

## MEDICAL EDUCATION

### How Should Schools Respond to Learners' Demands for Global Health Training?

Claudia O. Gambrah-Sampaney, MD, Jesse E. Passman, MD, MPH, Andrielle Yost, MPA, and Glen N. Gaulton, PhD

#### Abstract

In the past decade, more students than ever entered medical school with the desire, if not the expectation, of participating in meaningful global health experiences. Schools must now weigh benefits to students of global experiences against burdens of students' learning experiences on institutions and individuals with whom schools partner. Most often, global health training is done as offsite immersion rotations in research or clinical settings. This article explores ethical dimensions of expanding global health offerings while respecting local partners' goals by focusing on the experience of the University of Pennsylvania's global health training programs.

#### Global Health on the Rise

Awareness of global health inequality as a social concern and global health as an emerging academic discipline is growing. This growth is perhaps fostered by more widespread appreciation that health in one region often directly and rapidly influences health in another.<sup>1</sup> We see this increased interconnectivity via traveling, sharing food sources that carry infectious agents, and learning how infectious and noncommunicable disease incidence is influenced by social determinants or by climate or geopolitical conditions.<sup>2,3</sup> Awareness of global health is also bolstered by the increasing prevalence and ease of commercial and social media.<sup>4,5</sup> Although attention is often focused on catastrophic global health events, such events increase awareness of disparities in global disease burden and in access to basic disease prevention strategies and health care.

Global health as a field has transitioned from focusing largely on humanitarian care provision or public health strategy implementation to focusing on health data, quantitative outcome measures, intervention sustainability, and rigorous scientific approaches to understanding disease in disparate populations and regions.<sup>6</sup> Trainees with interest in health professions now participate in these endeavors early in their education, often in baccalaureate programs.<sup>7</sup> As a result, medical schools and residency and fellowship programs have more students and trainees who expect global health experiences to be integrated into their training.<sup>8,9</sup> A key question this article addresses is how these programs can provide value in helping students both to develop their career

interests and to contribute meaningfully to [global health partnerships](#). If we fail to respond by crafting educational programs that are mutually beneficial and just, we risk exacerbating the training burden in already underresourced settings or, worse, promoting health professions trainees' socially and culturally insensitive or ethically inappropriate behavior.<sup>10</sup>

### **University of Pennsylvania Global Health**

Efforts are being made to develop global health competencies,<sup>11,12</sup> and several medical schools have recognized the importance of cultivating students' interests in global health through comprehensive training programs that are integrated throughout the curriculum.<sup>13,14</sup> At the Perelman School of Medicine at the University of Pennsylvania (Penn), with which the authors are affiliated, global health efforts begin early. We desire students who care deeply about humanity and are committed to health prevention, education, and [biomedical research](#) wherever the need for these exists. Penn's global health training opportunities for students are carefully articulated on the school's website<sup>15</sup> and explored during admissions interviews, orientation sessions, and career development workshops. Students in preclinical and clinical phases of training can participate in a range of offsite immersion experiences (lasting from 8 weeks to a year) and in formal certificate and degree programs.<sup>15</sup> On average over the past 10 years, 45% of Penn students engaged in a global health experience of no less than 8 weeks. Postrotation surveys indicate that these learning activities were uniformly emotionally rewarding and, in many instances, led students to pursue careers in global health.

Programs like ours must appropriately balance their institutional needs with their obligations to help their international partners solve national, regional, or local health care workforce or service delivery problems. We should ensure that offsite learning activities motivate rather than compete with local priorities, are culturally and socially appropriate, and that our learners are prepared to recognize and respond to ethical questions arising during their experiences. Penn's global health training programs have evolved to meet students' desires and expectations for meaningful global training experiences while expressing our commitment to help our international partners respond to inequities in health care access.

### **Ethics in Global Health Learning**

[Penn's partnership programs](#) in Brazil and Madagascar illustrate ethical dilemmas that can confront students working on global health projects and suggest a need to reconsider how institutions like ours select sites and prepare students for ethical dimensions of global health learning experiences.

*Brazil.* Because projects are designed to be short-term and to accommodate students rotating on and off, the sustainability of care interventions can be compromised when personnel are unfamiliar with patients' language or when there is a breakdown in

communication among rotating personnel. Our efforts to obtain data on clinical outcomes of Brazilian children exposed in utero to the Zika virus, for example, illustrate the importance of using native language speakers to obtain informed consent. As inhabitants of the region of Brazil in which Penn partners have limited formal education, and thus limited awareness of infectious agents and their potential impact on human development, native language speakers have critical roles to play in consent processes and in presenting test results to parents. Allowing only trained health professionals to conduct clinical testing and community outreach was also important, as was engaging local health professionals in extending the benefits of research to patient-subjects in other regions of Brazil.

*Madagascar.* A student project in Madagascar to enhance surgical and obstetric care illustrates the importance of matching students' educational priorities with a host institution's resources and priorities. Malagasy hospital administrators and clinicians questioned medical missions and research projects that ended abruptly, were not mutually beneficial, were wasteful, or fomented corruption in their institution. This example underscores that outcomes should solve practical problems, not just answer academic questions, and that visiting trainees should operate according to norms and expectations established by both local regulatory bodies and community advocates. Most importantly, immersion experiences should only be initiated after trust has been established with host partners and where sustainable and lasting bilateral relationships are developed.

### **Restructured Global Health Learning**

Penn's curricular approach is to match student immersion experiences to the distinctive needs of the host site both to minimize unforeseen ethical concerns in project implementation and to maximize benefit to the host institution and local health care practitioners. Penn's restructured curricular approach has 4 foci:

1. To direct pre-clinical students to biomedical research or public health activities that are first requested by and then vetted by host institution faculty.
2. To ensure, whenever possible, that students rotating through project sites are embedded within teams and supervised either by a qualified Penn or host physician.
3. To conduct comprehensive ethical and technical training for all prospective global health students, review their motivations and expectations, and raise awareness of the host environment and its social and cultural context.
4. To objectively monitor the benefits of global training experiences and the burdens they can place on host environments.

Incorporating these changes into our curricular restructuring plan reduced the number of clinical training sites from 50 in 2008 to 22 in 2018. Thus, despite growing demand for

global health experiences, fewer Penn students participated in offsite clinical rotations. To enhance the bi-directionality of our partnerships with host institutions, Penn now requires that, whenever possible, Penn students' immersion experiences include students from the host institution. We believe that this approach makes students more culturally sensitive and better prepared for global engagement and that it facilitates more productive outcomes in our collaborative work. During the time we have been restructuring our clinical partnerships, the number of Penn students in research-oriented global partnership rotations has more than doubled, as has the number of students from international host institutions conducting clinical rotations at Penn. Restructuring has enabled us to expand global health engagement without compromising ethical standards.

### **First Do No Harm**

The examples described in this article suggest a need for defining mutually beneficial program goals and being transparent with partners during program development and implementation about the limits of abilities of students who, regardless of their prior experience or devotion to global health, are not licensed to practice medicine or conduct research independently. Students might not have skills to interact appropriately with patients in limited-resource settings and might occupy high-demand clinical training slots that otherwise would provide training opportunities for host-region students. This latter point is especially important, as the success of global health efforts should be measured in part by the increase in quality training programs and trainees at partner institutions. There is great value in expanding global awareness through global health experiences among junior clinical colleagues, but the principle *primum non nocere* should be at the forefront of all global health training programs.

### **References**

1. Morse SS, Mazet JA, Woolhouse M, et al. Prediction and prevention of the next pandemic zoonosis. *Lancet*. 2012;380(9857):1956-1965.
2. Taylor LH, Latham SM, Woolhouse ME. Risk factors for human disease emergence. *Philos Trans R Soc Lond B Biol Sci*. 2001;356(1141):983-989.
3. Frumkin H, Haines A. Global environmental change and noncommunicable disease risks. *Annu Rev Public Health*. 2019;40:261-282.
4. Squiers L, Lynch M, Dolina S, et al. Zika and travel in the news: a content analysis of US news stories during the outbreak in 2016-2017. *Public Health*. 2018;168(3):164-167.
5. Labate C. The influence of social media on diabetes treatment and self-care. *Diabetes Voice*. 2013;58(1):14-15.
6. Drain PK, Primack A, Hunt DD, Fawzi WW, Holmes KK, Gardner P. Global health in medical education: a call for more training and opportunities. *Acad Med*. 2007;82(3):226-230.

7. Robinson PA, Orroth KK, Stutts LA, et al. Trends in global and public health education among nationally recognized undergraduate liberal arts colleges in the United States. *Am J Trop Med Hyg.* 2018;98(5):1228-1233.
8. Mensah GA. NCD research in the post-2015 global health agenda: perspectives from the NHLBI strategic vision. *Glob Heart.* 2016;11(4):479-483.
9. Lu PM, Park EE, Rabin TL, et al. Impact of global health electives on US medical residents: a systematic review. *Ann Glob Health.* 2018;84(4):692-703.
10. Horton R. Offline: Has global health lost it? *Lancet.* 2019;393(10175):972.
11. Ablah E, Biberman DA, Weist EM, et al. Improving global health education: development of a global health competency model. *Am J Trop Med Hyg.* 2014;90(3):560-565.
12. Jogerst K, Callender B, Adams V, et al. Identifying interprofessional global health competencies for 21st-century health professionals. *Ann Glob Health.* 2015;81(2):239-247.
13. Teichholtz S, Kreniske JS, Morrison Z, Shack AR, Dwolatzky T. Teaching corner: an undergraduate medical education program comprehensively integrating global health and global health ethics as core curriculum. *J Bioeth Inq.* 2015;12(1):51-55.
14. Oni T, Yudkin JS, Fonn S, et al. Global public health starts at home: upstream approaches to global health training. *Lancet Glob Health.* 2019;7(3):e301-e302.
15. Center for Global Health, Perelman School of Medicine, University of Pennsylvania. Penn med students. <https://www.med.upenn.edu/globalhealth/penn-med-students.html>. Accessed July 4, 2019.

**Claudia O. Gambruh-Sampaney, MD** is a first-year resident in pediatric neurology at the Children's Hospital of Philadelphia in Pennsylvania.

**Jesse E. Passman, MD, MPH** is a first-year resident in surgery at the University of Pennsylvania Perelman School of Medicine in Philadelphia.

**Andrielle Yost, MPA** is the assistant director of global health training in the Center for Global Health at the University of Pennsylvania Perelman School of Medicine in Philadelphia.

**Glen N. Gaulton, PhD** is a professor of pathology and laboratory medicine and the director of the Center for Global Health at the University of Pennsylvania Perelman School of Medicine in Philadelphia.

**Citation**

*AMA J Ethics.* 2019;21(9):E772-777.

**DOI**

10.1001/amajethics.2019.772.

**Acknowledgements**

Claudia O. Gambrah-Sampaney, Jesse E. Passman, Andrielle Yost, and Glen N. Gaulton contributed equally to this work.

**Conflict of Interest Disclosure**

The author(s) had no conflicts of interest to disclose.

*The viewpoints expressed in this article are those of the author(s) and do not necessarily reflect the views and policies of the AMA.*