

Training Surgical Residents for a Career in Academic Global Surgery: A Novel Training Model

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Academic global surgery is a nascent field focused on improving surgical care in resource-poor settings through a broad-based scholarship agenda. Although there is increasing momentum to expand training opportunities in low-resource settings among academic surgical programs, most focus solely on establishing short-term elective rotations rather than fostering research or career development. Given the complex nature of surgical care delivery and programmatic capacity building in the resource-poor settings, many challenges remain before global surgery is accepted as an academic discipline and an established career path. Brigham and Women's Hospital has established a specialized global surgery track within the general surgery residency program to develop academic leaders in this growing area of need and opportunity. Here we describe our experience with the design and development of the program followed by practical applications and lessons learned from our early experiences. (J Surg 72:e104-e110. © 2015 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: global surgery, academic surgery, surgery education, resident education

COMPETENCIES: Professionalism, Interpersonal and Communication Skills, Systems-Based Practice

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INTRODUCTION

Recently, there has been a well-documented surge of enthusiasm among medical students and surgical residents to incorporate international experience into their training, primarily in resource-poor settings.¹⁻⁴ In response, several academic surgical programs have established opportunities for their trainees focused primarily on clinical electives.⁵⁻¹³ Although clinical care from visiting providers is needed in some contexts, in many poor countries there are local providers who can perform or be trained to perform the necessary surgical care. Therefore, many global surgery efforts focus on education, training, and research to address questions regarding care delivery, outcomes, and health equity at partner sites.^{6,8,14} This enhanced attention to measurement enables visitors to provide additional value, increase local clinical and research capacity, enable quality improvement, and avoid duplication of services that can already be provided in the host countries.

However, many challenges need to be addressed before global surgery is accepted as an academic discipline and an established career path. Ensuring adequate mentorship, financial support, and stable partnerships with sites in resource-poor settings is necessary to respond to the unique logistic and ethical challenges that arise and to assure programmatic stability. Furthermore, trainees and faculty must convincingly demonstrate the value of their efforts within academic departments of surgery, public health institutions, nongovernmental organizations (NGOs), and host partners around the world through meaningful scholarship that advances surgical care delivery in resource-poor settings. To address these challenges, structured training programs in academic global surgery are needed to equip residents with the necessary clinical, research, and cultural-engagement skills unique to the field.

Definition of Academic Global Surgery

We conceptualize academic global surgery as an emerging discipline with the goal of improving surgical care delivery in resource-poor settings through a broad-based scholarship agenda. Global surgery training programs should be enacted through long-term collaborative partnerships with local stakeholders, with careful planning to ensure all parties realize meaningful benefits. We use the term *global* to include programs that serve resource-poor areas within the borders of high-income countries in addition to those based in low- and middle-income countries (LMICs).¹⁵ After the Resident Review Committee of the Accreditation Council for Graduate Medical Education approved international electives for credit, much of the recent literature has focused on the development and analysis of short-term clinical electives meant to expose trainees to the realities of surgical care delivery in resource-poor settings, but without an expressed focus on academically rigorous research development.¹¹⁻¹³ Although clinical rotations, short- or long-term surgical missions, and disaster response efforts certainly contribute to surgical care in low-resource settings, we propose that the development of long-term academic partnerships should be the focal point of a formalized global surgery track for surgical residents.

THE BRIGHAM AND WOMEN'S HOSPITAL GLOBAL HEALTH EQUITY RESIDENCY IN GENERAL SURGERY

Initial Planning

To equip future leaders in academic Global Surgery, the leadership of the Brigham and Women's Hospital (BWH) Department of Surgery created a formalized track within the existing general surgery residency program, entitled the Global Health Equity Residency in General Surgery (GHE-S). The initial design of the program was influenced by the BWH GHE Residency in Internal Medicine, which has been previously described.^{16,17} The BWH Center for Surgery and Public Health provides administrative, program management, and statistical support. The director of the GHE-S is a faculty surgeon with significant experience in global surgery and is supported by the Center for Surgery and Public Health and the BWH general surgery program director and department chairperson.

Program Goals

The 2 major goals of the program are to improve resident training in academic global surgery and to strengthen longitudinal partnerships with institutions in low-resource settings (Fig. 1). The GHE-S is designed to provide residents with focused mentorship and the clinical and research skills necessary to become leaders in academic

global surgery. Programmatically, the overarching aim of the GHE-S is to foster long-term academic partnerships between our institution and academic centers in LMICs with a shared vision to promote global health equity through high-quality surgical care delivery. Our experiences to date have been focused on strengthening longitudinal partnerships in Haiti and Rwanda to build resources and relationships through successive collaborations.

Program Design

Candidates with career interest in global health are chosen from the postgraduate year 2 (PGY-2) class and paired with a research mentor through the department's existing mentorship program. Selected individuals must complete 3 years of residency before entering the research experience in recognition of the clinical duties that are often required at partner sites. During their PGY-2 and PGY-3 years, the residents work with their faculty mentor and host collaborators to develop a research plan focused on host-country priorities and apply for competitive extradepartmental awards (Fig. 2).

After completing 3 years of clinical training, GHE-S residents begin a 2-year research track. Formal classroom instruction or coursework (i.e., Masters in Public Health) is strongly encouraged to strengthen methodological research skills and the understanding of epidemiological, ethical, and social issues pertinent to global surgical care delivery.

Measuring Success

To date, 3 GHE-S residents have completed the 2-year program. They have collaborated with numerous researchers from multiple academic institutions, NGOs, and governments from around the world and contributed to significant academic scholarship. They have also obtained competitive external funding from a variety of sources. Although these

Global Health Equity Residency in General Surgery

Program Goals

- Develop a cadre of future leaders in academic global surgery
- Deepen institutional relationships between home and host institutions
- Build research capacity of host partners
- Develop mentorship to foster career development in global surgery
- Establish long term funding sources to ensure programmatic sustainability

Resident Goals

- Establish meaningful partnerships with colleagues in host country
- Expand understanding of the socio-political context of surgical care delivery in resource limited settings
- Develop cross-cultural relational skills and cultural humility
- Acquire the methodological skills needed for research
- Identify and execute a focused, achievable research project
- Collaboratively produce and disseminate scholarship which advances the field of global surgery and creates value for host site

FIGURE 1. Goals of the GHE-S program.

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