Project Shunt- A Short Term Medical Mission

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Introduction

Since 1997, members of the University of Michigan Departments of Anesthesiology and Neurosurgery have organized a short term mission (STMM) to Guatemala to perform neurosurgical procedures for children with hydrocephalus and/or neural tube defects, a program known as Project Shunt.

STMMs to low income countries with unmet medical needs have increased dramatically over the last twenty years, providing clinicians with an opportunity to engage in clinical care, philanthropy, and education. Few comprehensive studies exist to determine the exact scope of these STMMs, and a conservative estimate yields a total of approximately 8,000 STMMs sent to foreign countries from the United States alone annually at a cost of at least $250 million.(1)

Most volunteers and supporting organizations assume that the developing countries and their populations are benefiting from these trips. However, there is unfortunately little evidence that this is the case aside from provider anecdotes and services appreciated.(1) With this in mind, we hope to showcase a STMM which has taken place over a significant period of time which benefits all parties involved including the patients, host medical providers, and STMM participants.

Guatemala

• Guatemala is a developing Central American country of 16 million, where more than half the population is under 18. With a human development index value of 0.627 in 2014, the country ranked 128 out of 188 countries and territories.


Mission Characteristics

Planning for each trip begins immediately following the previous one. In the weeks leading up to the trip, we ship multiple crates (1-2 tons) of equipment and supplies and each team member carries additional necessities in their personal luggage. Most medications are transported in a foot locker while narcotics and inhalational agents are obtained in Guatemala.

Thanks to the efforts of the Pediatric Foundation of Guatemala, we typically see approximately 75 to 100 patients in clinic the first day (Sunday). We create 3 operating rooms in which we perform 20-30 surgeries between Monday and Friday, beginning with the most complex cases. Immediate post-operative care is provided by our intensivists and nurses then transitioned to Guatemalan pediatricians who work alongside us on the inpatient ward.

To maximize benefit to our hosts, we also give lectures, educational materials, and medical supplies to local providers.

Mission Characteristics Continued

Figure 1- An anesthesia resident and her partner From Dr. Gauger’s personal photograph collection, 2015 mission.

Figure 2- Project Shunt Operating Room From Dr. Gauger’s personal photograph collection, 2015 mission.

Figure 3- Project Shunt Operating Room From Dr. Gauger’s personal photograph collection, 2015 mission.

Mission Principles

From our inception, we have followed 3 guiding principles:
• Children will be operated upon under safe conditions.
• Children will be provided with the same high-quality care they would receive in the United States.
• We do our best to make certain that we give them identical care to that provided at Mott Children’s Hospital.

While the long-standing nature of Project Shunt would lend support to its benefits, the value of STMMs to host nations has been questioned in the literature. It has, however, been shown that “vertical” surgical missions, focusing on cleft palates, cataracts, and neurologic conditions yield demonstrable long term benefit to the patients and communities they serve.(4) Other studies demonstrated STMMs to be cost effective, such as the group Helping Hands finding the cost per disability-adjusted life year on their STMM was $437.80 (US), significantly below the accepted threshold of two times the per capita gross national income of the host country.(6) Clearly, further research dedicated to analyzing STMMs, along with greater inter-group discussion and coordination, is necessary to optimize the benefit of STMMs to both patients and providers.

Discussion and Future Opportunities

Recently the importance of anesthesia’s current and potential role in global health has been brought to the attention of the anesthesia community with a variety of articles in the anesthesia literature, along with new, innovative programs developed by a variety of academic departments and the American Society of Anesthesiologists. These programs and articles have coincided with American anesthesiology residents increasingly wishing to understand better and practice anesthesiology outside the United States. A recent survey of U.S. anesthesiology residents noted that 61 percent of those surveyed indicated an interest in global health outreach despite the fact however that fewer than half had participated in a global health outreach medical mission.(6)

References