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LEADERSHIP PAGE

Cardiologists Without Borders

Insight From Global Medical Outreach Missions

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"If you save one life, you save the world."
—Talmud (1)

After serving for nearly a decade on medical missions in nearly as many countries throughout Central America and the Caribbean, I feel a bit sheepish writing a feature on global cardiology outreach when so many others have great legacies in this area and have established institutional structures and programs around the world. However, it is my hope that some of what I have learned will help cardiovascular professionals from across the care team to not only understand the importance of medical missions and outreach to their own professional and personal growth, but also clarify the imperative of these missions to the cardiovascular health of populations in these developing areas.

Cardiovascular outreach can be divided into 2 major categories: 1) the general medical mission trip; and 2) a structured, collaborative, educational program connecting institutions. The general medical mission trip brings together medically trained individuals, ranging from medical students to retired surgeons, who screen hundreds of patients over a short 3- to 5-day period. Through this frenetic process, usually only 1 or 2 patients/day present with heart disease; however, an individual more experienced with the mission process than me once shared that "you don't know (and the patients certainly don't know) who the truly ill person is out of that crowd without screening them all."

Before the screening and treatment process even begins, there are often challenges to ensure the mission is equipped with the necessary materials. Taking medical supplies and equipment to a developing country may end up as a good story for the next chapter of *The Accidental Tourist*. It is not unusual for pallets of medicines to be held on a foreign dock or tarmac for hours, days, months, or longer awaiting official clearance. Once, I witnessed a new pick-up truck that had been donated to a clinic by a local car dealership held in embargo dockside for several thousand dollars more than the cost of the vehicle. The last I heard, the truck is still sitting in the same spot. Another lesson I learned long ago in order to avoid saying goodbye to a pricey piece of equipment is to present smaller-sized echocardiography devices to customs as simply a "bulky laptop" or a "new type of smartphone." These missions are not without their challenges or roadblocks. Sometimes the journey itself can be the most challenging part of the mission; however, these ventures are rewarding, and for the populations in which they serve, they can be lifesaving.

A second type of cardiovascular outreach is a more sustainable and long-term collaborative approach, connecting institutions, governments, and cardiovascular professionals. One such example is the program Carolinas HealthCare System has developed in Belize for the last 7 years, recognizing the lack of specialty cardiology or cardiovascular surgery facilities in the country. With a population of more than 350,000, Belize is the only English-speaking country in Central America (2). In 2009, 41.3% of the population was regarded as poor, and that included the 15.8% classified as extremely poor or indigent (3). Heart disease is rampant and is the leading cause of death in the country (4).

Under the direction of senior surgeon Francis Robicsek, MD, PhD, FACC, Executive Director Theresa Johnson, and fellow cardiologists John Cedarholm, MD, FACC, Glen Kowalchuk, MD, FACC, and Geoffrey Rose, MD, FACC, the International Medical Outreach Program (IMO) was created as a collaborative partnership between Carolinas HealthCare System and Heineman Medical Outreach, Inc., to offer

educational opportunities to health care personnel as well as material and organizational assistance to health care institutions, primarily by donating used and refurbished medical equipment/supplies and by providing training and consultation services.

In 2011, IMO installed a complete fixed mobile cardiac catheterization laboratory at Karl Heusner Memorial Hospital (KHMH) in Belize City, the only tertiary care hospital in the country. Due to the lack of a trained Belizean invasive cardiologist, IMO began sending full cardiology teams from Sanger Heart and Vascular Institute to perform diagnostic cardiac catheterizations. As a result of the diagnostic catheterizations, and together with the local medical community, cardiac surgical patients were identified and IMO moved into cardiac surgery, having assisted the only local cardiac surgeon, Adrian Coye, MD, with the first open heart surgery in the country on July 16, 2012. In 2014, IMO donated a cardiac echocardiography station to KHMH and, that same year, Coye received the Order of the British Empire for his contribution to the advancement of cardiac care in Belize.

The collaboration has been incredibly successful. To date, IMO's activities have supported 273 cardiac catheterizations, 37 percutaneous coronary interventions (including balloon valvuloplasty), and 41 heart surgeries. However, the overarching goal of IMO is sustainability, and therefore, education is key to the success of the program. At Carolinas Medical Center, we have trained 2 Belizean cardiac echocardiography technicians, 2 cardiovascular intensive care nurses, 1 perfusionist, and 1 scrub technician, and we have advanced and supervised the training of the local Belizean cardiologist in diagnostic and interventional cardiac catheterizations at the Silesian University Center for Heart Disease in Zabrze, Poland. Additionally, IMO established a digital telemedicine "24/7" pro bono consultation and education service between Sanger Heart and Vascular Institute and KHMH.

Since the inception of this program, the tempo of the hospital has increased and the entire country is excited and encouraged—and so are we. The dedication of Coye is palpable, and the entire local medical community is extremely supportive. We know that with the commitment of Coye and his team, coupled with the support of the local communities, this program will become independent, sustainable, and successful.

This is only 1 early program of many others around the globe. There are countless examples of physicians and care team members leading medical missions and partnering with institutions for interventional missions, including that of the University of North Carolina School of Medicine in Nicaragua, with the recent successful accomplishment of 5 balloon mitral valvuloplasties under Rick Stouffer, MD, FACC, and John Vavalle, MD, MHS, FACC. Another example is the long-standing Tanzania project led by Peter O'Brien, MD, FACC, in Lynchburg, Virginia, with Centra Health, together with Peter Zwerner, MD, FACC, and Eric Powers, MD, FACC, at the Medical University of South Carolina. Additionally, ACC Vice President C. Michael Valentine, MD, FACC, traveled there last summer to put in pacemakers.

Personally and professionally, these experiences have been broadening, eye-opening, and inspiring. However, cardiovascular medical outreach is not for the faint of heart. Rather, these missions require infinite patience, highly developed interpersonal skills, and a substantial international emotional intelligence. These missions afford cardiovascular professionals unique experiences, and I encourage those looking for a professional challenge, leadership, or growth opportunity to sign up for an outreach trip and enjoy the journey. Allow yourself to sink in and truly experience the culture, get to know the people, and make meaningful connections. The memories will have a lasting effect and will positively influence your professional life and your practice. Remember that by helping to save 1 life, you validate the ripple effect and prove that we can all be cardiologists without borders.

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REFERENCES

1. The Talmud. Mishnah Sanhedrin 4:5.

2. World Health Organization. Belize: WHO statistical profile. Available at: http://www.who.int/gho/countries/blz.pdf?ua=1. Accessed March 31, 2017.

3. United Nations Development Programme. Millennium development goals report and post 2015 agenda: Belize 2013. Available at: http://www.bz.undp.org/content/dam/belize/docs/Millennium%20Development%20Goals/MDG%20Report%20and%20Post%202015%20Agenda%20Belize%202013.pdf. Accessed March 31, 2017.

4. World Health Rankings. Health profile: Belize. Available at: http://www.worldlifeexpectancy.com/country-health-profile/belize. Accessed March 31, 2017.