

# Assessing Interest and Barriers for Resident and Faculty Involvement in Global Surgery

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**BACKGROUND:** Multiple institutions have developed international electives and sustainable global surgery initiatives to facilitate clinical, research, and outreach opportunities with hospitals in resource-poor areas. Despite increasing interest among programs, many institutions have not successfully reached potential involvement.

**OBJECTIVE:** This study evaluates the experiences of Yale residents and faculty, measures interest in the development of an international surgical elective, and enumerates barriers to developing or participating in these opportunities. This was performed to develop a formalized elective and assess interest and capacity for surgical global health initiatives, as a seemingly increasing number of trainee applicants and residents were expressing interest in working in resource-poor settings.

**METHODS:** Electronic survey of Yale Surgery residents and faculty analyzed using SPSS and Graphpad Prism.

**RESULTS:** Among residents, previous global experience correlates with current interest in international opportunities, with 100% remaining interested, and 78% of those without prior experience also expressing interest ( $p = 0.018$ ). Barriers to pursuing these activities included the use of vacation time, funding, scheduling, family obligations, and concern for personal safety. Among faculty, 28% of respondents have been involved internationally, and most (86%) expressed interest in additional opportunities and all were willing to take residents. Barriers to faculty participation included funding, relative value unit target reduction, protected time, and the desire for institutional support for such activities.

**CONCLUSIONS:** A substantial proportion of residents and faculty have experience in global health and motivation to pursue additional opportunities. The main barriers to

participation are not a lack of interest, but rather needs for funding support, protected time, and institutional recognition of academic contributions. These findings are being used to develop a global surgery elective and establish long-term partnerships with international colleagues. (J Surg Ed ■■■■-■■■. © 2017 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

**KEY WORDS:** global surgery, resource-poor health care, international rotation, curriculum development

**COMPETENCIES:** practice based learning, systems based practice

## INTRODUCTION

Over the past 3 decades, “global health” has been a rapidly growing field; however, global surgery is often sidelined due to perceived difficulties with logistical complexity, cost, training, and the focus on prevention of infectious diseases.<sup>1-3</sup> With the initiation of the Lancet Commission on Global Surgery and other developments in 2015, there has been greater public awareness of these issues and increased scholarship in the field. The discipline is now focused on increasing access to safe and affordable surgical and anesthesia care, which includes improving access to timely essential surgery, decreasing perioperative mortality, and making surgical and anesthetic care integral components of health systems around the world.<sup>4</sup>

The increasing global surgical burden of disease, coupled with the need for broad training of experienced surgeons, creates a mutually beneficial collaboration in resource-poor areas during residency. Clinical opportunities in underserved communities, both in the United States and abroad, can provide invaluable experiences for general surgery residents and inspire repeated involvement in similar activities after training. Multiple institutions have

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developed international electives to address the growing burden of surgical disease and seek to provide clinical, research, and outreach opportunities for their residents. These opportunities increase insight into global health issues, expose trainees to a broad spectrum of surgical pathology, promote understanding of different health care delivery models, increase cross-cultural competency, and improve technical skills.<sup>5-7</sup> Additionally, the benefits of collaborating between institutions and the responsibility of ensuring reciprocity with host sites are integral for the sustainability and success of international programs.<sup>8,9</sup>

Although there is generally broad interest in global surgery initiatives, there are significant barriers to participation by residents and surgical faculty. Previously cited barriers in nonsurgical specialties include lack of funding, lack of institutional support, paucity of resident elective time, and the number of program faculty participating in global activities.<sup>10-12</sup> To optimize involvement and develop a scholarly approach to creating an international program, a needs assessment was developed in the form of an electronic survey. This study aims to catalogue the level of experience of our institution's residents and faculty regarding global surgery, gauge interest in the development of an international surgical elective, determine the perceived barriers to developing or participating in these opportunities, and examine whether exposure to a global surgery experience led to repeated engagement.

## MATERIALS AND METHODS

### Cases

A focus group consisting of the leaders of the Yale Global Surgery Division of Surgical Education designed a needs assessment survey that was piloted and revised as needed. Following approval by the Yale University Institutional Review Board, surveys were electronically sent to all Yale Surgery residents and faculty members (Table 1), and e-mail reminders were sent to nonresponders. The results were collected electronically using SurveyMonkey software over a 1-month period between December 2015 and January 2016. They were tabulated electronically using Microsoft Excel. SPSS Version 22 and Graphpad Prism version 6 were used for statistical analysis. Fisher's exact or chi-squared tests were used for evaluation, as appropriate, with  $p < 0.05$  considered to be statistically significant. Odds ratios are expressed with a 95% confidence interval.

## RESULTS

### Resident Results

#### Prior Experience and Current Interest

A total of 61 general surgery residents responded to the survey, out of 72 invited to participate (85% response rate). Of the respondents, 39% have prior experience with

international medical work (Fig. 1), with 83% having their first experience during medical school. These experiences ranged from assisting with logistics on medical trips (coordinating supplies, providing transportation for patients), working with community leaders and local governments to gathering epidemiological data, and getting clinical exposure (patient follow-up, observerships, operative experiences, and outpatient care). As expected, owing to their greater number of clinical experiences in general, a higher proportion of senior residents reported previous involvement in international health experiences during residency.

Engagement of the residents in the communities varied greatly, from short trips with limited interactions with local faculty and trainees to prolonged and repeated engagement alongside local providers on a daily basis, as components of more defined teams. Those participating in integrated programs felt that working alongside local providers during clinical and education sessions improved communication between the visiting and local teams. This integration also enhanced understanding of the local burden of disease and special needs of the populations.

Previous experience significantly correlates with current interest, with 100% of respondents with prior experience answering that they remained interested, whereas only 78% of those without prior experience were interested (Fig. 1,  $p = 0.018$ ). Overall, 87% of respondents were interested in pursuing international surgery activities. The proportion did not significantly change between residency classes.

Most residents surveyed were undecided on their future career plans; however, a common sentiment was an eagerness to incorporate global health in their careers. Many were uncertain on how to pursue that goal. The overwhelming opinion, however, was that having opportunities for international surgical experience would help residents engage in the field and integrate it into their future careers (Table 2).

### Barriers to Participation

Among interested residents, likelihood of pursuing these activities appears moderately contingent on allowing the use of nonvacation time for the experience, with 56% of them certain that they would use their vacation time to pursue the activity (Fig. 2). A higher proportion of interested residents were unsure whether they would pursue the experience without funding to defray their personal expenses. Only 29% claimed to be highly likely to pursue the experience using only their own money.

Scheduling was the most frequently cited barrier to involvement (Fig. 3) in international electives (82%), followed by financial concerns, family obligations, and concern for personal safety. Senior residents cited concern for personal safety significantly more frequently than junior or laboratory residents ( $4.7 \times$  OR,  $p = 0.012$ ). No significant differences were identified regarding financial concerns between junior and senior residents, and no significant differences in concerns were noted between those residents with prior experience and those without.

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