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Guiding principles for the development of global health education curricula in undergraduate medical education

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Abstract

Background: Global health education (GHE) at undergraduate medical institutions has expanded significantly over the last 30 years, but many questions remain regarding the best practices for the development and implementation of global health programs.

Aim: To identify key themes essential to the development of GHE programs.

Method: We discuss five themes relevant to GHE in the context of existing literature and practice.

Results: The following themes are essential to the development of GHE programs: the definition and scope of GHE, student competencies in global health, the challenges and opportunities associated with inter-institutional relationships, principles for GHE student placements, and the evaluation of GHE programs. We place these themes in the context of current literature and practice, and provide practical guidance on how these themes might be successfully implemented by institutions seeking to develop or refine GHE programs.

Conclusions: Institutions developing or evaluating GHE programs should focus on these themes as they build their global health curricula.

Introduction

Over the last 30 years, there has been a steady increase in the number of American medical students who participate in international clinical experiences outside the United States as part of their undergraduate medical education (Association of American Medical Colleges 1978, Association of American Medical Colleges 2003). At the same time, the Institute of Medicine has emphasized the importance of studying global health (Institute of Medicine 2009), and medical schools have continued to integrate global health topics into their curricula.

Many American, European, and Australasian medical schools offer global health tracks and electives, and the centerpiece of such programs is often an experiential component in which students travel to a foreign country to participate in clinical activities. Despite the popularity of such programs, there exists little widespread consensus about the educational objectives, teaching methods, and means of evaluation for these international clinical experiences. Several years ago, concerned with this lack of consensus, a group of scholars and educators met in Bellagio, Italy, to consider what a global health education (GHE) curriculum might include. Though some time has passed, we feel that the five areas of development that emerged from the discussion have yet to be addressed in a substantial way by those invested in educating medical students around global health issues.

In this article, we present five emergent themes or areas for development that extend from the work at the Bellagio conference in 2008. These themes involve the definition and scope of GHE; student competencies; institutional relationships; principles guiding GHE student placements; and evaluation of GHE programs.[1] Rather than providing specific recommendations for the advancement of these areas, we offer general but clearly defined guidelines for the design,

Practice points

- The definition of global health must be rooted in health equity and focus on the collaborative and multidisciplinary nature of global health, with an emphasis on cross-cultural interactions.
- Both general (universally applicable) and local (site-specific) competencies should guide the development of global health curricula at academic institutions.
- Cultural humility, the concept of respect and curiosity toward cultures other than one's own, is the most important global health competency and must occur at two levels – between caregivers and patients, and between healthcare professionals of different cultures.
- Bidirectional inter-institutional partnerships require supervision and evaluation at both the sending and receiving entities.
- Evaluation at the individual, program, and impact level should be a guiding principle in the development of global health experiences and should include a qualitative component.

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implementation, and evaluation of global health educational experiences for medical students. Our hope is that those who are designing GHE programs will find these guidelines instructive. We will not attempt to repeat a recent literature review (Battat et al. 2010) of approaches to GHE, but will rather use this review and other key literature to develop a basic framework for building curricula.

Expanding the medical education horizon to global health

In September 2008, a conference on "Expanding the Horizons of Medical Education: Global Health and Medicine" was convened at the Rockefeller Foundation's Bellagio Center (Margolis 2009). This conference brought together a diverse group of individuals (including three of the authors) with longstanding experience in global health and GHE to discuss global health in the context of undergraduate medical education. It was structured around five themes (Table 1), each of which was presented from a variety of viewpoints and examined through a nominal group process (van de Ven & Delbecq 1972).

In reviewing the field of GHE since the meeting, we find that the five themes have yet to be addressed in depth by the individuals, institutions, and organizations responsible for GHE. We hypothesize that these themes remain fundamental to the development of GHE programs at institutions around the world. Further, we present these areas and general guidelines for their future development.

Theme 1: Definition and scope of global health

Scholars have struggled for years to precisely define the term "global health." Two major challenges have been the breadth of the definition and the confusion with the term "international health." A recent review by members of the Consortium of Universities for Global Health proposed to define global health as "a field of study, research, and practice that places a priority on achieving equity in health for all people. Global health involves multiple disciplines within and beyond the health sciences, is a synthesis of population-based prevention with individual level clinical care, promotes interdisciplinary collaboration, and emphasizes transnational health issues and determinants (Koplan et al. 2009)." However, this definition has been criticized for not emphasizing strongly enough the role of institutional partners from developing countries (Crane 2011). It has even been suggested that "global health" is a concept fabricated by developed countries to explain what is regular practice in developing nations (Consortium of Universities for Global Health 2008).

If there is going to be any movement toward a more consensual definition of global health, it will be important to distinguish it from "international health." The two terms are often used interchangeably. "International health" was suggested by one of the Bellagio participants to "relate more to health practices, policies, and systems" and "stress more the differences between countries than their commonalities."

Table 1. Central themes of the 2008 Bellagio conference, "Expanding the Horizons of Medical Education: Global Health and Medicine".

1. Definition and scope of global health
2. Global health competencies in undergraduate medical education
3. Relationships between medical schools with international programs
4. Guiding principles for the international placement of medical students
5. Evaluation of global health experiences

By this definition, international health relates more to comparative studies between healthcare systems than to the practice of medicine in a global context.

Though it might be difficult to reach consensus on an all-inclusive definition of global health, we recommend that any emergent definition include a number of key emphases (Table 2). In brief, a workable definition should be rooted in health equity and include foci on the collaborative and multidisciplinary nature of global health (i.e., drawing on knowledge from many relevant disciplines, such as geographic medicine, global preventive medicine, and medical anthropology). A workable definition should recognize practice on both the individual and population levels and include emphasis on cross-cultural interactions, which is further emphasized below in the discussion of cultural humility as a key competency of GHE.

Theme 2: Global health competencies in undergraduate medical education

Lists of global health domains (Houpt et al. 2007) and competencies, including the GHE Consortium Essential Core Competencies (Global Health Education Consortium 2010), have been published previously and can be useful in the definition of competencies for a specific global health experience. However, a recent review of global health competencies as defined by educational programs published in the medical literature indicates remarkably limited documentation of and consensus regarding key competencies in GHE (Battat et al. 2010). It appears that many global health programs have been created before clear learning objectives, goals, and competencies have been established; yet, the optimal situation would be to develop these guiding principles before designing an educational program.

Two broad types of global health core competencies exist – general and local (Table 3). These serve as a useful framework for understanding the goals of GHE programs.

General competencies are those that apply across all sites of GHE around the world, regardless of the country of origin of the student or the country in which the global health program has been implemented. Global health may be too frequently thought of as a unidirectional experience focused on the student from a high-income, developed, or "northern" country. General global health competencies should make no distinction based upon country of origin; that is, they are as important for a student from a low-income, developing, or "southern" country as they are for a student from a

Table 2. Key components of a definition for ''global health''.

1. The principle of health equity, or health for all
2. The global implementation of preventive medicine, public health, and primary care
3. The interaction of the practical disciplines of medicine, allied health professions, public health, and administration
4. The application of a cross-cultural approach that:
   a. is linked to a knowledge base involving various existing disciplines (e.g., medical anthropology, geographic medicine, tropical medicine)
   b. involves the capability to work with practitioners of relevant disciplines (e.g., engineering, agriculture)

Table 3. General and local core competencies for global health.

General global health core competencies
- *Individual competencies*
  - Cross-culture competence
  - Communication and linguistic skills
  - Understanding the geographic burden of disease
  - Problem solving with limited resources
  - Identifying social and environmental determinants of health
  - Recognizing health inequities and their effect on individual health
  - Teamwork and collaborative problem solving
  - Professionalism and ethical behavior
  - Awareness of requirements for global health workers
- *Community competencies*
  - Conducting a limited, population or community-based study
  - Applying knowledge of preventive care
  - Understanding the impact of migration and marginalization on health
  - Understanding key global health ''players''

Local global health core competencies
- Knowledge of local history, culture, social structure, politics
- Understanding local healthcare service structure
- Knowledge of local medical terminology

high-income country. In general, these competencies include those needed by physicians to effectively deliver medical care to individuals and address community and population health problems in a cultural setting that is not their own. General competencies can also be adapted to successive stages of health professional training as the student advances to become a trainee and eventually an independent practitioner.

Local global health competencies, on the other hand, are not universally applicable. They are often site-specific and depend upon the location in which global health is being practiced and the identity and role of the practitioner at that site. For example, a local competency might include the understanding of local medical terminology or the relationship between local physicians and practitioners of traditional medicine. Local competencies can be developed through institutional partnerships and may not be interchangeable with other sites. While they lack the broad applicability of the general competencies, local competencies remain a valuable component of defining the educational goals of a global health experience and comprise much of what will make that particular experience unique.

Regardless of country of origin and skill level, the participants at the Bellagio conference agreed that the most important global health competency is an approach of cultural humility (Tervalon & Murray-Garcia 1998) consisting of respect and curiosity toward cultures other than one's own. This approach is a requirement for effective learning of both general and local core competencies. Cross-cultural humility may be more difficult to achieve between professionals of different cultures than between caregivers and patients, but it is critical in both of these relationships if the student, trainee, or health professional wishes to practice multidisciplinary, cooperative global health.

Themes 3 and 4: Establishing relationships between medical schools with international programs and guiding principles for the international placement of medical students

Themes 3 and 4 are related to the establishment of bidirectional educational programs developed within the context of collaboration between medical institutions. These themes are closely related and will therefore be discussed together.

The benefits and challenges of this type of inter-institutional collaboration have recently become an important focus of the medical education literature (Kanter 2010; Crane 2011) and a great deal of experience has accumulated from international sites for GHE (Balandin et al. 2007) and from inter-institutional partnerships (Margolis et al. 2004). It is important to emphasize the value of these inter-institutional partnerships in terms of achieving the competencies elaborated in Theme 2. They are based upon the perception that an international placement is the best place for a student to learn cultural humility, which is difficult to appreciate in a classroom setting and must be experienced first-hand.

The key component of inter-institutional arrangements for global health is the definition of a clearly structured educational program, with appropriate supervision and evaluation at both the sending and receiving entities. Inter-institutional relationships run the risk of imbalance in the development of the program, with either the sending or receiving component being overdeveloped without regard for the other component. It is therefore crucial that these programs be established in a thoughtful and collaborative way, and for the learning environment to be appropriately supervised and structured. The placement of students as part of these international programs must be based upon an inter-institutional understanding and cooperation that is strengthened by discovering ways in which each of the institutions can help the other. For example, the sending institution may be able to assist with the training of local personnel, while the receiving institution may

Table 4. Key aspects for inclusion in operational guidelines for inter-institutional global health partnerships.

Elements of governance
Benefits of the partnership for both sides
Funding arrangements
Ongoing audit mechanism
Logistics (e.g., housing, transport, insurance, and evacuation)
Mechanisms for information technology
Meetings and publications
Mechanisms for conflict mediation

provide officially recognized clinical tutors to teach visiting students.

Effective inter-institutional collaboration requires transparency, trust, and professionalism in reaching a mutual understanding regarding commitment to a long-term institutional partnership that includes education, research, and service activities. The understanding must encompass a preliminary specification of governance, administration, roles, and responsibilities of the participating schools and also evaluation of the collaboration. As such, there should be an operational, written document that specifies key aspects of the partnership (Table 4). Although none of these requirements for a successful long-term partnership is surprising or original, even a cursory review of the list serves to remind one that to succeed, such partnerships invariably require a great deal of time, hard work, and attention to detail. In addition, it should be apparent that much has to be done in order to bridge the gap between planning and implementation.

Theme 5: Evaluation of global health experiences

While a great deal of literature has been published regarding the implementation of specific programs, very little of it discusses explicitly the means by which such programs are evaluated. Evaluation should be a guiding principle, not an afterthought, in the development of global health experiences for undergraduate medical students. As such, we recommend four key principles, all of which are well-accepted tenets of educational evaluation practice that are rarely applied to the evaluation of global health experiences.

First, each global health educational experience should involve at least three types of evaluation: individual, program, and impact evaluation. For example, individual evaluation might include a written summary of a project involving data collection and interpretation or a supervisor's report on individual performance. Systematic student and staff feedback might be sought to assess the success of the program. Program success can also be measured by performance of successive cohorts on a standardized examination that measures knowledge of key global health concepts or on an objective standardized clinical evaluation that examines skills useful in taking care of patients in low-income settings. Impact on the sending institution, always difficult to measure, might involve examining how the program has affected institutional policy over time.

Second, emphasis in evaluation of learners should use qualitative techniques, such as supervised reflection (Blatt et al. 2007) and narrative medicine (Charon 2004). These techniques can serve as valid methods for evaluation of the student's approach to cultural humility. For example, some programs suggest that students write a reflection paper about their experience that frequently contains content describing how the global health experience has moved the student significantly. This content may be analyzed systematically to determine the nature of a student's experiences on global rotations, which may then be compared with faculty goals for the rotation and with competencies the student was to achieve.

Third, the evaluation framework should attempt to link global health competencies to desired learner outcomes and related objectives. These outcomes may be articulated at the international or community levels. For example, an international outcome might be a percentage of students who continue to work in global health after graduation; on a community level, one might measure the percentage of students working with underserved populations within their own country.

Fourth, specific learner objectives and indicators of achievement are best articulated between learners and mentors at the local level. For example, a particular student might have a special interest in achieving language fluency in the local language or in learning about the history of the area. However, these might not be appropriate objectives for the group of students during the rotation; a program of study and indicators of achievement might be defined for that particular student.

Discussion

The growing emphasis on GHE is occurring within the context of international organizations' heightened focus on the health of world populations through the U.N.'s Millennium Development Goals (2009) and the World Health Organization's Commission on the Social Determinants of Health (2008). The Institute of Medicine also has developed operational recommendations emphasizing global health training in American institutions, modeling respectful partnerships between the United States and lower income countries, and suggesting a 15 billion dollar expenditure on global health by 2012 (Institute of Medicine 2009). Still, none of these reports directly addresses the challenges of educating medical students, trainees, and health professionals who will be the future teachers, researchers, and human links on both sides of respectful global health educational partnerships.

The benefits of GHE have been discussed at length in the medical education literature (Drain et al. 2007) and recent reviews of the GHE literature have demonstrated a number of highly varied educational approaches and methods of implementation for global health programs in both the United States and Canada (Izadengahdar et al. 2008; Battat et al. 2010). However, we suggest that the specific aspects of an individual program matter less than the broad educational principles upon which the program is established. The areas highlighted

above provide a framework for moving towards widespread agreement about the content and nature of GHE, and our discussion about these five areas provides general guidance for designing and implementing GHE programs for medical undergraduates. Many of the key principles can be extended to include graduate medical education programs (Drain et al. 2009).

Two questions can be derived from the goal of globalizing guidelines for GHE: why is global health almost always missing from the undergraduate medical curriculum in the developing world, and should global health be a required subject?

In response to the first question, the point has been made that since issues like malaria and AIDS are major problems of preventative and curative medicine in the developing world, what high-income countries call "global health" constitutes for these countries local public health and primary care. We would argue, however, that many aspects of global health, such as cultural sensitivity, medical anthropology, or geographical medicine, are as important for educating Kenyan, Tamil, or Peruvian medical students as they are for educating North American, European, or Israeli ones.

We feel that the same rationale applies to the question of whether to require all students to learn global health. All physicians who will practice in tomorrow's global environment need to increase their cultural sensitivity, improve cross-cultural communication skills, and develop an appreciation of the effect of major social and environmental factors, such as poverty, on health. The only setting that will change basic student thinking and attitudes towards these issues, and thus will insure an opportunity to reach competency in global health, is a setting outside of the student's zone of cultural familiarity and comfort. While it is frequently argued that any inner city setting in any large city will provide the same opportunity, we would counter that the cultural context in which the inner city operates is in fact the student's own cultural setting that will prevent her from detaching from the familiar in order to attain the global health competencies discussed above.

An integrative view of these recommendations in the context of the existing literature is that effective GHE goes beyond mere site visits or international rotations. Instead, like any clinical educational program, GHE consists of identifying goals and objectives, developing educational relationships, implementing a teaching methodology, and instituting integrative, feasible, and effective methods of evaluation for both the student and the program. GHE involves the incorporation of global health competencies into effective experiential programs that encourage students to develop cultural humility and an understanding of the multi-faceted determinants of individual and population health. These experiences should be integrated with, rather than isolated from, the rest of the medical curriculum and GHE should incorporate its competencies into the overall curricula taught in medical schools. Moreover, voices from medical training institutions in developing countries must always be included in the discussion of global health curricula while moving towards a more global consensus around what GHE should be. Using the general guidance we have recommended to further develop GHE programs, these programs should be equally valid for schools in both developed and developing countries.

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Note

1. Two other areas emerged at the Bellagio meeting but were not completely discussed. These include the question of what role information technology can and should play in the development and enhancement of global health competencies among learners, and the question of how multidisciplinary collaboration could and should contribute to GHE.

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