Global Health in Family Medicine Residency Programs: 
A Nationwide Survey of US Residency Directors: A CERA Study
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BACKGROUND AND OBJECTIVES: Interest in global health (GH) has increased significantly among medical trainees in the past 3 decades. Despite the potential for family medicine to be a major contributor to GH, there are no recent, large-scale studies of GH education and experiences in family medicine training. This study was designed to assess current opportunities, educational activities, resident interest, perceived program benefits, and barriers to international and domestic GH training in US family medicine residencies.

METHODS: Data for this study were elicited as part of a 2015 survey conducted by the Council of Academic Family Medicine (CAFM) Educational Research Alliance (CERA). The nationwide, web-based survey was sent to 452 family medicine residency program directors.

RESULTS: A total of 257 program directors completed the GH portion of the survey. A total of 74.3% of programs offered international or domestic GH experiences. Program directors identified preparing physicians to practice underserved medicine and teaching community medicine or public health as primary goals for GH training. Program directors also reported that GH opportunities were important for attracting future residents. Programs offered a variety of preparatory activities to their residents. Funding and time constraints were identified as the primary barriers to GH training in residency.

CONCLUSIONS: Global health continues to be a focus of interest in the training of family medicine residents while attracting the passion of student applicants and residents.

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to meet the needs of an increasingly diversified domestic population that includes millions of immigrants and refugees for whom the United States has become home.4,15,16

Despite the potential for the specialty to be a major contributor to GH,3 a 1998 national survey of family medicine residency programs showed that “only 15% of programs provided significant financial support for residents involved in international health.”11 Financial constraints, both for the participating resident as well as for the residency program, are identified in nearly every study as chief barriers to GH activities during residency.4,7,10,17 In addition to financial concerns, curricular constraints, coverage of program responsibilities during prolonged absences, ACGME requirements for continuity care of patients, and liability issues are reported as major barriers to supporting GH experiences in residency.4,6,17

To explore the current scope and content of GH opportunities for family medicine residents, we developed a series of questions that were included in the 2015 family medicine residency directors’ survey sent by the Council of Academic Family Medicine (CAFM) Educational Research Alliance (CERA). Our specific survey objectives were to understand: (1) the current GH experiences provided at family medicine residency programs, (2) the preparation of family medicine trainees to do GH work, (3) the barriers to GH training as experienced by residency programs, and (4) the importance of GH opportunities in resident recruitment.

Methods
Our survey questions were part of a larger omnibus survey conducted by CERA. Survey questions were the result of a literature review and consultation with experts in the field.6,11,12,18 For the purpose of this survey, we utilized the existing definition of GH as “an area for study, research, and practice that places a priority on improving health and achieving equity in health for all people worldwide.”7,12 In addition, GH activities were further classified by geographic location as either domestic or international activities. Domestic GH experiences were defined as GH activities that occur within the United States and its territories while international GH activities were defined as those that occur outside of the United States and its territories.

The CERA steering committee evaluated questions for consistency with the overall sub-project aim, readability, and existing evidence of

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<th>Table 1: Respondent Characteristics and Global Health (GH) Experiences</th>
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reliability and validity. Pretesting was done on family medicine educators who were not part of the target population. After pretesting, questions were modified for flow, timing, and readability. The project was approved by the American Academy of Family Physicians Institutional Review Board. Data were collected between January and March of 2015. The survey was sent to all US family medicine residency program directors as identified by the Association of Family Medicine Residency Directors (AFMRD). Email invitations to participate were delivered with the survey available through the online program SurveyMonkey.* Two follow-up emails to encourage nonrespondents to participate were sent after the initial email invitation.

**Results**

The full CERA survey was sent to all 452 family medicine residency program directors and had an overall response rate of 60.6%. The GH section of the survey was completed by 257 program directors (56.9% response rate). Table 1 shows the respondents’ characteristics and the prevalence of GH experiences.

**Global Health Experiences**

The vast majority of program directors (74.3%) reported that their residency offers international and/or domestic GH experiences. All subsequent analysis presented in this paper, with the exception of data concerning barriers to GH, was conducted using responses for programs with GH offerings. Program directors who indicated that they did not offer GH activities were redirected to the final question in the survey section (barriers).

When asked about their residents’ international GH activities during their 3 years of training, only 186 of the 257 program directors responded. From this group, 44% (82/186) reported that less than 20% of their residents participate in international GH activity. An additional 29.5% (58/186) of programs had between 21% and 40% of their residents participating in international GH activities. Similar results were found for program faculty participation in international GH activities during the past 5 years. Figures 1 and 2 show the distribution of resident and program faculty participation.

Eighty-two percent of programs with GH activities offered domestic experiences to their residents. When asked to identify the primary type of domestic GH experience offered, 56% of program directors indicated community clinics serving a larger population of immigrants, refugees, or Native Americans. Program directors also identified health and social service programs (22.7%), student- or resident-run clinics (10%), and outreach programs/health fairs serving immigrants, refugees, or Native Americans (9.3%).

When asked to identify the primary goal for offering GH experiences, program directors most frequently chose preparing physicians to practice underserved medicine in the United States (41.1%) and teaching community medicine or public health (26.8%). Attracting residents was the next most commonly selected goal (13.7%), followed by preparing physicians to serve in developing countries (11.0%). Attracting or retaining faculty was identified as a primary goal by less than 1% of programs.

In almost half of the residency programs (47.5%), participants paid for their own expenses related to international GH activities. Another one-third (35.9%), participants split the cost with the residency or institution. An additional 8.8% and 6.6% of residency programs paid for the trip outright or utilized special grants, respectively. Finally, donation and fundraising were mentioned as other sources of funding by a few participants.

**Global Health and Resident Recruitment**

Among all the “selling points” that their program has to offer, GH received a median rating of 6 (interquartile range 4–8) on a scale from 0–10 (with 10 being the highest value). Program directors report that a median of 49.2% of their student applicants expressed interest in GH during the recruitment process. When evaluating their own residents, program directors estimated that 28.9% of their residents’ ranking decisions were positively influenced by GH opportunities at their program. Figure 3 shows the responses of program directors when asked to estimate interest among applicants and program residents.
Preparing Residents for Global Health Activities

The vast majority (89.0%) of the residency programs offering GH experiences provided some type of preparation prior to international activities. Directors of these programs were asked to identify the most important type of preparation they provide. Nearly half (48.8%) identified individual mentoring as the most important offering, followed by lectures or conferences (26.5%), travel health consultation (8.0%), required readings (4.9%), online modules (4.3%) and safety training (4.3%).

Almost all residency programs (96.8%) offering GH experiences had some type of formal evaluation for the residents. The most common format was international supervising physician evaluation of resident performance (53.8% of programs). Other formats for assessment included disseminating the experience through scholarship or “presentation” in 15.8%, resident self-assessment and reflections in 15.2%, resident’s home program mentor/advisor evaluation in 14.1%, and peer evaluations in 0.5%.

Of the residencies that offered GH experiences, 85.1% reported also incorporating GH into their program’s formal curricula. Among these residencies offering formal activities, didactic lectures were the main format in 61.3% of programs, followed by small-group discussion in 25.6%, and online modules in 6.9%. In addition, assigned readings and journal clubs were the main format in 3.8% and 1.3%, respectively. Curricula primarily focused on cultural and language competency and public health in 32.4% and 30.9% of programs, respectively. Other programs’ main emphases were curricular elements including infectious disease (13.2%), minority health (10.3%), and travel medicine (9.6%).

Finally, the overwhelming majority of residency program directors (98.4%) approve using online resources for their residents to help prepare them for GH work and assess their skills.

Barriers to Global Health

Cost or lack of funding was identified by 53.5% of program directors as the biggest barrier to offering GH experiences in residency training. Figure 4 shows the main reported barriers to offering GH activities in residencies.

Discussion

Our survey shows that almost 75% of family medicine programs now offer global health experiences. This finding is consistent with the continued interest in GH among undergraduate and graduate medical education programs. Domestic GH experiences, an area that has not been examined in prior surveys, appears to be an appealing option for many programs. Many residencies have become the providers of health care services to an increasingly diverse population of immigrants and refugees.

Similar to the 1998 survey, the majority of program directors named the primary focus of GH experiences as training residents to build skills to serve communities in the United States. Preparing physicians to serve...
in developing countries, on the other hand, only came forth as a primary focus among 10% of survey participants. These numbers speak against the perceptions of GH as a rescue mission or heroic effort. We believe hosting communities are not just recipients of services; they are also providers of learning experiences. International GH experiences are mutually beneficial activities for both the visiting group and the hosting communities.

Program directors identified GH activities as valuable selling points in attracting candidates. Half of all applicants inquired about GH during interviews. Nearly one-third of the residents who made the decision to join programs were influenced by the GH opportunities. These data demonstrate high levels of interest in GH among the next generation of physicians and should encourage residency programs to develop GH experiences that appeal to future family physicians.

The vast majority (almost 90%) of residency programs with GH experiences now offer formal learning activities to prepare residents. This significant increase compared to 1998 is not surprising considering the emphasis on structured curricula by medical education regulating bodies (eg, ACGME/LCME) as well as professional organizations. In 2010, for example, the American Academy of Family Physicians (AAFP) revised and approved Recommended Curriculum Guidelines in Global Health for Family Medicine Residents. Similarly, in 2011 the Global Health Education Consortium (GHEC) published guidelines to assist programs in developing global health curricula based on ACGME competencies.

While our survey also showed diversified methods of delivery and evaluation, it seems that passive rather than active methods of learning continue to be the most commonly used forms. Online learning is positively perceived by program directors and can provide promising tools to standardize training, evaluate effectiveness, and support collaborative learning across institutions.

The financial burden of international GH activities continues to be the main barrier as the majority of residencies require that participants completely or partially pay the cost of the trips. Exploring fundraising, foundations or institutional grants, and partnerships across institutions or disciplines might provide opportunities for financial support.

In addition to caring for communities abroad, the selling points for obtaining funding include the learned skills that can improve care for patients in the United States and the valuable public health experience.

Our study has limitations. First, the definition of what constitutes GH activities is not universally accepted, and this might limit our ability to compare the findings of this study with prior research. Second, this survey targeted program directors who might have delegated the GH mission to other faculty and might not know the details of their program’s experiences. Third, we used the perspectives of the program directors to indirectly explore residents’ and students’ interest. These indirect views might not represent the perspectives of learners. Finally, the structure of CERA surveys only allows one answer per question and does not allow “all applicable” responses, which limits the utility of the survey and our subsequent ability to explore potentially important program aspects.

On the other hand, our study has many strengths. First, the concept of domestic venues for GH training is an area of growing interest, especially among residencies caring for underserved or refugee communities. We intended to draw attention to the opportunities in learning and exposure that these experiences can provide to trainees, especially in residencies with limited resources for international travel. Second, our study explored the curriculum, preparation, and evaluation of GH activities in greater depth than prior work. This area has not been previously well examined and provides a background needs assessment and foundation for future work. Finally, exploring the relationship between GH and residency recruitment is a novel area that is often overlooked in family medicine, despite GH being at the center for 2014 interest for many potentially strong applicants to the specialty.

Future work should examine the characteristics of programs that provide successful GH activities as well as programs that need help in building effective GH experiences. Another area for investigation is the evaluation of available curricula to identify key content and best practices for activity preparation.
Exploring GH activities across different disciplines using standardized surveys could help better understand similarities and differences among GME specialties. Such survey research also provides an opportunity to identify complementary collaborative work that will not only enhance learning in the interdisciplinary educational model but may also help hosting communities through providing more comprehensive services. Exploring the scope and financial burden of domestic activities is also an area for further study.

Conclusions
GH continues to be a focus of interest in the training of family medicine residents while attracting the passion of student applicants and residents. GH is viewed by program directors primarily as a venue for preparing physicians for work in underserved areas in the United States. Preparing residents for GH activities is becoming an organic component of the training experience with the primary focus on language skills and cultural sensitivity.

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References