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PUBLIC HEALTH | RESEARCH ARTICLE

Faculty interest and barriers to participation in global health education

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Abstract: *Background:* Global health programs at academic health science centers rely heavily on dedicated faculty for relationship building, host site development, mentoring and teaching. Though faculty are instrumental to the success of global health programs, less is known about the specific characteristics, interests and barriers to global health participation that academic faculty face. *Objectives:* The aim of this study was to assess University of Texas Medical Branch (UTMB) Department of Medicine faculty interest, experience, activities and barriers to participation in global health. *Methods:* We administered an anonymous survey to all Department of Medicine faculty to determine their interest in global health, previous global health experience, global health related activities and barriers to increasing participation. Data was described descriptively. Pearson χ^2 and logistic regression analyses was performed. *Findings:* The majority of faculty were interested in global health (69%) and in the following global health activities: education (74%), research (74%), quality improvement/assessment (66%), and non-faith based medical mission trip (64%). The most commonly cited barriers to participation in global health included funding limitations (49%), lack of protected time (39%) and family obligations (39%). *Conclusions:* Faculty in the Department of Medicine at UTMB expressed high rates of interest in global health activities signifying considerable human capacity for global health. Given the significant barriers to participation of faculty in global health, we must work together as a global health academic community to develop strategies to mitigate funding limitations, protect faculty time and create favorable global health policies.

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PUBLIC INTEREST STATEMENT

Interest in global health among medical students has soared in recent years and has led to the development of global health programs and experiences on medical school campuses country-wide. Though emerging consensus is forming to guide global health experiences, faculty involvement in sustainable global health academic partnerships is crucial. There is a gap in the global health literature regarding the dynamics of faculty involvement in global health programs. We explore academic faculty interest, experience, global health related activities and barriers to participation in global health education. Though faculty interest and previous global health experiences were significant, remaining barriers will require non-traditional arrangements and a fundamental shift in academic priorities.

Subjects: Teaching & Learning; Global Health; Medical Education

Keywords: global health; academic program; faculty interest global health

1. Introduction

Interest in global health at academic health science centers has soared in recent years and driven the development of programs on medical school campuses across the country. According to the American Association of Medical Colleges, nearly one in every three medical students now participates in an international health experience during medical school, and the trend towards global health is not limited to medical students (Association of American Medical Colleges, 1984, 2011; Drain et al., 2007). Multiple studies on resident learners have shown considerable interest in global health among diverse specialties such as primary care, internal medicine, family medicine, pediatrics, radiology, anesthesia, emergency medicine and surgery with the development of global health offerings during training (Bauer & Sanders, 2009; Bazemore et al., 2007; Jayaraman, Ayzengart, Goetz, Ozgediz, & Farmer 2009; Kolars, Halvorsen, & McDonald, 2011; Lungren et al., 2011; Matar, Trottier, Balaa, Fairful-Smith, & Moroz, 2012; McCunn et al., 2012; Morton & Vu, 2011; Nelson, Lee, Newby, Chamberlin, & Huang, 2008).

The concept of “global health” is a unique entity, distinct from “public health” or “international health.” The Consortium of Universities for Global Health (CUGH) Executive Board has created a consensus-based definition of global health as “an area for study, research, and practice that places a priority on improving health and achieving equity in health for all people worldwide. Global health emphasizes transnational health issues, determinants, and solutions; involves many disciplines within and beyond the health sciences and promotes interdisciplinary collaboration; and is a synthesis of population-based prevention with individual-level clinical care (Koplan et al., 2009).” This broad view of “global health,” thus includes a diverse array of academic activities ranging from traditional research and education to capacity building and health systems strengthening.

Over the past several years, there has been an emergence of global health education literature focused on programmatic topics such as learner competencies, ethical frameworks of collaboration, and the nature of international partnerships (Ablah et al., 2014; Crump et al., 2010; Loh et al., 2015). While medical students and post-graduate trainees drive the demand for global health education, the quality of their supervision and the impact of academic partnerships are heavily dependent upon the relationship between the “sending” university and the “host” partner (Kerry et al., 2011). Those relationships are frequently established and cultivated by individual faculty members (Eneriz-Wiemer, Nelson, Bruce, & Chamberlain, 2012; Saba & Brewer, 2008). For the purposes of this manuscript, we use “faculty” to refer to individuals with the rank of instructor, assistant professor, associate professor or professor who are employed by an academic health science center. Faculty members frequently serve as educators and mentors to learners interested in global health. Thus, the success of global health programs largely depends upon the level of faculty involvement.

The trend of increased interest in global health among medical students and residents is well documented, but far fewer data are available regarding faculty interest and participation in global health. A 2009 study from the Medical College of Wisconsin found that 63% of faculty members were interested in global health and factors such as time, money and lack of mentorship were the highest ranked barriers to global health participation (Bauer & Sanders, 2009). In a study on physician leaders who had received unique career development from the Robert Wood Johnson Clinical Scholars Program, 44% of physicians participated in global health. However, the majority of those global health participants (>70%) engaged in global health work on an ad hoc, part-time basis instead of as an important component of a global health career (Greysen, Richards, Coupet, Desai, & Padela, 2013). The predominant barriers cited were family/personal considerations, career development and funding challenges (Greysen et al., 2013). Faculty in university settings appeared to have lower rates of global health experiences than physicians in other settings (i.e private, NGO,

foundation) (Greysen et al., 2013). Consequently, it appears that academic faculty may face additional or a different set of challenges that may impact their global health involvement.

Increasing faculty involvement can deepen the impact of academic global health partnerships, cultivate individual relationships and augment the potential for sustained research and educational efforts. Given the importance of academic faculty participation in global health, recent studies are beginning to address the barriers to participation in global health. Understanding such barriers can inform potential solutions to increasing faculty participation among those interested in global health.

1.1. Global health at the University of Texas Medical Branch

Since its origins in the late 1890s as the first medical school in Texas, The University of Texas Medical Branch (UTMB) has provided training to health professionals to work with vulnerable populations at home and abroad. The UTMB Center for Global Health Education (CGHE) provides interprofessional learning opportunities on campus while working with long-term partners to provide safe, well-supervised, and meaningful international electives for our learners.

Global health partnerships are at the crux of our program and center on equity, mutually beneficial goals and strong faculty commitment. Field sites in Kenya, Uganda, Peru, and the Dominican Republic provide global health experiences for trainees who in turn participate in research or community health projects developed in collaboration with our international partners. Though the placement of students at field sites is a component of many of our international partnerships, it is not the only or largest component. UTMB faculty collaborate with international partners on research (i.e. basic science, clinical, population health), clinical care delivery, health systems strengthening, program evaluation, education, advocacy, public health and policy. As such, responding to the needs of our international partners requires a large pool of UTMB faculty with a wide range of skills, interests, experience and knowledge. Though there is tremendous support of global health in the Department of Internal Medicine (DIM), less than 10% of our 150 faculty members are registered as supervising mentors in the global health program. While we recognize the transdisciplinary nature of global health, our current evaluation is limited to DIM faculty.

In this paper, we describe the results of a formative program evaluation performed at UTMB among DIM faculty members. The objectives were to assess global health interest and past experience among academic faculty members, to determine the factors that affect interest in global health activities, and to describe associations between faculty characteristics and interest in global health activities. The results of this evaluation provide an assessment of institutional human capacity for global health, barriers to global health participation and contribute to a growing body of literature surrounding challenges to academic global health program planning.

2. Methods

We surveyed DIM clinical faculty at UTMB to determine their interest in global health, previous global health experience, global health related activities (current and previous) and barriers to increasing participation in global health.

2.1. Selection and description of participants

We administered an anonymous, web-based survey to all 150 DIM faculty members at UTMB on January 28, 2013. The survey was open until March 1, 2013 to optimize the response rate. No unique identifiers were collected.

2.2. Technical information

We designed a survey instrument to assess faculty experience and attitudes towards participating in global health experiences. A focus group consisting of global health faculty and staff at UTMB developed and piloted the survey instrument. The instrument first assessed interest and experience with binary responses. Respondents then indicated the type of past global health experiences. Data

regarding faculty interest included the amount of time they would be willing to commit to supervision, geographic regions of interest, and types of global health experience that they would consider participating in. Respondents then selected from a list of potential barriers to participation in global health experiences. SelectSurvey.net software was used to administer and evaluate the survey.

2.3. Study variables

Participants were asked about the following variables: academic position, division, activity constituting the greatest amount of time, interest in global health, experience in global health, types of global health activities in which they have participated or in which they would like to participate, duration of time commitment to travel abroad, region of interest, barriers to increasing participation in global health and additional comments on barriers and/or potential solutions. See Appendix A for study variables and survey response types.

Questions were structured as answerable with yes, no, selection from list, open-ended or used a 5 point Likert scale. No identifiable demographic information was collected. As a programmatic evaluation, this project was deemed not to require IRB review by the Human Subjects Protection Program at UTMB.

2.4. Statistics

Data were analyzed descriptively. Pearson χ^2 tests were used to assess difference in global health interest by respondent characteristics. Descriptions of responses for types of global health interest, global health activities ever engaged in, barriers to global health engagement, and global region of interest are given in respective tables and figures. We assessed whether specific interests varied according to primary academic focus using logistic regression tables, controlling for primary vs. non-primary care. Where significant differences were found, they are reported. All hypothesis testing assumed significance at a p -value of < 0.05 . Stata Statistical Software release 13 was utilized for data analysis (StataCorp. 2013. College Station, TX: StataCorp LP).

3. Results

Seventy faculty members out of 150 responded to the survey for a response rate of 47%. Faculty characteristics are described in Table 1.

Overall, 69% of respondents indicated an interest in global health. Gastroenterologists were least likely to report an interest in global health (13.1%, 95% CI: 31.9–88.1%). All infectious disease specialists indicated interest in global health. Most specialties, however, showed at least 50% or higher interest in global health activities. Similarly, the majority of respondents across academic ranks and primary academic foci reported an interest in global health. No significant differences were found in expressed interest across specialties, academic ranks or primary academic focus via Pearson χ^2 .

Figure 1 shows the types of global health interest, and the average rate of interest as registered on the 5-point, Likert-type scale. The 5 areas of greatest interest were education, research, quality improvement, non-faith-based trips, and public health. The areas of least interest were maternal-child health, faith-based trips, long-term assignments, advocacy and policy work. A secondary t -test compared the equivalence of the average responses for the top 5 and lowest 5 areas of interest. They were found to be significantly different (t value: 8.66; two-sided p -value: < 0.001).

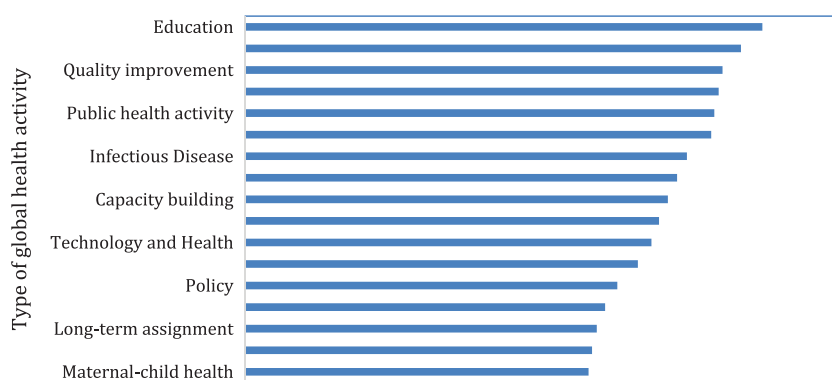
Participation in medical mission trips, policy work and quality improvement activities significantly differed between researchers and educators/clinicians. Researchers had three-times the odds of expressing interest in each of these activities compared to non-researchers with OR: 3.59, 95% CI: 1.11–11.59 for mission trips; OR: 3.26, 95%CI: 1.16–9.12 for policy interest; OR: 3.74, 95%CI: 1.09–12.81 for quality improvement interest.

As shown in Figure 2, the most common 5 activities in which respondents had engaged previously were research, infectious disease work, faith-based trips, maternal/child health work and capacity

Table 1. Baseline characteristics of faculty respondents

Division/Specialty	Number of respondents	Interested in global health (%)	χ^2 (p)
General internal medicine	7	42.86	11.17 (0.34)
Allergy/immunology	5	60	
Cardiology	3	66.67	
Endocrinology	12	75	
Gastroenterology	15	13.1	
Geriatrics	4	75	
Infectious diseases	12	100	
Hematology/oncology	3	33.33	
Nephrology	1	1	
Neurology	3	66.67	
Rheumatology	2	50	
<i>Academic rank</i>			
Professor	28	64.29	1.12 (0.772)
Associate professor	13	76.92	
Assistant professor	25	68	
Instructor	1	1	
<i>Primary academic focus</i>			1.27 (0.74)
Clinical	33	69.69	
Research	14	78.57	
Education	12	58.33	
Administrative	7	71.43	

Figure 1. Interest in global health activities by degree of interest (n = 43).



Likert score measuring interest (0= no interest; 4 = most interest)

building. The least common 5 activities in which respondents had engaged previously were quality improvement, socio-economic development, education, technology and health, and advocacy work.

Figure 2. Global health activities ever participated in, by percent affirming (n = 70).

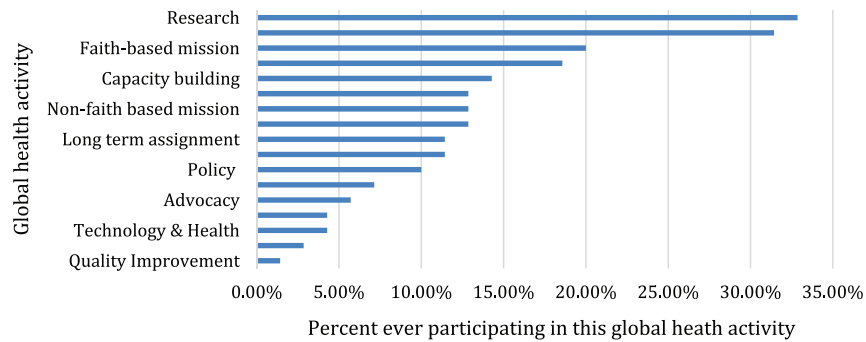


Figure 3. Global region of interest, by percent affirming (n = 70).

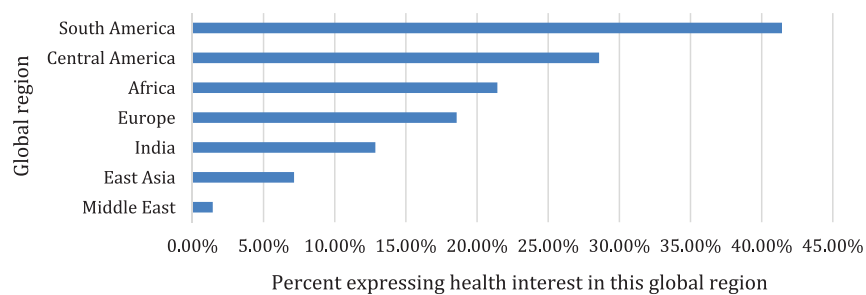
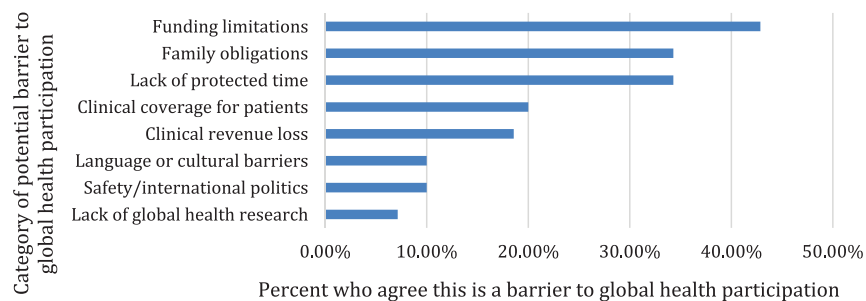


Figure 4. Barriers to global health participation, by percent affirming.



As seen in Figure 3, most respondents were interested in South or Central America, Africa or Europe. Fewest respondents were interested in the Middle East, East Asia or India.

Figure 4 shows reported barriers to global health activity. The top three barriers were funding limitations, family obligations and lack of protected time. The least reported barriers were lack of global health research, language or cultural barriers, and safety or international politics.

Table 2. Faculty barriers to global health participation and potential solutions

Barriers	Potential solutions
Clinical coverage for patients/loss of clinical revenue	<ul style="list-style-type: none"> • Establish a practice sharing model • Utilize mid-level providers • Hire locum tenens providers
Funding limitations	<ul style="list-style-type: none"> • Partner with private institutions, organizations or companies to work on specific projects • Allow for donor funds and endowments to be earmarked for global health activities • Improve competitiveness for external grants by providing internal grants for global health
Lack of protected time	<ul style="list-style-type: none"> • Develop academic global health career tracks • Establish global health full time equivalents (FTEs) • Create disease specific Centers of Excellence • Integrate global health into the essential missions of the institution
Lack of global health research	<ul style="list-style-type: none"> • Provide mentorship for early career investigators • Build and streamline the administrative infrastructure for research in procuring internal and external grants relating to global health • Provide institutional pilot grants that promote cross-disciplinary collaboration • Collaborate with regional, national and international academic partners • Establish a global health research record
Language or cultural barriers	<ul style="list-style-type: none"> • Orient faculty to country specific issues of cultural sensitivity, language and customs • Connect faculty to on-the-ground host faculty early and often • Provide language training and/or translator services
Family obligations	<ul style="list-style-type: none"> • Provide family-friendly host site arrangements • Allow for flexibility in the duration of international commitments • Invest in technology to enhance communication with family at home
Safety or international politics	<ul style="list-style-type: none"> • Employ a host site coordinator as a in country liaison • Encourage registration with the country embassy • Require evacuation insurance, such as that provided by International SOS • Develop administrative infrastructure in country to deal quickly with emergencies

Involving faculty members in global health activities will require unique and innovative approaches towards time and effort allocations as summarized in Table 2. For example, a practice-share model for faculty may diffuse clinical responsibility and create a system of sharing a panel of patients such that faculty can cover one another while participating in global health activities. Engaging researchers to collaborate outside their labs and departments can help mobilize untapped capacity to participate in broader, more transdisciplinary global health initiatives. Advocating for institutional commitment to global health and the development of alternate global health career tracks may attract more competitive faculty and assist in building global health programs (Greysen et al., 2013; Palazuelos & Dhillon, 2015). This will require proactively countering the “global health tax” where faculty support their global health efforts through unfunded and largely volunteer work (Palazuelos & Dhillon, 2015). Strategies that can provide young faculty with much needed career mentorship and paths to sustainability will be key. As academic medical centers have vast expertise, engaging faculty to pursue global health endeavors will necessitate breaking down the institutional silos to create a culture of greater collaboration (Pinto et al., 2014). Some academic healthcare centers have formed disease-specific “Centers of Excellence” to leverage existing faculty expertise to build capacity at a host institution in a resource-limited setting (Nelson, Kasper, Hibberd, Thea, & Herlihy, 2012). Finally, protecting and funding faculty time to engage in global health will need to become an institutional and administrative imperative.

4. Discussion

This paper adds to a growing area of literature that is focused on global health program design, implementation, and evaluation. While less than 10% of DIM faculty members at UTMB are actively engaged in the global health program as mentors, over two-thirds reported an interest in participating in global health activities. We found higher rates of overall faculty interest in global health among academic faculty than previously reported (Bauer & Sanders, 2009; Greysen et al., 2013). The expertise of such faculty was most commonly in education, research, and non-faith based medical missions which represents a large cohort of individuals who can be involved in global health related relationship building, education, mentoring and supervision. Our analysis demonstrated there were no significant associations between academic position, subspecialty, or previous experience and interest in global health. These results suggest that global health programs could enrich the depth, scope, and impact of their collaborations by involving diverse faculty members from all specialties and sub-specialties.

Overall, UTMB DIM faculty were interested in global health-related education, research and quality improvement/assessment. Such activities are well aligned with trends in global health and represent opportunities for collaboration with existing international host partners. Most faculty prefer short-term assignments, which can jeopardize the sustainability of long-term global health partnerships, programs, projects and research (Yang, Farmer, & McGahan, 2010). However, overlapping faculty members at international sites has been shown to be effective in several other programs (Eneriz-Wiemer et al., 2012).

Significant barriers exist to increasing faculty participation in global health. Our study shows that faculty barriers include funding limitations, lack of protected time, and family obligations. The few other studies assessing faculty barriers found time, funding, lack of mentorship and lack of career development as the significant challenges (Bauer & Sanders, 2009; Greysen et al., 2013). Though it is a single-center program evaluation, our results may be generalizable to academic faculty more broadly as many United States institutions face similar competing pressures (Eneriz-Wiemer et al., 2012).

The non-governmental, governmental, public and private sectors are also developing innovative approaches to recruit and retain skilled global health talent. The Global Health Service Partnership (GHSP) is a public-private and governmental partnership aimed at strengthening health systems abroad. GHSP has been successful in recruiting physicians, including academicians, for yearlong

global health posts. Offering debt repayment for early career physicians has assisted in easing the financial burden of their participants. Mullan and Kerry have proposed a “sabbatical corps” as a strategy for providing sustainable academic faculty engagement during a sabbatical year. Though academic faculty face unique challenges to participation in global health, the NGO, governmental and public-private sectors may be able to offer novel solutions for academic institutions (Mullan & Kerry, 2014).

Similar to other studies of comparable design and content, this study was limited by the potential for volunteer and recall bias (Bauer & Sanders, 2009). Respondents more inclined towards global health may have been more likely to complete the survey. Obtaining further demographic information may have been useful to assess any other associations; however, given the department and individual division sizes, we did not want to collect any information that may have allowed for individual identification. Selection bias could not be excluded with the methodology of the study. Additionally, though traditional response rates for online surveys are 40%, response rates for academic faculty are historically low with rates ranging from 28 to 35% (Bauer & Sanders, 2009; Cunningham et al., 2015; Koplowitz, Hadlock, & Levine, 2004; Sheehan, 2001).

In the current uncertain economic climate facing hospital administrators, clinicians, researchers and educators, arriving at sustainable solutions that allow interested faculty to engage in global health work will be a difficult but not impossible task. More institutions must share their approaches for protecting faculty time for global health such that all may benefit from the experience of others and avoid similar pitfalls. Further studies must determine the feasibility and acceptability of possible solutions.

This program evaluation demonstrates that there is a high level of interest in global health among DIM faculty at UTMB. It suggests that global health opportunities should not be limited to trainees. In this single-center study, the majority of interested faculty already have a wealth of global health experience. However, addressing barriers such as funding limitations, time and family obligations will require innovation within a framework of transparent institutional support.

Global health programs can benefit from involving more of their academic faculty members in collaborations with international partners, teaching of medical student and resident global health curricula, and mentoring learners interested in global health. By performing an assessment of interest and barriers to participating in global health activities, other programs can also find strategies that involve a greater number of their faculty. The future of the academic global health enterprise will depend on how we collectively rise to meet these challenges.

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Competing interests

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Appendix A.

Study variables, prompts and response types

Measure	Prompt	Response type
Academic position	Select your academic position	Multiple choice
Clinical division	Select your department	Multiple choice
Activity constituting greatest amount of time	Select the activity which constitutes the greatest proportion of your position	Multiple choice
Interest in global health	I have an interest in global health	Binary
Experience in global health	Which of the following global health activities have you ever participated in?	Multiple choice
Types of global health activities	If presented with the opportunity, I would be interested in the following global health activities	5-point Likert scale
Duration of time commitment	What is the longest period of time you would be willing to spend abroad?	Multiple choice
Region of interest	Please indicate your geographic region of interest.	Multiple choice
Barriers to participation	Select the top three issues which represent the most important barriers to increasing your participation in global health	Multiple choice
Barriers to participation	Please provide any additional comments on barriers to global health participation and/or potential solutions	Open response



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