

Team Investment and Longitudinal Relationships: An Innovative Global Health Education Model

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Abstract

Problem

Increasing student interest in global health has resulted in medical schools offering more global health opportunities. However, concerns have been raised, particularly about one-time, short-term experiences, including lack of follow-through for students and perpetuation of unintentional messages of global health heroism, neocolonialism, and disregard for existing systems and communities of care. Medical schools must develop global health programs that address these issues.

Approach

The Global Health Scholars Program (GHSP) was created in 2008–2009 at

Penn State College of Medicine. This four-year program is based on values of team investment and longitudinal relationships and uses the service–learning framework of preparation, service, and reflection. Teams of approximately five students, with faculty oversight, participate in two separate monthlong trips abroad to the same host community in years 1 and 4, and in campus- and Web-based activities in years 2 and 3.

Outcomes

As of December 2016, 191 students have been accepted into the GHSP. Since inception, applications have

grown by 475% and program sites have expanded from one to seven sites on four continents. The response from students has been positive, but logistical challenges persist in sustaining team investment and maintaining longitudinal relationships between student teams and host communities.

Next Steps

Formal methods of assessment should be used to compare the GHSP model with more traditional approaches to global health education. Other medical schools with similar aims can adapt the GHSP model to expand their global health programming.

Problem

Global health experiences have transformative potential for medical students. The reported benefits of international rotations include improved clinical and language skills, increased knowledge of health systems and tropical diseases, and increased cultural competence.^{1,2} Even short trips provide learners with important insights into power dynamics and ethical challenges, the importance of partnerships, and the complexity of global health.³ Accordingly, medical student interest in global health has risen steadily over the past decade.⁴ U.S. medical schools have responded to the demand by increasing both on-campus and international global health opportunities,⁵

such as interest groups, book discussions, journal clubs, half-day seminars, spring break trips, monthlong electives, and curricular tracks.⁶

Despite the growing appeal and availability of global health opportunities, concerns have been raised, particularly about one-time, short-term experiences (e.g., one week to three months). The structure of such one-off electives provides little follow-through for students and may perpetuate unintentional messages of global health heroism, neocolonialism, and disregard for existing systems and communities of care.⁷ Furthermore, the educational design of many international electives (e.g., students traveling alone for a one-time experience) may leave students with questions and concerns that such electives may not be equipped to handle.⁸

Here, we describe and share preliminary outcomes of Penn State College of Medicine's innovative, longitudinal global health program, which was developed to address these issues.

Approach

Global Health Scholars Program (GHSP): Background and structure

In developing global health programming for Penn State College of Medicine, we

sought an approach that valued continuity with the host community and reinforced student participation on teams, both of which are also essential elements of the changing U.S. health care system.

The example that seemed closest to our aims was the Shoulder-to-Shoulder model, which requires participation in a group trip through an organization that works collaboratively over time with an international community on community-generated health projects.⁹ Expanding on this model while addressing some of the perceived shortcomings of one-time electives, in academic year 2008–2009 we launched the GHSP, a four-year program based on the service–learning framework of preparation, service, and reflection.

The GHSP is a medical school track (only the fourth-year elective counts toward graduation requirements) that requires students, called “scholars,” to participate in two trips to the same host community with the same team of scholars (Figure 1). In addition to the first-year trip, the program requires 20 contact hours per year for years 1, 2, and 3. Year 4 consists of online activities and the return trip.

Students apply to the GHSP early in their first semester, submitting formal applications and undergoing structured interviews by senior scholars as well as GHSP site faculty. Selection of

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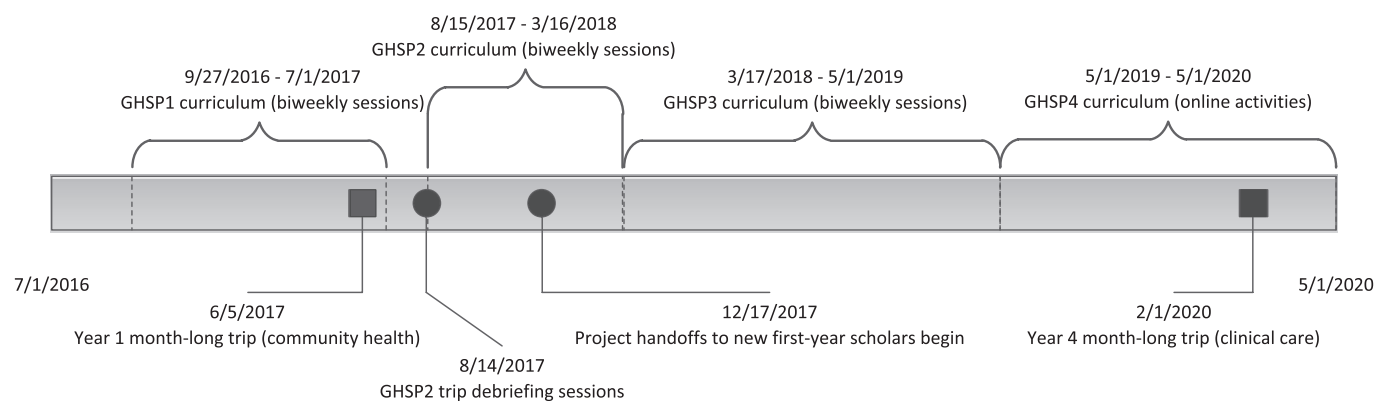


Figure 1 Timeline illustrating the components of the four-year curriculum of the Global Health Scholars Program (GHSP) at Penn State College of Medicine for the 2016–2017 cohort, from matriculation in July 2016 through graduation in May 2020. Abbreviation: GHSP1 indicates GHSP year 1.

first-year scholars occurs midfall, and site assignments are made based on the sites' needs as correlated with a variety of "fit" factors—for instance, students' interest (students rank their top three sites), skills (e.g., language), and prior experience in international settings (some sites are better suited to accommodate students with little or no prior experience).

Working in teams of approximately five students with faculty oversight, scholars participate in a host-identified community health project during two separate monthlong trips abroad to the same community. The first trip, which focuses on community health, occurs at the end of the first year, and the second trip, which focuses on clinical care, takes place during the fourth year. Having encountered and gained an understanding of the socioecological contexts of health and disease through the first immersive community experience early in their training, fourth-year scholars use this understanding as they participate in the second trip's clinical initiatives just before they begin residency. This structure provides a unique opportunity for students to view—and contribute to—a community and its health concerns over time.

Built on the core values of team investment and longitudinal engagement, the GHSP provides scholars with continuity, a committed cohort, and a curriculum that reinforces critical thinking and reflection. To the best of our knowledge, the GHSP is, to date, the only program in a U.S. medical school that provides a four-year, team-based global health opportunity for students.

Operationalizing the GHSP core values: Team investment and longitudinal relationships

The first year of the GHSP curriculum provides 13 one-and-a-half-hour small-group and large-group discussions for the entire cohort, including overviews of global health issues, discussions of global health ethics, and pretrip preparation. Team identity develops early in the first year as scholars regularly meet in their site groups to work on their respective community projects. Team identity is reinforced throughout the first-year pretrip curriculum. For example, as part of "Exploring the Global Burdens of Disease," site groups research and present to the larger cohort the major causes of morbidity and mortality at their site and explain how their community project aligns with the host country's national priorities. The first year culminates with a monthlong faculty-led trip, with a different health or research project at each site. For example, the GHSP–Senegal site focuses on health education and screening for noncommunicable diseases (e.g., diabetes) in urban communities, and the GHSP–Zambia site focuses on malaria and HIV research in a rural community hospital.

The first trip tests the team's cohesiveness, presenting "desirable difficulties" that are ultimately helpful for learning retention.¹⁰ Because individuals encounter myriad challenges (e.g., how to communicate in a foreign language, how to adapt as a racial minority), teams can become a source of strength, helping their members navigate uncertainties. Team identity solidifies further as scholars work together to implement their project effectively.

After returning to campus with a greater sense of investment, scholars in their second year function as team guides for first-year scholars, handing off community health projects and providing introductory sessions on the host community. Through sharing photos, stories, videos, and a site-specific manual created by scholars, they orient their first-year colleagues to the cultural, historical, political, and environmental considerations of the particular communities with which they will work. Second-year scholars meet biweekly to debrief their summer experiences and discuss ethical challenges in global health and the implications of their experiences for their future practices.

Between the first-year and fourth-year trips, the GHSP curriculum encourages scholars to reflect with their team members and others in their cohort on how their first summer trip's experiences have informed their understanding of global health engagement, what they could do to promote collaboration with the host community in an ongoing manner, and how their experiences have influenced their professional development.

Team investment is more challenging to maintain in the third year because of the time constraints—and often geographical separation of team members—presented by clerkships. To minimize these obstacles, third-year scholars sustain their collaboration through online discussion boards and other electronic platforms. For instance, initial planning for the fourth-year return trip occurs via team e-mail lists. As the trip grows closer, teams reunite for an eight-hour retreat devoted to just-in-time clinical skills

sessions and finalizing plans for their work abroad. The four-year program culminates with the team returning to the same host community for a clinically based experience in the winter of their fourth year.

Outcomes

As of December 2016, 191 students have been accepted into the GHSP. Fifty-five (83%) of the 66 scholars eligible have completed the program. The number of first-year students applying to the GHSP has increased every year since its inception—from 8 applicants in 2008–2009 to 38 applicants in 2016–2017, a growth of 475% (see Figure 2). Responding to student demand, we have expanded from our single original site in Ecuador to seven sites on four continents, each with approximately five slots for scholars per year: South America (Peru), Africa (Ghana, Senegal, Zambia), Europe (Croatia), and Asia (Japan, Taiwan). Despite this expansion, we were unable to accommodate all 38 students (25% of the first-year class) who applied in 2016–2017.

Nine years into the GHSP, we have a clearer sense of the strengths and limitations of our attempts to improve upon short-term, discrete global health experiences. Currently, the GHSP is selling itself. Fifty percent of applicants to our medical school cite the global health programming as a chief reason for their interest. In discussions, personal journal entries, and posttrip summaries, students who have become scholars cite the team-based and longitudinal aspects as the GHSP's most important

components. Even so, we have found that operationalizing each core value presents challenges.

Team investment

GHSP team formation provides a sense of ownership within the program and site, serves a supportive function on the trips, and provides a safe community for debriefings, when scholars wrestle with questions about, for example, “medical tourism.”⁸ In the fall of their second year, scholars are asked as a team to critically reflect on their sites and the GHSP curriculum, as well as to recommend pragmatic suggestions for improvement. They are also integral in the selection of first-year students who apply to their sites.

Scholars remain highly engaged in the GHSP until the end of their second year, when their involvement slows as they prepare for Step 1 of the United States Medical Licensing Examination and clinical rotations. Reengagement in the fourth year presents challenges, as scholars are focusing on their residency applications. Nevertheless, camaraderie persists among most teams over the four years. Team investment is a vital element of the fourth-year return trip and contributes to a sense of ongoing legacy (Table 1).

Longitudinal relationships

Of the 55 students who have completed the GHSP, the majority ($n = 45$; 82%) continued to meet—and return to their host country—as teams through their fourth-year return trip. The 11 students who failed to complete GHSP cited

time concerns including residency-application-related demands.

Maintaining longitudinal relationships with the host communities has not always been within the program's control. Two GHSP sites (Kenya and Sierra Leone) were closed for safety concerns, and another site (Ecuador) could not be sustained because of insufficient institutional infrastructure. As a result, only 60% ($n = 33$) of the scholars who completed the program were able to return to the same community for their fourth-year trip, but most ($n = 45$; 82%) were able to return to the same country. These issues notwithstanding, scholars cite longitudinal relationships as a valued linchpin of the GHSP.

Next Steps

The chief limitation of the GHSP is the lack of formal, robust assessment. Although posttrip surveys, required journal entries, and debriefing sessions with scholars support our conviction that the GHSP improves upon more traditional global health models, we must develop rigorous evaluation tools to understand the precise nature of the successes and shortcomings of the program. Furthermore, formal methods of assessment should be used to compare the GHSP model with more traditional models of global health education.

Additional approaches are needed within the GHSP's third and fourth years to further the development of lasting bonds within student teams and between student teams and sites. For 2017–2018,

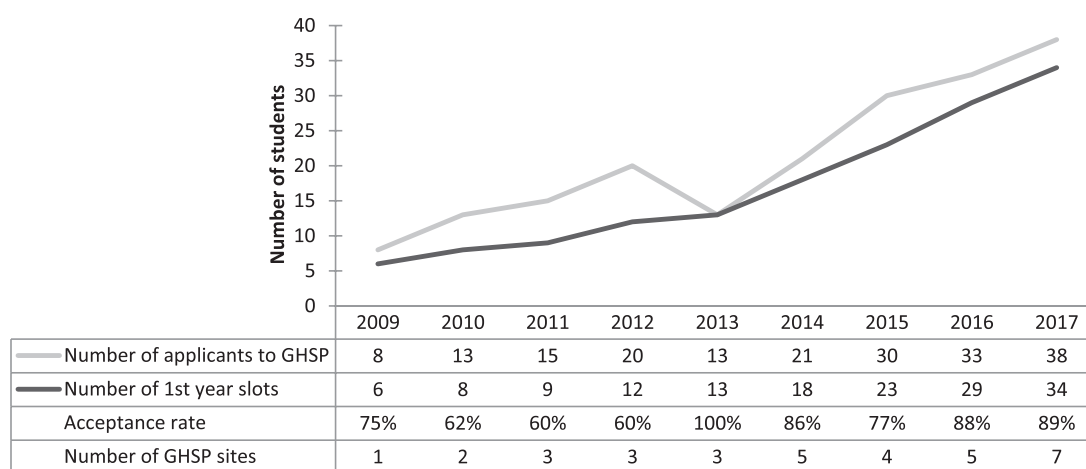


Figure 2 Growth of applicants, participants, and sites for the Global Health Scholars Program (GHSP) at Penn State College of Medicine, academic years 2008–2009 (2009 in figure) through 2016–2017 (2017).

Table 1

Representative Quotations From Scholars' End-of-Year Program Assessments Supporting the Core Values of the Global Health Scholars Program (GHSP), Penn State College of Medicine

| GHSP core value | Representative quotations ^a |
|---------------------------|--|
| Team investment | <p>The most important thing I learned on the trip was teamwork. Our group had to consistently work together for an entire month. Unlike how teamwork is in school, we were unable to get our own time to ourselves. We had long days with one another.... [E]ven with all the frustrations that we went through, I learned how amazingly effective teamwork can be. Having multiple different viewpoints was necessary to overcome the many hurdles we came up against. (GHSP1, 2015–2016)</p> <p>This type of program creates leaders who can come back and share with their classmates what they found. It also creates a great team of students and physicians who together aim to better the health of an impoverished community. (GHSP1, 2013–2014)</p> |
| Longitudinal relationship | <p>I do wonder if my second trip to Ghana may make me feel more committed to Ghana. This is why I'm happy that the Global Health Scholars Program is a continuity program.... I am very excited to return back to Ghana to see how a second experience will influence my viewpoints. (GHSP1, 2015–2016)</p> <p>I learned a fair amount about the local Tonga culture in Zambia by doing home visits through my research project, and I think that by understanding a bit of their culture and their home life I will be able to understand my patients better when I return during fourth year to work in the hospital. (GHSP1, 2015–2016)</p> <p>I feel that I have accomplished my first year goals of "Reciprocity, Experience, Appreciation, Joy." It was critical for me to work on a site that was sustainable and had community investment—one where we had reciprocal collaboration with the community. Along my journey, and particularly with this fourth-year trip, I feel that I have become more confident in my authority to stand for those goals. (GHSP4, 2016–2017)</p> |

^aGHSP1 indicates a first-year scholar; GHSP4, a fourth-year scholar. Date indicate the scholar's academic year; for example, "GHSP4, 2016–2017" indicates a scholar whose fourth year is 2016–2017.

we intend to leverage an existing medical school requirement—third-year humanities small-group sessions that occur every other Friday for 45 minutes. We will form several small groups consisting only of GHSP scholars to help maintain team engagement through the third year. During these reflection sessions, scholars will be prompted periodically to consider a challenging patient experience from their current clerkships and anticipate how they might manage similar circumstances in the host community during their fourth-year return trip.

With seven countries represented in the GHSP sites, we must maximize the exchange of information about culture and health systems that each team has discovered while abroad. For example, beginning in 2017–2018, upon return

each second-year scholar will teach colleagues in small groups about how his or her host country's health system interacts with its culture (e.g., view of death and dying) and social determinants (e.g., poverty), so scholars will hear perspectives from each of the other sites. With a broader understanding of various peoples and cultures, the GHSP should help prepare students to enter the health care workforce where they will encounter a culturally and socioeconomically diverse patient panel. By appropriating lessons learned from other countries, scholars can become more effective change agents within the health care system and their local community.

We believe that the GHSP's longitudinal team-based curriculum, layered on the service-learning framework of preparation, service, and reflection,

can be replicated by other medical schools that wish to expand their global health programming with similar aims. The GHSP has the potential to create transformative, long-lasting experiences that will prepare learners to become members of high-functioning health care teams committed to one another's success and to the community being served, whether abroad or at home.

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