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Global Health Curriculum in US Family Medicine Residencies

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Abstract

Introduction: Interest in training opportunities and ethical engagement in global health among medical trainees continues to increase. Preparation activities and formal curriculum for trainees traveling for international rotations vary widely across programs, and alignment with ethical best practice guidelines among US family medicine (FM) residency programs is unknown.

Methods: We surveyed FM residency programs about their global health (GH) curricula, with focus on practice alignment with ethical guiding principles for pretravel training in GH programs. We analyzed the responses by type of residency program and availability of faculty lead with expertise in GH.

Results: Fifty programs were included in analysis of GH curriculum specifics. Programs with expert leads were significantly more likely to have a formal GH curriculum and/or pretravel training, to offer formal and informal faculty mentorship on cultural expectations and global health ethics, and to include scope of practice (*P*=.001) and pretravel safety training with a standard institutional process (*P*=.011). Program type was not significantly correlated with global health curriculum specifics, except for availability of journal club. Small sample sizes limited our analysis of residency type.

Conclusion: Programs with an expert GH faculty lead were more likely to have formal GH curriculum or pretravel training with inclusion of elements recommended by the WEIGHT ethical best practices for GH training. Residency programs should consider designating lead faculty to formalize GH curriculum and mentorship in alignment with Accreditation Council for Graduate Medical Education competency requirements and with WEIGHT ethical best practices.

Introduction

Global health (GH) focuses on achieving improved access, outcomes, and health equity across diverse populations and regions.[1,2] Increasingly apparent after the COVID-19 pandemic, there are global disparities in health access and outcomes for preventive and individual-level clinical care.[3–6] The incoming generation of physicians is simultaneously requesting accountability to address these gaps while seeking personal global health experience to better understand the context.

The Working Group on Ethics Guidelines for Global Health Training (WEIGHT) consensus guidelines were

published in 2010 and outlined the need for structured programs with adequate preparation, mentorship, and supervision for trainees. Their emphasis on long-term bidirectional partnerships with mutual benefit is essential to ensuring quality training in GH that protects trainees and host communities.[7–11] There is also a push to close the gap in available published perspective from international partners who host GH experiences for medical trainees.[12–17]

Almost 75% of family medicine residencies now offer international or domestic training experiences in GH compared to 43% in 1996.[18,19] The goals of these training experiences vary, as do the preparation activities for trainees traveling for international rotations.[19–24] There are no current data on the specific components of GH training offered at these programs.

We conducted this survey for two reasons. First, we sought to describe the current components of GH training opportunities offered by US family medicine residency programs. Secondly, we wanted to assess programs' alignment with the WEIGHT guidelines, specifically formal pretravel training including norms of professionalism, cultural expectations, personal safety, and the guiding principles of mitigating harm and fostering reciprocity and sustainability. Our analyses also focused on testing where presence of a designated global health expert faculty lead and residency type were associated with increased frequency of pretravel trainings.

Methods

We developed a survey instrument within REDCap software (institutional grant DHHS/NIH/NCRR #UL1TR001449) that assessed areas of opportunity consistent with the WEIGHT recommendations for institutions engaging in sending trainees for learning experiences abroad. In addition to descriptive demographics of responding programs, the survey questions focused on the WEIGHT guidelines for specific, formal, pretravel training material in GH curriculum for trainees. An invitation email included the consent language and a link to the REDCap survey.[25] This same language was also on the landing page of the REDCap survey for participants accessing it by QR code and social media announcements. The survey instrument did not collect identifiers and is included in Appendix 1.[26] The study protocol was reviewed and approved by the University of New Mexico Human Research Protection Office Institutional Review Board.

Between April 2022 and May 2023, we shared the survey with residency program directors and faculty from US-based family medicine training programs via email announcements to the Society of Teachers of Family Medicine (STFM) Global Health Educators Collaborative (GHEC) listserv, the American Academy of Family Physicians (AAFP) Global Health Interest Group (GHIG) listserv, and adjacent social media accounts. The QR code for the survey was also distributed through global health related sessions at the 2022 AAFP Family Medicine Experience (FMX) and 2023 STFM Annual Spring Conferences. The anonymous surveys collected during this period could have resulted in multiple responses from individual programs, and individual program directors and faculty could have responded more than once during the study period. To identify potential program duplicates we used responses for program state, number of residents, residency type, program age, main focus of global health rotations, presence of an expert faculty lead and required pretravel training on norms of professionalism. One record had matches across these variables, and we excluded the one record with a later survey date.

Survey questions were almost entirely multiple-choice items or checkboxes in which all that apply were selectable. We used frequencies and percentages to summarize items. Total number of residents was summarized by the mean, standard deviation, minimum, maximum and median. Associations between categorical variables were made using χ^2 tests and Fisher's exact tests when sample sizes were limiting. Primary hypotheses tested were whether (a) presence of perceived faculty GH experts and (b) program type

were associated with pretravel trainings. We compared number of residents and number of training types offered by subgroup using nonparametric Wilcoxon rank sum tests and Kruskal-Wallis tests.

We considered tests statistically significant at $P<.05$. We used SAS v9.4 software (SAS Inc, Cary, NC) for data management and statistical analyses. Respondent representation across geographic location and program type is provided for transparency on potential bias and confounding factors based on convenience sampling.

Results

A total of 71 surveys were returned. Before conducting analyses, we excluded one medical student, one potential duplicate program record, and 19 that did not have international GH training opportunities. Characteristics of the remaining 50 programs are shown in Table 1. Thirty-four percent of surveys were returned by program directors or associate directors and 26% came from GH lead faculty. The average number of residents was 30.1 (SD=10.7, range=6-64, median=28) with 52% of programs being community-based with a university affiliation. Most programs (94%) had existed for at least 10 years and had a focus on a combination of clinical and nonclinical activities (68%). Twenty-eight percent did not have an expert GH faculty lead. Thirty-six percent of preceptors were local, 30% sending institutions, and 34% a combination of the two. Thirty-six percent of programs did not have formal training in professionalism norms at hosting sites, and 26% did not require a formal review of residents' expected scope of practice during international rotations.

Table 2 shows program frequencies for pretravel training modalities, cultural expectations trainings, ethics trainings, and safety trainings overall and by presence/absence of designated GH faculty that are experts. We allowed for programs to self-define the term "expert" in global health because there is not a widely accepted standard definition of the term.[27] Participants were allowed to select all that applied for item rows in Table 2. The "Overall" column has the frequency and percentage of 50 programs analyzed. Live, formal didactics (54%) and self-guided trainings (46%) were the most common pretravel training modality, with 24% having no pretravel training. The two columns for "Have experts" and "Do not have experts" for each item are one-half of a 2x2 contingency table for that item. Live formal didactics were employed at 25/36 (69%) of programs that have GH faculty experts compared to 2/14 (14%) of programs without experts ($P<.001$). Live, formal courses, informal interest groups, and journal clubs were not used by programs without a recognized GH expert. Self-guided materials/modules were used at 53% of programs with experts compared to 29% without experts, however this sample size with a prevalence ratio of 1.83 was not statistically significant ($P=.123$). The average number of training modes used was 1.9 (SD=1.6, range 0-5, median=1). Faculty mentorship in cultural expectations was provided by 46% of programs, and this was more common at programs with experts (58%) than at those without experts (14%, $P=.005$). One-third of programs had formal cultural expectations training compared to none at programs without experts. Ethics training and faculty ethics mentorship was also completely lacking at programs without experts. Informal GH ethics trainings was the most common method used overall (44%), and ≤50% of programs with experts had formal or informal ethics training or mentorship. Thirty percent of programs did not require formal pretravel safety training, and informal trainings were the most common method used (44%). Out of 20 possible training categories in Table 2, programs with experts offered an average of 6.4 (SD=3.8) and programs without experts offered an average of 2.0 (SD=1.5, $P<.001$ Wilcoxon rank sum test).

Table 3 shows results from our analysis of program frequencies for pretravel training modalities, cultural expectations trainings, ethics trainings, and safety trainings overall and by residency type. Table 3 layout follows Table 2 with columns for residency type, university-based, community-based university-affiliated, and community-based not university-affiliated, and without the redundant overall column. Availability of journal club when residency programs had a university affiliation was the only pretravel training element that differed significantly among program types.

In supplemental analyses that explored associations among program characteristics from Table 1, there was no significant difference in the program size, age, region, role of respondent, time in role, existence of international global health training opportunities, or presence of at least one expert faculty lead by type of residency program. However, 56% of programs with expert faculty had a process to review residents' expected scope of practice compared to 7% of programs without expert faculty (*P*=.001).

Conclusions

In this convenience sample, responding programs with an expert GH faculty lead were more likely to have formal GH curriculum or pretravel training, and the number of trainings offered was greater than programs without an expert GH faculty lead. The GH curriculum offered at these programs is also more likely to include pretravel elements recommended by the WEIGHT ethical best practices for GH training, such as formal cultural expectations, ethics training, and standard safety training.

One major limitation to our study is lack of definition around the "expertise" of global health leads, which is an area to consider for future studies. Another limitation is the convenience sampling method that may not be representative of all US FM residency programs. Potential duplication of program representation by different respondents is also a concern, although we reviewed the data, and only found one that appeared to be a duplicate.

Residency programs should consider designating and funding a lead faculty (who has experience in global health work) to formalize GH curriculum with WEIGHT ethical best practices and ensure residents receive mentorship and feedback in alignment with Accreditation Council for Graduate Medical Education competency requirements (eg, IV.B.1.d).(1).(a) "Demonstrating competence in identifying strengths, deficiencies, and limits in one's knowledge and expertise"; IV.B.1.f).(1).(a) "Working effectively in various health care delivery settings and systems relevant to their clinical specialty").[28] The current study suggests significant gaps in alignment with these standards. The availability of curriculum toolkits and shared resources specific to FM residency programs may help with GH training standardization, especially for programs without GH expert faculty.[29,30] Programs may find existing checklist type resources helpful in implementation.[16,31]

Tables and Figures

Table 1. Characteristics of Survey Participants and of Residency Programs With International Global Health Training (N=50)

Survey participant characteristics	n	(%)
Current role in the residency program		
Program director	7	(14)
Associate program director	10	(20)
Other residency program staff	13	(26)
Global health lead faculty	13	(26)
Other[a]	7	(14)
Duration in current role		
< 1 year	10	(20)
1-3 years	13	(26)
3-7 years	16	(32)
7+ years	11	(22)
Program characteristics		
Total residents in program		
<20	6	(12)
20-29	22	(44)
30-39	15	(30)
40-49	4	(8)
50+	3	(6)
Type of residency program		
University based	13	(26)
Community based, university affiliated	26	(52)
Community based, not university affiliated	11	(22)
Age of residency program		
5-10 years	3	(6)
10+ years	47	(94)
Main focus of global health rotation		
Provision of direct clinical care	12	(24)
Non-clinical activities (education, training, community outreach, research, public health project, etc)	3	(6)
Combination of both clinical and non-clinical activities	34	(68)
Unspecified	1	(2)
Designated faculty lead perceived to be a global health expert		
Multiple faculty lead experts	18	(36)
Single faculty lead expert	18	(36)
Nonexpert faculty lead	8	(16)
No global health faculty lead	6	(12)
Most common supervision type		
Local preceptors	18	(36)
Sending institution preceptors	15	(30)
A combination of both local and sending institution preceptors	17	(34)

Table 1, continued

Survey participant characteristics	n	(%)
Program characteristics		
GH curriculum or pretravel training includes guidance on norms of professionalism at host training site		
Guidance developed largely by our program	7	(14)
Guidance developed largely by host site	1	(2)
Guidance using a combination of above	18	(36)
Guidance provided by a third-party organization	3	(6)
Do not require formal training in this area	18	(36)
Undetermined	3	(6)
GH curriculum or pretravel training includes review of residents' expected scope of practice during international rotations		
Have an established process	11	(22)
Have established process that includes hosting institution	12	(24)
Sometimes reviewed depending on destination and other factors	10	(20)
Do not require a formal review	13	(26)
Undetermined	4	(8)
Region		
New England (NH, MA, ME, VT, RI, or CT)	6	(12)
Middle Atlantic (NY, PA, or NJ)	3	(6)
South Atlantic (PR, FL, GA, SC, NC, VA, DC, WV, DE, or MD)	11	(22)
East North Central (WI, MI, OH, IN, or IL)	10	(20)
West South Central (OK, AR, LA, or TX)	1	(2)
West North Central (ND, MN, SD, IA, NE, KS, or MO)	3	(6)
Mountain (MT, ID, WY, NV, UT, AZ, CO, or NM)	10	(20)
Pacific (WA, OR, CA, AK, or HI)	6	(12)

[a] "Other" included: community/clinic/support faculty (1), pharmacist faculty (1), global health faculty (1), fellow (1), resident (3).

Table 2. Association Between Presence of Program Lead Faculty GH Experts and Pretravel Training Elements

	Have expert(s) (*n*=36) *n* (%)	Do not have expert (*n*=14) *n* (%)	Overall (*n*=50) *n* (%)	*P* value[a]
Pretravel training modality				
Live formal didactics	25 (69)	2 (14)	27 (54)	**<0.001**
Live formal courses or conferences	9 (25)	0 (0)	9 (18)	**0.047**
Informal interest group(s)	15 (42)	0 (0)	15 (30)	**0.004**
Journal club	13 (36)	0 (0)	13 (26)	**0.010**
Self-guided materials or modules	19 (53)	4 (29)	23 (46)	0.123
Other	4 (11)	2 (14)	6 (12)	1.000
Do not have a formal curriculum or pretravel training required	5 (14)	7 (50)	12 (24)	**0.023**
Unknown	2 (6)	0 (0)	2 (4)	1.000
Cultural expectations training				
Have formal training materials (our own or from a different institution)	12 (33)	0 (0)	12 (24)	**0.012**
Have faculty mentorship in this topic area	21 (58)	2 (14)	23 (46)	**0.005**
Have informal training or discussions in this topic area	16 (44)	6 (43)	22 (44)	0.919
Do not require training in this area	4 (11)	6 (43)	10 (20)	**0.020**
Other	0 (0)	1 (7)	1 (2)	0.280
Unknown	2 (6)	0 (0)	2 (4)	1.000
Ethics training				
Have formal training materials (our own or from a different institution)	16 (44)	0 (0)	16 (32)	**0.002**
Have faculty mentorship in global health ethics	18 (50)	0 (0)	18 (36)	**<0.001**
Have informal training or discussions in global health ethics	18 (50)	4 (29)	22 (44)	0.171
Do not require training in this area	7 (19)	9 (64)	16 (32)	**0.005**
Other	0 (0)	1 (7)	1 (2)	0.280
Unknown	3 (8)	0 (0)	3 (6)	0.550
Safety training				
Have a standard institutional process	13 (36)	0 (0)	13 (26)	**0.010**
Have required training materials or didactics	8 (22)	0 (0)	8 (16)	0.087
Have informal training or discussions regarding travel safety	18 (50)	4 (29)	22 (44)	0.171
Do not require formal training in this area	8 (22)	7 (50)	15 (30)	0.085
Other	1 (3)	2 (14)	3 (6)	0.186
Unknown	2 (6)	1 (7)	3 (6)	1.000

[a]Fisher's exact tests and χ^2 tests when sample sizes were sufficient.

Table 3. Association Between Residency Type and Pretravel Training Elements

	University-based (n=13) n (%)	Community-based university-affiliated (n=26) n (%)	Community-based, not university-affiliated (n=11) n (%)	*P* value[a]
Pretravel training modality				
Live formal didactics	8 (62)	13 (50)	6 (55)	0.792
Live formal courses or conferences	4 (31)	3 (12)	2 (18)	0.341
Informal interest group(s)	4 (31)	7 (27)	4 (36)	0.919
Journal club	6 (46)	7 (27)	0 (0)	**0.030**
Self-guided materials or modules	7 (54)	12 (46)	4 (36)	0.693
Other	2 (15)	4 (15)	0 (0)	0.509
Do not have a formal curriculum or pre-travel training required	2 (15)	7 (27)	3 (27)	0.747
Unknown	0 (0)	2 (8)	0 (0)	0.726
Cultural expectations training				
Have formal training materials (our own or from a different institution)	3 (23)	6 (23)	3 (27)	1.000
Have faculty mentorship in this topic area	8 (62)	12 (46)	3 (27)	0.245
Have informal training or discussions in this topic area	7 (54)	10 (38)	5 (45)	0.656
Do not require training in this area	0 (0)	7 (27)	3 (27)	0.098
Other	1 (8)	0 (0)	0 (0)	0.476
Unknown	0 (0)	2 (8)	0 (0)	0.717
Ethics training				
Have formal training materials (our own or from a different institution)	5 (38)	8 (31)	3 (27)	0.853
Have faculty mentorship in global health ethics	5 (38)	10 (38)	3 (27)	0.850
Have informal training or discussions in global health ethics	5 (38)	11 (42)	6 (55)	0.709
Do not require training in this area	2 (15)	11 (42)	3 (27)	0.244
Other	1 (8)	0 (0)	0 (0)	0.483
Unknown	0 (0)	3 (12)	0 (0)	0.410
Safety training				
Have a standard institutional process	6 (46)	4 (15)	3 (27)	0.117
Have required training materials or didactics	4 (31)	3 (12)	1 (9)	0.346
Have informal training or discussions regarding travel safety	6 (46)	12 (46)	4 (36)	0.846
Do not require formal training in this area	1 (8)	10 (38)	4 (36)	0.117
Other	1 (8)	2 (8)	0 (0)	1.000
Unknown	0 (0)	2 (8)	1 (9)	0.601

[a] Fisher's exact tests and χ^2 tests when sample sizes were sufficient.

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