroad and programs in global child health have increased exponentially to meet this need. While there are documented benefits to the trainees for these short-term experiences, ethical concerns have been raised about the use of inexperienced and undersupervised medical students and residents to provide care for local residents. Since 2011, a team of educators in collaboration with the Haitian Ministry of Health developed and implemented an effective, efficient, and sustainable pediatric outreach health program targeting all children in the Bas Limbe region of Northern Haiti. This outreach program is an ongoing effort to service a larger population of children. Standardized protocols for treatment of the most common conditions were created to encourage consistency across providers, including medical trainees. To evaluate the effectiveness of this program, data was reviewed on the pediatric patients seen during these outreach missions over a 2-year period to compare the consistency of diagnosis.

**Structure/Method/Design:** For the period from January 2012 to December 2013, multidisciplinary teams that included medical students and residents from hospitals in Canada and the United States, mobilized bimonthly, and conducted outreach clinics in five rotating communities seeing 80 to 160 children daily for 1 week. All participants were required to have predeparture training and protocols were developed to ensure consistent diagnosis and treatment of common conditions in children. Statistics were collected for each day and location.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** Haiti Village Health

Haitian Ministry of Health

**Summary/Conclusion:** The data obtained for the years 2012 and 2013 were compared for all children seen from newborn to age 15 years. There were five outreach programs from four different hospital and residency programs in each year conducted in the same months each year. There was an equal amount of patients served in both years with a similar sex and age distribution. The data for the top 12 most common diagnoses were reviewed and compared over this 2-year period. A total 4825 distinct diagnosis in 4133 patients were reviewed and compared. There was no significant difference found between the rate of recorded diagnoses in the years 2012 and 2013. Results were consistent across all diagnostic categories and independent of team composition. A protocol-based global child health approach is effective at improving the accuracy of diagnosis and treatment among medical trainees of varying experience and from multiple training programs.

### Finding the perfect match: Creating a structured interview tool to choose candidates for global health training programs

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**Background:** In the past 30 years, the number of medical school graduates participating in global health experiences has nearly quadrupled. As more medical students seek opportunities in global health elective programs, the members of selection committees are forced to choose from a large population of excellent candidates without a standard comprehensive tool to select most appropriate candidates for the limited positions. Existing tools are not comprehensive, and thus, programs often invest time, training, and funds on students who may not be emotionally and culturally prepared and fit for a global health elective. Recognizing the need for a comprehensive, structured instrument, we set out to invent an interview tool.

**Structure/Method/Design:** We conducted a literature search to identify competencies deemed necessary to succeed in global health. After categorizing these traits, we weighed them according to popularity among publications, and assigned each a point value between 5 and 15. Interviews and written works from global health directors and alumni were collected to produce case-based questions related to global health competencies. A scoring system for each question was made.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** The interview tool assesses 14 global health competencies. Students are given four pieces of literature related to global health experiences to reflect on prior to their interview date. Based on these writings, interviewers ask a series of questions correlating with competencies and reward points according to the established scorecard. A written reflection, academic transcript, and three letters of

recommendation are all considered and contribute to the candidate's competency score. This tool has been used by the Western Connecticut Health Network/University of Vermont College of Medicine Global Health Program, however, validity must be proved longitudinally.

**Summary/Conclusion:** Most global health programs lack a standard tool for choosing prospective students. We have created an instrument based on published global health competencies to provide a structured mode of interviewing and identifying appropriate candidates for popular global health electives. Although it has been implemented on a small scale, wider use will prove its value and reliability.

### Undergraduate and graduate student training in global health research: Preparing the next generation

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**Background:** Academic global health programs are growing rapidly, with students increasingly pursuing research-based field experiences both at the graduate and undergraduate levels. Students conducting research abroad face significant challenges that require preparation and support, yet current guidelines and publications focus primarily on clinical activities. We conducted a mixed-methods study to characterize the full range of experiences of students conducting global health research projects in low- and middle-income countries (LMIC). In this analysis of survey data we focus on the experiences of undergraduates, a growing cohort of global health students, compared with graduate students.

**Structure/Method/Design:** We invited current and former undergraduate and graduate/health professional students from Yale University who had conducted research in an LMIC in 2009-2013 to participate in an online questionnaire. The questionnaire focused on predeparture preparation, relationship with advisors and host communities, research ethics, dissemination, and impact on the student.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** Among the 89 respondents, 48 (53.9%) were undergraduates (UG), 41 (46.1%) were graduate students (GS), 67.4% were female, and the mean age was 22 years. More UGs than GS conducted research in a hospital setting (25% vs. 4.9%;  $P = 0.05$ ). Undergraduates reported significantly less-frequent communication with their Yale advisors before, during, and after their research experiences ( $P < 0.04$  in all three periods), while there were no differences in communication with host advisors. More GS hosts and institutional advisors had worked together previously (65.9% vs. 37.5% of UG,  $P = 0.008$ ). Fewer UGs reported predeparture research ethics training (58.3% vs. 92.7% of GS,  $P < 0.001$ ) and UGs reported less support from advisors on ethical issues (scale of 1 to 5: 5 = significant support, mean 2.48, standard deviation (SD) 1.05 vs. GS mean 3.03, SD 0.885,  $P = 0.012$ ). Undergraduates felt less prepared to deal with both ethical challenges (scale of 1 to 3: 3 = well prepared, mean 2.15, SD 0.659 vs. GS mean 2.48, SD 0.506,  $P = 0.012$ ) and issues of poverty (mean 2.43, SD 0.580, vs. GS mean 2.70, SD 0.516,  $P = 0.023$ ). Both UGs and GSs reported satisfaction with their research experience (89.7%) and stated that the experience influenced their education or professional plans (87.2%).