

A Survey of General Surgery Residents in the United States on Global Health Interest, Experiences, and Barriers to International Medical Work

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Background

Purpose

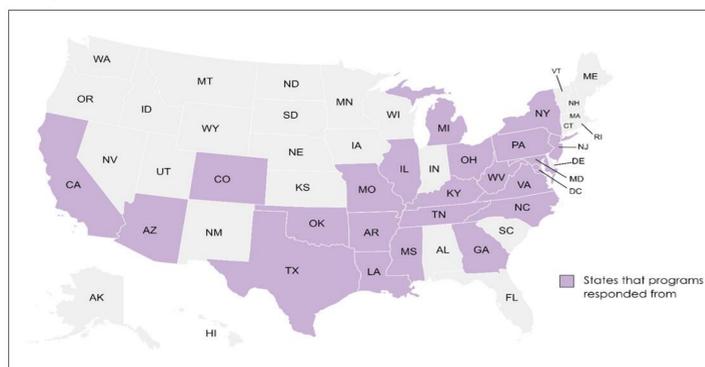
- An estimated 5 billion people globally do not have access to safe surgical and anesthetic care when needed.¹
- A growing interest in volunteer, international medical work to address this deficit has been documented among both medical students^{2,3}, surgery resident applicants⁴, and residents⁵
- A recent cross-sectional analysis of general surgery residency programs quantified the number of programs with an established international surgical opportunity as 17%.⁶
- However, no analysis has quantified the percentage of surgical residents, who have participated in international health experiences (IHEs), either within or in addition to their program
- Objectives:**
 - Determine % of residents who have participated in IHEs
 - Further understand the obstacles residents face when attempting to engage in such experiences

Methods

- An anonymous REDCap survey was developed to ask surgical residents about: previous experiences with IHEs, desire for future IHE participation, barriers to participation, and general demographic information
- Survey link was distributed to all United States General Surgery Program Directors and administrative staff as identified via the Fellowship and Residency Electronic Interactive Database (FREIDA)
- Directors and staff were asked to share survey with surgical resident physicians three times from 03/22/21-04/30/21
- Responses were collected and analyzed

Geography of Responses

Figure 1. States in purple represent program locations of survey respondents.



Results

- 121 surgical residents in the United States responded
- 45% (n=55) reported a previous IHE
- Few reported IHE participation through their residency program (n=3)
- Of the respondents who reported previous global health experience, the majority completed these experiences prior to residency
- See Table 1 for a characterization of past experiences, Table 2 for current supports offered by residency programs, and Table 3 for limitations cited most often by respondents as preventing them from engaging in IHEs

Characterizing Prior Experiences

Table 1. Characterization of International Health Experiences among surgical trainees. Note that 55 people have engaged with IHEs, but that these people may have gone on several trips and completed several different activities per trip. Thus, the number of experiences do not equal the number of people who have gone on a trip within each time span.

| Timeline | Responses, (%), n=55 | | | | |
|--------------------------------------|----------------------|-------------|------------------------------|--------------------|-----------|
| | All | Clinic Work | Surgery/Operative Experience | Program Evaluation | Research |
| Prior to Medical School | 31 | 28 (90.3%) | 14 (45.2%) | 7 (22.6%) | 9.7% (3) |
| Medical School | 29 | 23 (79.3%) | 16 (55.2%) | 9 (31.0%) | 5 (17.2%) |
| Between Medical School and Residency | 5 | 3 (60.0%) | 3 (60.0%) | 2 (40.0%) | 0 |
| During Residency, with program | 3 | 3 (100%) | 2 (66.6%) | 1 (33.3%) | 0 |
| During Residency, outside of program | 8 | 6 (75.0%) | 7 (87.5%) | 1 (12.5%) | 1 (12.5%) |

Current Program Supports

Table 2. Supports identified by surgical residents at the program level. Respondents were asked to select all that apply and may have selected more than one.

| | Program offers a Global Health Rotation (%) | | | P |
|---|---|---------------|------------|---------|
| | Yes n=29 | Not sure n=24 | No n=55 | |
| *No supports | 2 (6.9%) | 0 | 0 | 0.11 |
| Program has established Global health rotations | 14 (48.3%) | 0 | 0 | <0.0001 |
| Administrative help | 10 (34.5%) | 0 | 0 | <0.0001 |
| Financial assistance | 14 (48.3%) | 0 | 0 | <0.0001 |
| Mental Health support | 2 (6.9%) | 0 | 0 | 0.11 |
| Cultural Competency training | 3 (10.3%) | 0 | 0 | 0.03 |
| Language training | 0 | 0 | 0 | N/A |
| A specific contact for Global health work | 26 (89.7%) | 6 (25.0%) | 17 (30.9%) | <0.0001 |

Barriers to Participation

Table 3. Barriers to participation in global health experiences cited by residents. ^aChi square Test, ^bFisher's Exact Test

| | No Prior Exp n=53, (%) | Prior Exp n=55, (%) | P |
|---|------------------------|---------------------|-------|
| ^a Lack of time | 33 (62.3%) | 37 (67.3%) | 0.59 |
| ^a Insufficient awareness of opportunities | 28 (52.8%) | 23 (41.8%) | 0.25 |
| ^a Insufficient administrative support/organization | 21 (39.6%) | 27 (49.1%) | 0.33 |
| ^a Low funding support | 18 (34.0%) | 22 (40.0%) | 0.52 |
| ^a Insufficient mentorship | 22 (41.5%) | 12 (21.8%) | 0.03 |
| ^a Family commitments | 14 (26.4%) | 7 (12.7%) | 0.07 |
| ^b Too early in my career | 14 (26.4%) | 3 (5.5%) | 0.003 |
| ^a Safety concerns | 11 (20.8%) | 5 (9.1%) | 0.09 |
| ^b Skepticism of global surgery efforts | 4 (7.6%) | 9 (16.4%) | 0.24 |
| ^a Lack of support from colleagues | 9 (17.0%) | 3 (5.5%) | 0.07 |
| ^b Ethical concerns | 3 (5.7%) | 8 (14.6%) | 0.21 |
| ^b Loss of income | 4 (7.6%) | 8 (14.6%) | 0.36 |
| ^a Minimal academic recognition | 3 (5.7%) | 8 (14.6%) | 0.20 |
| ^b Responsibility to local patients | 6 (11.3%) | 4 (7.3%) | 0.52 |
| ^a Low political support | 0 | 3 (5.5%) | 0.24 |

Conclusions

- Current residency training programs do not match known interest in IHE
- Surgery residency applicants and surgery residents have been shown to have demonstrated interest in international health experiences, and yet are not engaging with those experiences during residency nor through their residency programs
- Notable lack of language training, cultural competency training, and mental health support in current residency program offerings
- Implementing funding and mentorship for global health opportunities would address residents' largest barriers to entry to global experiences
- Institutions and programs should broaden formal opportunities for IHE participation during surgical residency, while prioritizing ethics and sustainability
- Limitations: small sample size, response bias, and effect of COVID-19 on both program offerings and participation

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