

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%).

Summary/Conclusion: Undergraduate students report less preparation and support and are more likely to work in challenging inpatient settings than graduate students. While academic departments are tasked with promoting graduate and faculty research, institutional support should be provided to all student researchers to ensure safety and ethical research conduct. These data could be applied to design training and support mechanisms that meet the needs of both graduate and undergraduate students.

Facilitating student exchanges in health professions education through institutional partnerships

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Background: International student exchanges during undergraduate medical education have become common. While these experiences are generally rewarding, they are not without challenges. Schools are not comfortable sanctioning international exchanges when details of the elective experience are unknown. Because these experiences are increasingly popular, particularly in developing countries, identifying a solution that improves transparency and facilitates the development of multilateral partnerships is paramount.

Structure/Method/Design: Interviews and face-to-face meetings with staff and faculty of international medical schools were conducted to identify features that would enhance the efforts undertaken by international medical schools associated with expanding partnerships to increase student opportunities. Key issues identified were identification of appropriate contacts, curriculum compatibility, readily available elective information, host school support, student safety, and a formal application process.

An eight-member advisory committee with global representation determined that development of an international partnership would facilitate transition from bilateral agreements to collaborative agreement among partner schools that included commitment to shared values that transcend differences in culture, curricula, resources, and local health care needs. The group further determined that this partnership should be facilitated by a charter that formalizes this commitment.

Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): Three components were developed to address the issues identified. A web-based system, the Charter, and regular virtual meetings comprise the system that supports this effort. The system formalizes the application process and showcases elective opportunities. Schools provide detailed curricular information, contact information, safety, location, and housing information. Partner schools can view the profile of other schools, approve their outgoing students and accept incoming students. By the end of 2013, 20 schools were recruited, and their medical school deans had signed the Charter, which outlined school roles and responsibilities, and defined activities that would be undertaken by home schools (those sponsoring students) and host schools (those receiving students). The 20 partner schools in 16 countries offered over 300 clinical and research opportunities to final-year medical students. The organization developing the web-based system hosted virtual and face-to-face meetings to build trust and generate collaborative relationships.

Summary/Conclusion: Creating an atmosphere of trust for the partner schools required diligence on the part of both the schools agreeing to the Charter and the organization facilitating the exchange process. While data on the value of the Charter and the software system has not yet been collected, the partner schools are already beginning to collaborate to facilitate exchange experiences for medical students.

Building research capacity in chronic disease prevention in Mesoamerica: Progress and lessons learned

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Background: Chronic noncommunicable diseases (NCDs) represent the leading cause of death and disability among both men and women in all countries in Central America. In 2009, the Institute of Nutrition of Central America and Panama (INCAP) obtained support from the U.S. National Heart, Lung, and Blood Institute (NHLBI) and the United Health Group to launch a network of Centers of Excellence (COEs) in Chronic Disease for nine countries in Mesoamerica. This presentation describes the INCAP COE's capacity-building model and reports on progress and challenges from its first 3 years, and recommendations for the future.

Structure/Method/Design: INCAP's research capacity-building approach is based on a systemic capacity-building model proposed by Potter and Brough (2004): a pyramid-shaped model with four levels: 1) tools; 2) skills; 3) staff and infrastructure; and 4) structures, systems, and roles. To determine the extent to which INCAP has implemented its research capacity-building work, a comparison was made of the project as originally designed with activities carried out to date, using proposal documents and project reports. Then, in order to elicit perceptions of progress, challenges, and lessons learned in its initial start-up phase, an internal assessment was conducted from July to September 2012 in which 18 people with different roles in the center and at partnering institutions were interviewed. Interviews were transcribed, input into Atlas.TI, coded, and analyzed using a content analysis approach.

Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): Activities successfully carried out as originally planned were six topic-specific workshops for trainees, enrollment of students in PhD programs to meet future research staff needs, and the implementation of three core research projects on nutrition-related chronic disease prevention. The COE was unable to make proposed changes in existing master's or undergraduate program curricula in institutions in the region. Primary weaknesses identified were lower-than-expected initial academic level of trainees; insufficient number of senior mentors; and low priority given to research at local universities. The research projects were identified as the most important activity as they: build trainees' skills in an applied way, represent an opportunity to learn rigorous methodology, and present concrete opportunities for employment. INCAP's regional nature, presents both opportunities for cross-country learning and also logistical and communication challenges.

Summary/Conclusion: INCAP has been most successful in implementing activities at the skills-level of the pyramid and has faced challenges closer to the base. Building capacity at the base of the pyramid will require working with decision makers at local universities and health institutions to allocate resources and prioritize research in NCDs.

Fostering the nursing/midwifery workforce in sub-Saharan Africa

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