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CLINICAL CASE
With So Much Need, Where Do I Serve?
Commentary by Cynthia Haq, MD, Heather Lukolyo, MHS, Lauren K. Graber, Mei Elansary, MPhil, Kaveh Khoshnood, PhD, and Asghar Rastegar, MD

State Medical University is working to design and implement an updated version of its curriculum. As part of this new curriculum, the university would like to establish a policy for student engagement in the community. The dean, Dr. Grant, suggests that students need to be active in serving the larger community in which they live and study during their medical training. He emphasizes that this would be an excellent learning experience for the students, inasmuch as he views the urban community where the university is located as a different world from that which the majority of the medical students have previously experienced. Several other faculty members agree with Dr. Grant's opinion.

Ramona, the medical student representative to the committee, agrees that that many of her classmates entered medical school wanting to make a difference and improve the lives of others. She suggests to the committee that both local and international experiences could enhance the new curriculum and students' education. She is intrigued by the opportunity to visit a foreign country for an elective. She suggests to the committee that prospective students look for global health experiences when choosing a medical school. She stresses that she believes that experiences in developing nations provide unique educational opportunities that students cannot get in their local surroundings.

Several of the faculty members express concern over the idea of the university's devoting resources to international electives. They suggest implementing a policy which would not permit students to go on international rotations for academic credit, preferring that they work to address the local need that surrounds them.

Commentary 1
by Cynthia Haq, MD, and Heather Lukolyo, MHS

Suffering, loss, and death are part of the human condition, but physicians today have more knowledge and capacity to address suffering than ever before in history. Accelerated travel and instant access to information make the world feel smaller. Images and stories of the billions of people living in poverty in low-resource settings reveal stark evidence of health and economic disparities. While human suffering has always been present, today we are constantly reminded of the gaps between what we know and what we do. Physicians and health professionals are called to respond to the needs of millions at home and abroad who lack access to basic health care.

The duty to serve those in need despite their economic circumstances and to practice beneficence are foundational principles of medical ethics, but health care needs will always exceed an individual physician's resources. Therefore physicians are challenged to weigh external needs against available resources and their own life circumstances in deciding when and where to serve.

Since medical students are engaged in an intensive education program, their time for elective service is limited, even though working with disadvantaged populations, whether domestic or international, can be an important part of medical education. Through such experience, students can confirm their motivations and build confidence and skills that will be used throughout their careers. Medical students who feel called to serve those in need, however, may be overwhelmed, intimidated, and confused about where and when to begin. How does a student discern the best opportunity for service to the disadvantaged among so many options?

There are many reasons to pursue local service to disadvantaged populations, including proximity, familiarity, and social accountability. Medical schools are best prepared to help local communities due to their proximity, their familiarity with the culture and local conditions, and access to local and regional resources and networks. Medical schools and academic health centers receive numerous benefits from local and regional communities, including income and a steady supply of patients and employees. Without patients from local communities, medical schools would not be able to perform their essential functions—patient care, research, and education. Moreover, medical institutions that are genuinely concerned about societal health cannot ignore problems in their own backyards. Working with local disadvantaged populations helps fulfill a university's ethical obligation to the community in which it resides [1, 2], while promoting a spirit of service, furthering students' skills and confidence in their ability to work with underserved populations, and often sparking interest in additional service both at home and abroad.

The individual student may also have compelling reasons for choosing a local over an international rotation. Students with budget restraints or family needs may find it impossible to study abroad. Residency programs may or may not provide opportunities for global health experience. Local opportunities are more efficient for students, due to low travel time, affordable cost, and easy access throughout the course of their medical training. They are often more closely supervised by faculty and more likely to be sustained and evaluated to assess impact. If we understand that global health concepts transcend borders, and that determinants of health are frequently rooted in socioeconomic conditions, students can gain global health skills by working with medically underserved populations in our own nation.

Given the need in local disadvantaged populations and the advantages for students of volunteering at home, why should U.S. medical students or faculty consider service abroad?

Increases in international travel, trade, and immigration have resulted in more than 1

billion people crossing international borders annually and have enhanced global interdependence for health. Concurrently, U.S. society has become a mosaic of diverse cultures, languages, and health values. Never has it been more important for future health care professionals to understand and experience health in a global context. These factors have contributed to the growing interests of U.S. medical students in global health; the number of U.S. medical students participating in overseas electives increased from 6.4 percent in 1984 to 29.9 percent in 2009 [3]. Restrictive university policies toward international experiences could deter a certain subset of students from enrolling; such policies also send an implicit message that the university does not value or place importance on global health. Many U.S. medical schools are now scrambling to address students' increased interests in service opportunities, grappling with how to prepare students and evaluate these experiences and determining how to balance local and global needs in the context of finite resources.

Research on the impact of global health experience demonstrates numerous benefits, including increased knowledge, changes in attitudes, and enhanced medical skills. Despite the ubiquity of electronic and printed information, there is no substitute for living and working in low-resource settings. There is no replacement for hearing the cries of a mother who has lost her child from a preventable illness or for being present at the bedside of a person who has died in pain. Such experiences leave indelible impressions on the psyches of physicians-in-training that can inspire a lifetime of service. These experiences often have lasting effects on the attitudes and career choices of participants, regardless of whether they plan to work in the U.S. or abroad. Participants recognize that skills in cultural understanding, community health outreach, patient education, illness prevention, interdisciplinary teamwork, and communication are necessary for the practice of medicine in any location [4, 5].

While students may gain these skills through global health experiences, however, they can also be acquired in culturally diverse and impoverished urban or rural regions of the U.S. Therefore, students should be permitted to go on international rotations for academic credit *and* should be encouraged or required to engage in local service learning opportunities. Serving populations abroad, if not balanced with local service, signals a lack of accountability to local populations. Conversely, exclusive service to local populations indicates parochialism and diminishes our ability to address extreme health disparities abroad. These experiences are mutually reinforcing, provide opportunities for sustained services to medically underserved populations, and reflect the social accountability of the institution to address local needs. Service, whether local or global, is based on the principles of equity and access to health care as a fundamental human right; both are manifestations of compassion and concern for the worth and dignity of all.

University policies that are explicitly or implicitly restrictive of service opportunities will limit students' exposure to working with underserved populations, as well as their ability to discover the value and rewards of such work. Commitment to the medically underserved is a driving force in some students' decision to apply to

medical school. Official university endorsement of service learning will help these students feel at home, may encourage them to further their service experience—perhaps taking on leadership roles—and may protect them from the disillusionment many altruistic students experience after entering medical school. U.S. medical school faculty need to respond to the call for increased global health education, being mindful of resource constraints while also serving local health care needs. Cross-cultural and global health training opportunities should be designed and evaluated to ensure that they meet educational goals and are available to all students in U.S. medical schools.

Although early exposure is necessary, it is not sufficient to attract and retain adequate numbers of health professionals to work in medically underserved areas. There are severe current and projected shortages of health professionals willing to serve disadvantaged populations in the U.S. and abroad [6]. Recruitment, good working conditions, and support to retain these physicians and their families will be necessary to ensure sufficient numbers of health professionals distributed according to the needs of populations. Addressing global health needs will require advocacy, training, recruitment, appropriate distribution, and solidarity among a global workforce of health professionals [7].

Wherever it occurs, experience with low-resource, cross-cultural settings can change the course of a physician's career. The lessons that can be learned from caring for disadvantaged patients and communities in domestic and foreign locations are too valuable to be missed. There will be countless opportunities for medical students and physicians to serve disadvantaged communities throughout the course of their careers, but they must be sufficiently experienced, prepared and willing to take them. Socially accountable medical schools should support opportunities for students' learning and service in low-resource settings both at home and abroad.

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Commentary 2
by Lauren K. Graber, Mei Elansary, MPhil, Kaveh Khoshnood, PhD, and Asghar Rastegar, MD

Like Ramona, many students enter medical school with the desire to make a difference, relieve suffering, and improve quality of life for others. Many argue that the qualities of altruism, idealism, and service are essential in physicians. Students must be taught these qualities to meet the needs of their patients [1-3]. Medical students also commonly yearn for more clinical responsibility and ways to use their new knowledge. Academic centers often pair their university's resources and eager medical students with communities in need [3, 4] in the hopes of both engaging students and caring for underserved communities—not only within our inner cities, but also within our medical school neighborhoods and around the world.

In this case, the faculty at State Medical University suggest implementing a policy that would not permit students to go on international rotations for academic credit, preferring that they work to address local health care needs. The impact of globalization, however, has expanded the roles and responsibilities of health professionals, and future physicians will have the responsibility to address inequities in health throughout the world. Thus, medical training cannot be biased toward domestic problems to the exclusion of international experiences but should incorporate a global perspective. Medical schools that have the requisite faculty expertise, resources, and well-established partnerships should offer such training.

"Global health" as a concept emphasizes the notion that the most pressing health issues facing humankind are not bound by international borders and are best addressed from a global (and not from the U.S. or any individual country) perspective. It is distinct from the disciplines of public health and international health in that it not only emphasizes the prevention of illness, underserved communities, and the health of populations, but also "refers to the scope of the problems, not their

locations… global health can focus on domestic health disparities as well as cross-border issues" [5]. Moreover, the global health perspective prioritizes partnership, cooperation, and solidarity among nations in tackling health disparities and needs. These experiences, either local or international, are necessary in medical training, and medical schools must provide thoughtful curricular opportunities to foster the values of altruism, humanitarianism, and social service. In this paper, the term "global health" is used to refer to both local and international experiences undertaken within this larger framework. The term "international" is used to designate activities outside of the United States [5]. International health experiences, when applied within the context of a larger global health framework, provide students with perspectives and skills not otherwise obtained in medical school.

Benefits of Global Health Programs

As discussed in the case, significant health disparities can be found near academic medical centers, presenting important opportunities for learning and service. Students who work in local student-run clinics or homeless shelters "gain firsthand experience about the impact of poverty and homelessness on one's health and well-being" [4]. Prior research has shown that these local community experiences also influence students' perceptions of community health [6], residency program selection, and professional responsibility [7]. As further explained by Buchanan:

> The extreme poverty and need students are likely to encounter in this setting and the opportunity for meaningful interaction with the community make the SRC [student-run clinic] an ideal place to role-model ethical behavior and professionalism, including altruism and respect for all patients [3].

Indeed, the perspectives and skills learned working within local communities are core competencies of medical education.

International health experiences further promote compassion, volunteerism, and dedication to the underserved in low-resource settings [2, 8, 9]. As the world becomes increasingly interconnected, familiarity with different cultures, fluency in different languages, and international health experiences become increasingly constructive. As Shaywitz and Ausiello suggest:

> [S]ince one of the most essential qualities of being a doctor is an interest in helping those who are in greatest need, teaching physicians about the medical problems faced by people in LMICs [low and middle income countries] should be a priority of medical education" [1].

International health experiences increase student awareness of the social, economic, and political determinants of health and interdisciplinary models of health care [2, 8, 10]. One study found that physicians who had an international health experience during medical school were more likely than their physician colleagues to practice primary care, to obtain public health degrees, to work with underserved populations, and to participate in community health activities [11]. A study comparing residents who participated in an international health elective to those who did not found that, after residency, elective participants were significantly more likely to work with

immigrant patients and patients receiving public assistance [12]. International health experiences not only teach medical students more about medicine in another culture, but also show them how to be advocates for different communities in need.

Unlike low-resource settings in the U.S., international health sites often lack basic infrastructure, including access to clean water, sanitation, food, transportation, and routine health services. These settings present unique challenges not otherwise seen by students, including barriers to care, a high prevalence of tropical diseases, and advanced disease states. Without the ability to rely on diagnostic tests, students gain the opportunity to strengthen their clinical and physical examination skills [9].

International experiences further spur activism and outreach within local communities when students return home, encompassing the values of a global health perspective. Clinical models or research learned internationally can inform program development or research in other geographic settings [13]. As the faculty who designed UCSF's Global Health Sciences initiative have written,

> Taking the global health perspective, we are able to draw on similar transnational experiences elsewhere in the world to design and implement studies locally, while intending that what we learn in California will contribute to global thinking on this issue of increasing global importance [14].

Program Development

As there is growing interest in programs with both international and local experiences, medical schools can expect that curricula that incorporate a global health perspective and that value community outreach will attract students with similar goals. When developing such curricula, however, medical schools must establish thoughtful and cohesive partnerships for local and international collaborations. Community perspectives are frequently overlooked in program and research development, but true collaborations provide underserved patients and organizations a way to inform health care initiatives to reflect the needs of their community. Partnerships between U.S.-based universities and collaborating international institutions should be responsive to the competing needs and interests of multiple parties, including students and faculty from both institutions and the larger communities that the institutions serve. Further, the institutions and hospitals that host rotating students often bear a heavy burden in orienting students and attending to their day to day needs, including the time investment of clinical tutors, language translation, housing, and travel arrangements. Appropriate compensation for these efforts is essential to ensure that the partnerships are equitable and remain sustainable [18-19]. Although student rotations per se do not have a significant impact on the care of patients, the institutional partnerships that share the goals of mutual education, training, and capacity building can produce thoughtful programming that benefits both the larger host community and the students on rotation. In addition such partnerships can lead to other mutually beneficial inter-institutional activities such as research collaboration and program development. Continuity of these partnerships enables long-term sustainability and provides

mutually beneficial global health experiences for students and the larger community [18-20].

Students must be prepared for the ethical and clinical challenges specific to working in low-resource settings both in the U.S. and abroad. Because many global health electives are unstructured and poorly supervised, students struggle to determine what role and level of responsibility they should assume. Much of the learning on such rotations occurs through experience rather than self-directed or guided learning [21]. Medical students commonly face ethical challenges when on international rotations, but institutional partnerships can help anticipate and mitigate these conflicts. Students selected to participate in the activities should demonstrate a commitment to careers working with the underserved, and be prepared to undertake the necessary pre-departure training to make such experiences meaningful and mutually beneficial for all parties involved.

Medical school curricula that foster and promote humanitarian and social services within the framework of global health, either locally or internationally, create physicians that share these values. Moreover, student interest in international health experiences is especially encouraging and needed to prepare physicians for careers that address the gross inequities in health care and resources in an increasingly interconnected world.

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