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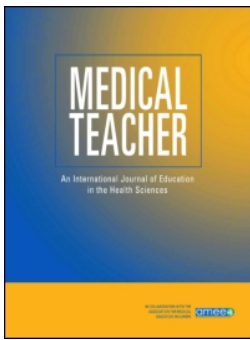
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## Reframing undergraduate medical education in global health: rationale and key principles from the Bellagio Global Health Education Initiative

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## Reframing undergraduate medical education in global health: rationale and key principles from the Bellagio Global Health Education Initiative

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### ABSTRACT

Global health education (GHE) continues to be a growing initiative in many medical schools across the world. This focus is no longer limited to participants from high-income countries and has expanded to institutions and students from low- and middle-income settings. With this shift has come a need to develop meaningful curricula through engagement between educators and learners who represent the sending institutions and the diverse settings in which GHE takes place. The Bellagio Global Health Education Initiative (BGHEI) was founded to create a space for such debate and discussion and to generate guidelines towards a universal curriculum for global health. In this article, we describe the development and process of our work and outline six overarching principles that ought to be considered when adopting an inclusive approach to GHE curriculum development.

### Background

While curricula devoted to global health education (GHE) have been extensively documented in “western,” “northern,” and high-income countries (Margolis et al. 2004; Miranda et al. 2005; Izadnegahdar et al. 2008; Bozorgmehr et al. 2010a, 2010b; Bruno et al. 2011; Peluso et al. 2013; Mitchell et al. 2013; Association of American Medical Colleges 2015), growing evidence suggests that an increasing number of students from low- and middle-income countries are engaging in GHE experiences in high-income countries, other low- or middle-income countries, or in different contexts within their home countries (Abedini et al. 2014; Liu et al. 2015). This broadening of GHE opportunities requires the reconsideration of long-standing assumptions regarding the identity of student participants, the sites of their GHE experiences, and the directionality of these relationships. It requires partner institutions to be mindful in their coordination and implementation of GHE programs to ensure the value and integrity of the associated experiences. It also necessitates a reexamination of the identity and structure of these experiences, including where they take place, how they are developed and executed, and how participants and programs are evaluated.

With these changes has come an opportunity for the institutions and individuals involved in GHE to redefine how curricula are developed. The Bellagio Global Health

### Practice points

- “Core” and “universal” principles in global health education (GHE) make no assumptions about participants in or directionality of GHE experiences.
- GHE occurs at “home” and “away” sites, with different objectives, experiences, and assessment methods.
- Student agency and hidden curricula substantially impact GHE outcomes.
- Transformative learning should be the goal of GHE, and requires novel assessment methods.

Education Initiative (BGHEI) was founded in response to these challenges and opportunities, with a focus on an inclusive approach to develop curricula responsive to and mindful of the diversity of settings in which GHE is practiced.

### The Bellagio Global Health Education Initiative

In June 2015, a diverse group of faculty, administrators, and trainees representing institutions from high-, middle-,

and low-income countries met in Bellagio, Italy under the sponsorship of the Rockefeller Foundation. The conference resulted in the formation of BGHEI (Bellagio Global Health Education Initiative 2016), which represents 16 institutions and organizations, 10 countries – including six low- and middle-income countries (World Bank Group 2015): China, Colombia, India, South Africa, Tanzania, and Uganda – and six continents.

Our initiative aims to help educators broaden their conceptualization and increase the priority that they place on GHE. Its specific objectives are listed in Table 1. Our ultimate goal is to support the development of equitable and ethical opportunities for engaging medical students around the world in GHE and to support the integration of certain principles of GHE into curricula at medical schools worldwide. We refer to this goal as a “universal core curriculum for global health,” as outlined in Table 2. A universal core curriculum for GHE deconstructs many of the traditional assumptions of GHE, including its elective nature and the identities of its students and teachers.

Through small- and large-group presentations and discussions, participants at the meeting explored three foci – core and specialist themes for medical student GHE, teaching methods to implement these themes, and the methodology needed to assess and evaluate teaching and learning in GHE. The primary method by which the results of the conference were generated was the nominal group technique (Van de Ven & Delbecq 1972), a structured means of brainstorming selected to ensure that voices of all partners were valued equally. Subgroups used this technique to answer conference questions, and the results were consolidated, discussed, and agreed upon by the larger group. The detailed methodology and results of the BGHEI meeting are available in an online report (Bellagio Global Health Education Initiative 2015).

**Table 1.** Specific objectives of the Bellagio Global Health Education Initiative.

Focus on what is unique and specific to global health, and, in particular, what should be taught to all medical students regardless of career goals.
Focus, additionally, on advanced/specialized knowledge for a subset of students with a special interest in careers in global health.
Capture universality, that is, propose themes that apply to any student regardless of his or her home site and regardless of his or her away site.
Develop a basic, practical curriculum that would be possible to implement in medical schools around the world.
Foster bi-directionality by paying specific attention to students from low- and middle-income countries participating in global health and not only those from high-income countries.
Emphasize the uniqueness of the experience at the away site.
Design experiences to promote transformative learning rather than to focus on the acquisition of discrete facts.

**Table 2.** A universal core curriculum for global health: definition of key terms.

Term	Definition	Example
Global Health	A field of healthcare rooted in the concepts of health equity, collaborative and multidisciplinary practice, patients and populations, and cross-cultural interactions	A Thai physician providing health care to Burmese refugees, a British physician working at a tuberculosis clinic in London, and a Mexican–American physician overseeing community health workers in Mexico City are all practitioners of global health
Core	Fundamental to the education of all trainees, regardless of specific interest or ultimate career choice	Just as a medical student who intends to pursue a residency in psychiatry must demonstrate proficiency in basic suturing skills, she should also be proficient in identifying health disparities relevant to her patients and the effects these disparities have on their health and healthcare
Universal	Applicable to all trainees, regardless of their country or institution of origin and regardless of the country or institution in which their global health experience occurs	A Ugandan medical student rotating in San Francisco and an American medical student rotating in Uganda should both understand the social determinants of health for patients with HIV/AIDS in their respective settings

## Principles for the development of curricula in global health education

Our group’s understanding of curriculum comprises four dimensions including aims and objectives, content and subject matter, methods, and evaluation or assessment (Scott 2008). We emphasize that GH is rooted in the concepts of health equity, collaboration, and multidisciplinary practice, with simultaneous foci on patients, populations, and cross-cultural interactions (Koplan et al. 2009; Velji & Bryant 2011; Campbell et al. 2012; Peluso et al. 2012). We narrow our focus through the identification of “core” aspects of GHE, which are fundamental to the education of all trainees regardless of their ultimate career choice, and “universal” aspects of GHE, which are applicable to all trainees regardless of their country or institution of origin.

The identification of “core” themes implies that GHE should no longer be seen as optional to the training of medical students, but rather that institutions must ensure exposure to GHE themes for all medical students. An understanding of “universal” themes suggests that GHE must not make assumptions about the identity of its participants. Rather than framing GHE as an opportunity for students from highly resourced settings to work in resource-constrained settings, institutions must frame GHE as occurring in resource-different or culturally different settings.

### Redefining the setting of global health education as “home” and “away”

In order to challenge assumptions regarding the participants in and directionality of GHE, we recommend movement toward a conceptualization of GHE activities as taking place at “home” and “away” sites.

The home site is a student’s primary training institution, regardless of geographical location or health context, and is the point of reference for that student’s medical school training. The home site does not carry assumptions about who a student is or where they are from; instead, it focuses exclusively on the frame of reference in which their primary medical training occurs.

The away site is a location outside of the context, but not necessarily the country, of the home site. It is the site with which the student is unfamiliar, where he or she will be experiencing a culture of health and a healthcare system different from that at the home site. An away site for a Ugandan medical student whose home site is in Kampala could be a tertiary care center in London or a

resource-restricted outreach clinic in the rural southwest of Uganda.

These definitions make no assumptions regarding the origin of the student or directionality of the experience; rather, they emphasize an experience outside the frame of one's home context. These sites must be considered as separate entities when developing a GHE curriculum, and objectives and competencies from the home site do not necessarily easily translate to the away site.

### ***A balanced focus on institutions and students from high-, middle-, and low-income settings***

These principles suggest the need for close collaboration and mutually determined learning goals for medical students when they rotate at away sites. Partnerships between high-income and low- and middle-income institutions are not enough if opportunities for engagement in GHE are limited to students from high-income countries. Reciprocity between institutional partners potentially benefits both institutions (Mutchnick et al. 2003; Tache et al. 2008; Kolars et al. 2012; Bodnar et al. 2015) and ought to be an ethical requirement for the justification of such experiences (Rohrbaugh et al. 2016).

Efforts to elucidate competencies for GHE have generally not included significant input from education leaders in low- and middle-income settings (Haupt et al. 2007; Hagopian et al. 2008; Global Health Education Consortium 2010; Arthur et al. 2011; Ventura et al. 2014; Wilson et al. 2014; Jogerst et al. 2015). Our group explicitly values the expertise of low- and middle-income countries in defining a universal GH curriculum. Curriculum decisions draw on one's conception of learning, which is often informed by dominant practices in one's context (Postareff et al. 2008; Virtanen & Lindblom-Ylänne 2010). Education leaders in different settings may often have differing opinions on fundamental education issues such as whether a curriculum should focus on acquiring content knowledge or on developing student competencies. A universal curriculum should therefore be fully informed by local input both in terms of practical issues like time allocation and on content matters to ensure the inclusion of topics that have relevance for the country concerned.

### ***“Core” versus “specialist” themes in the development of global health curricula***

Traditional concepts like the physician serving a diverse population in her local professional context or the surgeon who works internationally for two weeks each year no longer capture the breadth of career opportunities now available in GH (Nelson et al. 2012). This diversity of careers is evidenced by a proliferation of graduate medical education programs in GHE (Drain et al. 2009; Clement et al. 2013; Hung et al. 2013), postresidency fellowships in GHE (Nelson et al. 2012), the rise of GHE divisions within larger departments, and clinicians with academic careers in GHE (Palazuelos & Dhillon 2016).

Like the Consortium of Universities for Global Health (CUGH) Education Committee (Jogerst et al. 2015), we believe that an approach to GHE focusing on generic elective experiences is inadequate in two ways. First, it fails to recognize that certain principles once seen as unique and specific to GH, such as the impact of health disparities or the ability to communicate with patients from diverse cultures, have now become core to the practice of medicine (Frenk et al. 2010; Arthur et al. 2011). Second, it fails to acknowledge students seeking special expertise in GH because of their career goals. Medical schools should consider designing experiences to accommodate both types of students. As indicated in Table 3, some education themes in GH may have different objectives directed at core and specialist students, and others might only apply to one or the other group.

Ongoing work from our group is focused on best practices for implementing these concepts in diverse settings. Methods for doing so must draw upon available educational resources in each setting, include setting-appropriate methods of teaching and learning, and be tailored to the specific theme in question. For example, methods for including the theme of “Culture” in a curriculum at the home site might involve predeparture workshops and/or discussions between departing and returning students; at the away site they might involve community-based projects, work alongside local students, and structured self-reflection.

Not all themes achieved the same level of support from our group. We also note that we did not achieve

**Table 3.** Illustrative themes for global health education, with stratification into core and specialist objectives.

Theme	Example Core Objective	Example Specialist Objective
Communication	Demonstrate effective use of an interpreter to communicate in a culturally sensitive way	Develop language skills that allow for direct communication with a particular patient population
Culture	Demonstrate humility in interactions with colleagues and patients from a different culture	Understand the application of local traditional medical practices on the health of a population
Healthcare delivery	Work effectively in an interdisciplinary health team to deliver care in a global health setting	Participate in health policymaking at the institutional, organizational, local, or national level
Determinants of health	Recognize the impact of health disparities and health equity on individuals within a population	Engage in advocacy to lessen the impact of health inequities within a global health setting
Burden of disease	Describe the global burden of disease	Understand the local burden of disease and note differences between home and away sites
Practice of global health	Observe and identify ethical challenges in clinical global health	Address an ethical challenge by trying to implement a policy change at the institutional level
Clinical skills	Observe the clinical practice of medicine in a global health setting	Participate in clinical care at the away site, with the eventual goal of practicing independently
Research skills	Summarize the research related to a particular issue of importance within the field of global health	Actively conduct research related to a topic or issue at an away site in global health
Programmatic skills	Describe the structure of or serve as a participant in a program related to global health delivery	Work in the implementation, management, or evaluation of a program related to health delivery
Leadership skills	Serve as an active observer in a global health setting	Seek to have an impact in a global health setting

Note that core and specialist objectives are meant to be substantive but also remain broad enough that they allow adoption and adaptation across diverse educational, political, socioeconomic, and cultural settings.

consensus on the inclusion of some themes, for example, “use of technology” and “medical record keeping.” An approach for the integration of themes identified as important, but not “core” or “universal,” will require further consideration.

### **Acknowledging the hidden curriculum and student agency in global health education**

While a well-organized curriculum for GHE at both home and away sites is important, our group acknowledges the informal and “hidden” curricula (Hafferty 1998) that students experience in the context of GHE. Particularly, at the away site, these components of the learning environment may have substantial impact on educational outcomes. Unscripted cross-cultural experiences are difficult (if not impossible) to plan and control, but their influence must be recognized and should be an area for future exploration in GHE.

Two related principles – student agency and self-directed learning – are also fundamental to GHE. These concepts emphasize that students are responsible, to some extent, for their own education. This is particularly so at the away site, where the educational structures of the home institution may not be accessible or replicable. Development of innovative interventions that harness student agency to achieve education goals must be prioritized. For example, having students maintain journals of their experiences at the away site provides one method to both document these activities and make them more accessible to other students and educators, including those from the home site. These methods provide opportunities for augmenting learning through critical reflection and may provide opportunities for innovative assessment methods like qualitative text analysis. Examples of the concepts discussed in this section are summarized in Table 4.

### **Transformative learning – what global health education should strive for**

Our group emphasizes that themes and competencies, while providing a structural framework by which GH experiences can be organized and implemented, do not completely capture what we believe is unique and exceptional about GHE. This is especially true at the away site, where we recognize the importance of the experience in which a student is isolated and disoriented in a controlled way. He or she encounters experiences within and intersecting with medicine, which challenge his or her personal frame of reference for how the world works. Ultimately, the student reconciles the discrepancies between expectation and experience by challenging and changing his or her worldview, including its cognitive, emotional, and social elements. Encountering this vulnerability in a controlled way through the curriculum could increase the likelihood of students achieving transformative learning (Mezirow 2003), leading to a reframing of their assumptions and perceptions of health, healthcare delivery, and their own career trajectory. Therefore, our group identifies the transformative potential of GHE to develop the “change agents” described by Frenk et al. (2010).

### **Assessing global health education experiences**

The tools used for evaluating educational outcomes at the home site may be insufficient to evaluate students’ performance during GHE experiences at an away site. Reasons include lack of on-site faculty from the home institution or faculty development and training in using evaluation instruments, different relationships between teachers and learners within the healthcare team, and different goals and expectations of students. This is particularly true if curricula aspire to achieve transformative learning. Because of these and other issues, methods for assessing students during

**Table 4.** Description of key concepts in teaching and assessment in global health education.

Concept	Description	Example
Formal curriculum	The prescribed program of educational experiences organized in pursuit of competence in global health	A Canadian medical school designs a global health clinical rotation for its students to work at a clinic in Mexico, including goals and objectives, a set of supervised experiences, and assessment of whether those objectives were achieved.
Informal curriculum	The interpersonal, unscripted curriculum that occurs between and among faculty and students	A Nigerian American medical student on elective in Japan is struck by the way the attending physician she is shadowing interacts with his superiors. She notes that, even on the busiest days, he treats the more senior members of the department with a deep level of respect that exceeds what is typical at her home institution. This causes her to reflect critically on her own interactions with her teachers and supervisors.
Hidden curriculum	The curriculum that the learner experiences, including unintended portions of the curriculum related to institutional, medical, and societal culture	A Thai medical student rotating in the United States observes that the resident she is shadowing decides not to take a lunch break so that she can attend to issues related to care coordination and documentation for the patients on the service.
Student agency	Students who wish to achieve proficiency in global health will likely have to take on a certain amount of active responsibility to optimize their own education	When the supervising clinician for an HIV clinic session does not arrive to the hospital in Rwanda because of a roadblock, a British medical student arranges the opportunity to shadow an HIV community health worker instead.
Reflective learning	Learning that involves self-reflection by participants through critical examination of expectations and experiences	A Colombian medical student rotating in Atlanta writes in a blog about how she is surprised to witness healthcare disparities based on socioeconomic status in the United States.
Transformative learning	Learning that transforms the assumptions and expectations of the learner	An Israeli student rotating in India witnesses efficient, low-cost care delivered at a regional hospital, opening her eyes to the fact that high-quality care can be achieved in settings that are resource-limited and countering her belief that rich resources are a sine qua non for high-quality care.

GHE experiences will likely differ from traditional methods and need to rely heavily on the local context.

Our initiative feels that reflection and debriefing may be particularly important in assessing student outcomes related to the transformative potential of GHE, particularly at the away site. Reflective learning encourages and empowers learners to critically analyze their expectations and experiences, including where the two might or might not intersect (Sandars 2009). For example, encouraging or even requiring a student to keep a private journal during their GH experience, as mentioned above, could enhance learning and processing of information and might improve the frequency and quality of reflection. Formative reflection can take place before, during, and after the relevant educational activity, but its optimal timing and use in summative assessment is unclear (Lumb & Murdoch-Eaton 2014). Debriefing would also ideally take place throughout an activity but may be limited by capacity, especially at the away site. At the very least, we believe students should be debriefed at the end of their GHE experience in order to facilitate processing of their experience and to open an avenue to transformation. Recent work has explored the intricacies of reflection in medical education outside of Western settings (Naidu & Kumagai 2016), and optimal methods of assessment for GHE experiences will be part of our group's ongoing work.

### Questions for further consideration

Our work has generated a number of unanswered questions. How can we best include partners from low- and middle-income settings in defining GHE curricula? How do we successfully integrate interdisciplinary elements into GHE, while also preserving training specific to the role of individual professions? How do we distinguish between students who choose to pursue a career in global health and those who seek something different – and how do we help students find congruence between their individual goals and those of the curriculum? What is the optimal way to structure reflection or debriefing that draws upon student agency, and what are the tradeoffs when reflection is the primary method of assessment?

### Conclusions

The Bellagio Global Health Education Initiative seeks to address limitations in the current landscape of GHE. Here, we have utilized the expertise of participants from low-, middle-, and high-income countries to reframe the settings in which GHE takes place and the goals for students participating in GHE, drawn attention to the hidden curriculum and student agency in GHE, focused on the value of reflection and debriefing as supplements to more traditional methods of evaluation, and argued that maximizing the likelihood that a student will achieve a transformative experience should be a primary goal of GH curriculum designers. We acknowledge the efforts put forth by other institutional, national, and international organizations in the field of academic GH, and assert that a universal curriculum for GH must be a basic, practical curriculum that can be implemented anywhere. Such a curriculum must capture a broad set of themes and also grant diverse institutions the ability to iterate upon those themes in locally relevant and achievable ways.

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### Glossary

**Global Health:** A field of socially responsive healthcare rooted in the concepts of health equity, collaborative and multidisciplinary practice, population-level focus, and cross-cultural medicine.

**Global Health Curriculum:** A set of educational experiences aimed at training medical professionals in the theory and practice of global health, which may be implemented in a home or away context. This may include, but is not limited to, the following: experiences in a classroom setting, experiences in a clinical setting, experiences in a nonclinical health-related setting (e.g. a laboratory, public health institute, governmental or nongovernmental organization, or community setting), self-directed learning, and the informal learning experiences of the learner which occur in pursuit of the above.

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