

## ORIGINAL RESEARCH

# Building a Sustainable Global Surgical Program in an Academic Department of Surgery

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**Abstract**

**BACKGROUND** Global surgery and volunteerism in surgery has gained significant interest in recent years for general surgery residents across the country. However, there are few well-established long-term surgical programs affiliated with academic institutions. The present report discusses the implementation process and challenges facing an academic institution in building a long-term sustainable global surgery program.

**METHODS** As one of the pioneer programs in global surgery for residents, the Icahn School of Medicine at Mount Sinai global surgery rotation has been successfully running for the last 10 years in a small public hospital in the Dominican Republic. The present report details many key components of implementing a sustainable global surgery program and the evolution of this program over time.

**FINDINGS** Since 2005, 80 general surgery residents have rotated through Juan Pablo Pina Hospital in the Dominican Republic. They have performed a total of 1239 major operations and 740 minor operations. They have also participated in 328 emergency cases. More importantly, this rotation helped shape residents' sense of social responsibility and ownership in their surgical training. Residents have also contributed to the training of local residents in laparoscopic skills and through cultural exchange.

**CONCLUSIONS** As interest in global surgery grows among general surgery residents, it is essential that supporting academic institutions create sustainable and capacity-building rotations for their residents. These programs must address many of the barriers that can hinder maintenance of a sustainable global surgery experience for residents. After 10 years of sending our residents to the Dominican Republic, we have found that it is possible and valuable to incorporate a formal global surgery rotation into a general surgery residency.

**KEY WORDS** global surgery, general surgery residency, international rotation

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**INTRODUCTION**

The role of global health in medical education is rapidly growing. Many internal medicine and other primary care residency programs have well-established electives in resource-constrained

international settings for residents interested in global health. Global surgery and volunteerism in surgery has gained significant interest in recent years for general surgery residents across the country. Surveys of resident members of the American College of Surgeons have confirmed this growing interest.

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Of the 724 residents who completed the survey, 92% were interested in an international elective and 73% were willing to participate even if cases were not counted for graduation requirements. In response to this growing interest, the Accreditation Council for Graduate Medical Education Surgery Residency Review Committee in 2011 established guidelines for global surgery electives in general surgery. Now 34 surgical residency programs offer a global surgery rotation, up from 23 programs just 5 years earlier.<sup>1</sup>

For the last 10 years, the Icahn School of Medicine at Mount Sinai has had an ongoing monthly rotation for general surgical residents to the Dominican Republic (DR). In 2005, Mount Sinai was one of a handful of institutions that pioneered a global surgery experience for general surgery residents. Since that time, every postgraduate year 3 resident has gone through this rotation. This paper discusses the success and challenges facing an academic institution when building a long-term sustainable global surgery program.

**Mount Sinai Global Surgery Program.** The Icahn School of Medicine at Mount Sinai has developed a program in which general surgery residents in their third year of training rotate abroad in the DR. Since 2005, every one of our surgical residents has rotated for 1 month in the DR. This life-changing experience gives young surgeons the opportunity to provide surgical care to underdeveloped communities and to share knowledge and expertise with local physicians. Working with limited resources and without the comforts of most modern technology, they gain valuable skills assisting in the diagnosis and treatment of patients and providing much-needed care to an underserved population.

Before implementing this program, specific goals and objectives were established. These include (1) providing valuable service to a developing community and assisting with teaching and training; (2) acquiring operative experience in the setting of limited resources; (3) gaining cultural competency via a sustainable effort in health care development; (4) enhancing the spirit of humanitarianism and community for each participant; and (5) developing an exchange that will strengthen and mature over time, helping to make continuous strides to improve health care delivery systems in the DR.

After a thorough evaluation of 7 programs in different countries, the hospital chosen for this global surgery experience was the 250-bed public Juan Pablo Pina Hospital, serving a small urban

population in the town of San Cristobal, located in southern Dominican Republic. The hospital provides health care to a large population of underprivileged persons, both from urban and greater surrounding rural areas. The hospital is located in a safe and tenable environment and has very limited resources (no radiology department, no intensive care unit). The residents reported appropriate supervision in the operating room, with a trained local surgeon. Given the limited resources, most surgeries were performed using minimal equipment, few laparotomy pads, sutures, a suction device, and without electrocautery.<sup>2</sup> Since 2005, we have had 80 residents rotate through Juan Pablo Pina Hospital. They have performed a total of 1239 major operations and 740 minor operations. They have also participated in 328 emergency cases.

**Evolution of the Program Over Time.** Initially, residents resided in a home-stay setting, with a local family who provided a private room, food, and other necessities required for the residents' health and comfort. The residents were supplied with reading material, Internet access, and cell phone. Residents were overall satisfied with their home stay, which contributed to a sense of security, orientation, and acceptance within the community. Staying with a family also helped residents avoid isolation and depression. The family was given a nominal monetary supplement to assist them financially. By ensuring residents' safety and basic comfort, they reported a high satisfaction level and were able to perform in the local hospital efficiently. Two years ago, the home-stay model concluded because of structural changes in that family. A detailed on-site examination of other possible residential options was done. The hospital offered their on-call rooms as a possibility. A careful inspection of the hospital wing containing the call rooms was performed, including evaluation of their security, cafeteria, cleanliness, and Internet access availability. It was deemed a good option because it allowed residents to have quick and easy access to the emergency department during nights for surgical evaluation of patients. In addition, residents lived in the same area as other local medical residents who were on call. This fostered a sense of camaraderie and more opportunity to experience cultural exchange.

During the initial few years of this program, there were no surgical residents rotating through Juan Pablo Pina Hospital. Surgeons relied on medical students to assist in complex surgical cases. This gave the Mount Sinai residents an opportunity to assist and learn from highly proficient surgical

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