THE IMPACT SHORT TERM MEDICAL MISSIONS HAVE ON FOREIGN COMMUNITIES

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By
Aryn E. Donatello
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Thesis written by

Aryn Donatello

Approved by

_____, Advisor

_____, Dean, College of Nursing

Accepted by

_____, Dean, Honors College

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CHAPTER I

Introduction

Ghandi described the heart of a medical missionary when he stated: “The best way to find yourself is to lose yourself in the service of others.” Serving others is the foundational principle of healthcare, so it is only natural that medical professionals are drawn to bring their unique skills to developing countries. Driven by this desire to provide care to disadvantaged communities, the number of annual medical missions has steadily increased over the past 40 years. It is estimated that, over 6,000 short-term medical missions are organized yearly across the United States, each attempting to render aid in foreign communities (Maki, Qualls, White, Kleefield, & Crone 2008). Healthcare providers increasingly seek out opportunities to participate in some type of medical missions during their careers. The administration of medical care abroad, improves healthcare disparities present in emerging countries.

Medical missions usually focus on countries whose gross national income is less than $1005 per capita, otherwise known as low-income countries. The World Health Organization (2016) reports that life expectancy in lower income countries is 17.5 years shorter than the life expectancy in higher income countries. The primary causes for this disparity are a higher prevalence of infectious disease, poor maternal and newborn health, environmental risk factors, and poor health systems, all of which can be addressed through continuous and sustainable health efforts in affected areas. Short term medical

missions (STMMs), by their nature, use resources from higher income countries to help address these disparities between lower and higher income communities. According to Maki, Qualls, White, Kleefield, and Crone (2008) "STMMs [are] an important and needed step towards quality improvement in the realm of international healthcare" (p. 122). However, research examining the outcomes of STMM's are sparse. Most research focused on experiences of the STMM volunteers, rather than the impact on the communities that STMM's serve. This raised an important question as to whether STMMs do more harm than good.

Background

History

Medical missions began to officially take shape in the mid 1800's with the founding of the Medical Missionary Society in China. Members consisted of businessmen with a variety of religious and medical backgrounds. As medical care and religious diversity continued to grow, Medical Missions became a cornerstone for long term missionary work abroad (Grundmann, 2014). Most early missions consisted of healthcare providers who provided care abroad for their entire lives (Chiu, Weng, Chen, Yang, & Lee, 2014). During World Wars I and II, medical missions were put on hold as healthcare was reorganized and nationalized in many countries. The founding of international health organizations resulted in an increase of nonreligious medical missions and growth in medical advancements. These changes caused an increased focus on the promotion of primary care and the reduction of risk factors within communities.

The advancement of air transport and communication technology provided opportunities for mission minded people to easily travel to target communities. As a result, medical missions became much shorter, and a greater number of individuals engaged in philanthropic opportunities (Grundmann, 2014). Historically, successful medical missions required healthcare providers to dedicate months and years of their lives to establish the cultural change required for consistent positive outcomes in public health. Modern medical missions, however, typically last weeks to a few months. As a result, there are now a greater number of STMMs that are focused solely on providing needed medical aid to disadvantaged communities without the additional goal of long-term improvements in public health (Grundmann, 2014).

Short-Term Medical Missions in the 21st Century

A STMM is comprised of a team of medical personnel and volunteers, usually less than 100 people, who traveled to a low-income community to provide care for the public's immediate medical needs (Maki et al., 2008). Volunteers often had varying levels of education and experiences. Team members included nurses, students, pharmacists, scientists, educators, laypeople, etc. The healthcare providers also specialized in a wide variety of areas including family medicine, emergency medicine, psychiatry, ophthalmology, critical care, surgery, endocrinology, infectious diseases, dentistry, and pathology (Alghothani, Algohothani, & Atassi, 2012). Volunteers may have carried a variety of credentials with little to no standard requirements. For example, a medical trip to Tanzania included a total of 25 individuals with only 13 trained medical

personnel and medical students. The remaining 12 individuals did not have any prior medical experience (Dilger, 2014).

Today STMMs typically are sponsored by larger organizations, such as universities, faith-based establishments, or healthcare organizations. Sponsors helped to provide funding and equipment for the teams and donate essential supplies to the target community. Once volunteers arrive in the country, they provided care for a predetermined amount of time each day before returning home (Alghothani et al., 2012). In the past, faith-based organizations (FBOs) were the primary sponsors of medical missions (Grundmann, 2014; Dilger, 2014). For example, Tanzania was a target community for many FBOs, specifically those of Christian and Muslim faith, that helped establish clinics and hospitals for local populations (Dilger, 2014). Sykes (2014), however, found that faith-based trips appear to be becoming a minority. Only 18% of current research identified missions funded by a FBO. Bartelme (2015) hypothesized that this decrease is due to shorter trips that allow for flexibility in travel; providing the opportunity for more individuals from all walks of life to participate in STMMs. It is also possible that FBOs are still active within STMMs but have failed to establish a system for collecting and reporting data that is accessible to international communities (Widmer, Betran, Merialdi, Requejo, & Karpf, 2011).

The Children's Health International Medical Project of Seattle (CHIMPS) and Mount Sinai Global health center are examples of healthcare based STMMs. CHIMPS was established by medical residents through the University of Washington to encourage doctors, nurses, faculty, and medical students to participate in overseas medical missions

(Suchdev et al., 2007). The Mount Sinai Global Health Training Center established their first missions to Haiti after the earthquake in 2010. They have continued to send health professionals and trainees to Haiti to improve quality of life in the local communities. The center also established an international training program; sending students into Latin America to care for patients affected by the HIV/Aids Epidemic (Landrigan, et al., 2011). CHIMPS and Mount Sinai Global are just two of many universities and healthcare agencies that support short term medical missions.

Why do People Choose Short-Term Medical Missions?

Many volunteers chose to participate in short term medical missions because they wanted to help less fortunate populations. (Chuang et al., 2015; Compton, Lasker, & Rozier, 2014; Loiseau et al., 2016). STMMs were often used to fulfill the altruistic desires of an individual to satisfy one's social responsibility (Campbell, Sullivan, Sherman, & Magee, 2010). Mission hosts in the Dominican Republic reported that medical volunteers are driven to help foreign communities once they understand the immense need in low-income countries (Loiseau et al., 2016).

Unfortunately, not all people who volunteer for STMM's were motivated by altruism (Compton et al., 2014). McLennan (2014) found that some volunteers who participated in STMMs were motivated by egocentrism; a personal desire for adventure or experiences that can be added to resumes. Some participants chose international missions because of the appeal of travel, while others considered it a challenge to their personal perceptions and beliefs of other cultures. Even altruistic motivations, which are

fueled by the individual's desire to make themselves feel fulfilled, can be considered a result of the participant's egocentrism (McLennan, 2014).

Additionally, healthcare students often chose to travel abroad to develop their clinical and cultural competency skills as well as develop a greater understanding of other cultures (Dilger, 2014; Bido et al., 2015; Chuang et al., 2015). Some participants reported that STMMs helped them better care for patients of diverse cultural backgrounds (Vu, Johnson, Francois, & Simms-Cendan, 2014). A survey of 19 plastic surgery residents revealed that 100% of the participants believed that traveling abroad while in their residency greatly improved their lives. All but one of the residents felt that it added great value to their residency training and should be available to all plastic surgery residents. In addition, over 80% of medical residents, when interviewed about their perceived cultural competence, agreed that they had greater confidence in caring for patients with diverse cultural backgrounds, as well as an improved ability to treat and communicate in culturally sensitive ways (Campbell et al., 2010).

Challenges to Short Term Medical Missions

The limited time that STMMs spend in their targeted communities has resulted in a lack of substantial research focusing on both the host community's and patient's perceptions of care. Most research articles examined the provider's experiences; drawing conclusions on the impact of care based on observations and anecdotal data rather than sound research. In many studies, researchers began to question whether STMMs are truly benefiting the communities they serve.

Bartelme (2015) and Dupuis (2003) believed that some STMMs focused on prioritizing educational experiences instead of the appropriate assessment and implementation of patient and public healthcare. Dupuis (2003) believed that STMMs are "geared toward a 'body count;'" where success is determined by how many patients are seen in the limited window of volunteer hours. One specific case described two children who received surgery for cleft palates, but subsequently died because the facility did not have proper follow-up care. After further investigation, it was determined that the children were malnourished making them poor surgical candidates (Dupuis, 2003).

Emergency physician Jennifer Whitfield and neurosurgeon Paul Young reported similar experiences. When Whitfield traveled to Guatemala during medical school she found herself in a community of about 5000 people, with no other physician support. Whitfield was asked to perform complicated tasks with very little experience and no additional resources. She later stated that "'[She] knows [she] screwed some people up'" (Bartelme, 2015).

Paul Young volunteered to perform neurosurgery in Kenya. He describes a quota system where the expectation was that the team performed about 30 surgeries during their stay. Young recalls that they provided care only for those patients that could be "'absolutely cured'" by the visiting physicians. This left many other patients "out of luck," as hundreds of hopeful citizens gathered outside of the hospital begging the team to provide treatment they may never again have an opportunity to receive (Bartelme, 2015).

Bartelme (2015) and Dupuis (2003) both concluded that for STMMs to positively change lives, they need to do more than provide medical care to a select few for several weeks. Instead, efforts needed to be made to provide services and resources that will benefit the community long after the mission returns home. In addition, those who are participating in medical missions needed to be properly trained and taught to practice according to their home country policies.

Problem Statement

Currently, the limited research associated with STMMs seems to indicate that there is not a sustainable provision of care. The goal of this paper is to provide a literature review examining the effect Short Term Medical Missions (STMM) have on the communities they serve. The problem statement for this review of literature is "What is the impact of Short-term Medical Missions on the populations they serve?"

Definition of Terms

Three types of terms were defined for this review. The first were those necessary to describe how medical missions are structured to provide care to communities. This includes how STMMs were defined, as well as the different types of missions that medical personnel participated. The second set of terms helped to identify the difference between the communities that were providing and those that were receiving care. The final few terms defined the quality of care that may be provided to target communities.

Short Term Medical Missions

For the purposes of this paper, short term medical missions, or STMMs, were defined as foreign aid provided to low-income communities for a continuous span of time totaling less than three months. The National Library of Medicine defines medical missions as "travel by a group of physicians for the purpose of making a special study or undertaking a special project of short-term duration" (Medical Missions, Official, n.d.). In the articles assessed, however, there were many volunteers who administered care that did not identify as physicians. Short-term medical mission staff ranged in expertise, from high school students to specialized surgeons, doctors, and researchers (Alghothani et al., 2012; Chiu et al., 2014).

Medical Voluntourism

Medical voluntourism was a type of short term mission where individuals volunteered to temporarily provide aid to persons residing in devastated and low-income communities. The trips were often dependent on the tourism industry and include activities such as sightseeing (Mclennan, 2014). Medical voluntourism was a term that is used interchangeably with medical missions in several analyzed articles. Of those articles there was not a significant difference in the structure of the medical service trips when compared to other medical missions.

Low- Income Communities

Low-income communities described target groups of people who received care during medical mission trips. For this literature review, low-income communities are

defined as those who do not have the funds or resources to provide for the needs of the citizens living within them. The World Health Organization classifies low-income countries as those the World Bank has identified as having a gross nation income of less than $1005 per capita. Some of the countries that were identified as low-income are Haiti, Ethiopia, Afghanistan, Uganda, and Tanzania (The World Bank, 2018).

High-Income Communities

High-income communities were those that are not only capable of providing resources for their citizens, but also possess an excess of resources that can be shared with other communities. The World Bank classifies the countries as those that have a gross national income of $12,236 or more. The United States, Iceland, Ireland, Japan, and Canada were all among countries that are considered high-income (The World Bank, 2018). Though a country may have been considered high-income by World Bank Standards, some of the communities within the country were considered low-income. According to the United States Census Bureau (2016), 12.7% of individuals in the United States were living in poverty.

Sustainability

Sustainability was defined as a method of harvesting or using a resource so that it is not depleted or permanently damaged (Sustainable, n.d.). This term was used to describe some of the goals that professionals established for their care while abroad. It was also used to indicate care that continues after providers end their mission. Ideally, STMMs should have provided sustainable care for the communities they were serving.

Egocentrism

Egocentrism was defined as a focus on the individual instead of the society or individuals around them (Egocentric, n.d.). This term was used to describe the motivations of individuals participating in STMMs. Egocentrism was generally considered to be a negative and harmful motive for a participant to possess.

Locals

Locals was defined as a local person or thing associated with a particular place (Local, n.d.). This term was used to describe the indigenous individuals residing in a target community.

CHAPTER II

Literature Review and Methodology

This literature review and analysis examined 29 qualitative research articles referenced in appendix A. Each document focused on short term international medical aid trips. The CINHAL and KentLink databases were used to locate desirable material. Key words included, short-term medical missions, medical voluntourism, and international medical missions. The resulting articles were considered for review if they included a focus on healthcare provided to a community by a medical, surgical, or dental team.

The findings of each analyzed article were broken down into four main topics; educational background of volunteers, provider experiences versus needs of the community, relationships between hosts and providers, and how STMMS are evaluated. All four of these topics examined the perceptions of both providers and host communities; although, there was a much larger pool of evidence from providers. Only two articles addressed the perceptions of the patients being treated during STMM trips. In addition, assessments of long-term effects of mission trips on the target community were not found during the literature review. Both the lack of long-term assessment, as well as limited evaluation and follow-up are identified gaps in current research.

Evaluation of Short-Term Medical Missions

Research identified a lack of reliable evaluation tools for STMMs. Instead, most organizations conducted their own evaluations and adjusted their missions accordingly (Maki et al., 2008; Martiniuk, Manouchehrian, Negin & Zwi, 2012; Sykes, 2014). Unfortunately, the act of self-evaluation was a significant conflict of interest (Berry, 2016; Maki et al., 2008) The goal of STMMs was to provide needed resources in less fortunate areas of the world. Self-evaluations were subjective and lead to the conclusion that any healthcare is beneficial for low-income communities. As a result, when STMMs conducted evaluations they were functioning under the belief that even if there were not identifiable areas of improvement, overall care would still be ultimately helpful (Berry, 2014). Furthermore, most STMM evaluations consisted of interviews with providers, and rarely incorporated the perceptions of the local hosts or patients, especially if the evaluation took place after the team has returned home. Self-evaluation made data accuracy dependent on the provider's willingness to find fault with their own work (Compton et al., 2014; Maki et al., 2008).

Follow-up care. The lack of follow up care provided by STMMs further creates a barrier to effective evaluation of outcomes. Follow-up is essential for assessing the results of patient care. Current STMM follow up consists of referring the patient to their local healthcare organization or personal physician (Alghothani et al., 2012; Steinke et al., 2015). This practice makes it difficult to assess if the care was effective. Furthermore, Maki et al. (2008) found that only 48% of patients report having a follow-

up provider, making it virtually impossible to gather long-term outcome data from host providers.

Creating an evaluation tool. Few researchers had attempted to construct an evaluation tool that could be used for all STMMs. The most common tool referenced in the literature is Maki et al's (2008). Maki and his team conducted in depth interviews with mission participants to determine what needed to be evaluated in STMM programs. Six major and 30 minor factors were identified by participants as essential for assessing the quality and effectiveness of patient care. The team created five surveys based off these factors, each tailored for a specific role in a STMM: host/local provider, patient, mission director, mission administrator, and mission participants. The six major factors included cost of the mission, efficiency, impact, preparedness, education, and sustainability.

Cost. Participants noted that STMMs needed to assess the overall expenditure of the missions as well as cost per patient.

Efficiency. This factor was a measurement of productivity and effectiveness of care administered. Considerations included the number of patients that could be treated in a given time period, and any known complications of treatment (Maki et al., 2008).

Impact. The impact of a medical mission was determined by the perceptions of both providers and patients relating to the effectiveness of care provided. In other words, the impact assessed if the care provided produced the intended result.

Preparedness. The preparedness of a STMM was the ability of healthcare personnel to work as a team to provide safe and effective care within a host community. Preparedness measurements included an evaluation of how different mission teams worked together to provide care in the same target community.

Education. The evaluation of education measured the resources used to provide teaching and training to mission team members, patients, and local healthcare providers.

Sustainability. Sustainability addressed the long-term goals of the mission by evaluating whether the mission encouraged community independence (Maki et al., 2008). Desired results produced long-term positive changes to the health of the target community.

The final stage in the development of Maki's measurement tool included a pilot test of five different STMMs. Maki et al. (2008) designed the tool for use across all types of STMMs, but the pilot study revealed barriers. Because there is often a great deal of variation between missions, the unique aspects of STMMs were not captured with Maki et al.'s tool. Also, there was not a governing body available to encourage STMMs to utilize a standard tool, or to conduct impartial evaluations. Mission directors continued to evaluate their own missions resulting in a high probability of skewed outcomes (i.e. bias). Finally, the evaluation method required unbiased interviews with patients, which was difficult to achieve when conducted in the medical setting. Ideally, interviews would be conducted one-on-one with an impartial party, however there was often a shortage of time and personnel. Patients may have struggled to understand the questions being asked and felt uncomfortable answering honestly while the medical team was present. The use

of written interview forms was ideal, but they were only available in English and Spanish and thus could not be used across all cultures. There was also no guarantee that the patient participating in the interview was literate (Maki et al., 2008).

After testing the effectiveness of their survey, Maki et al. (2008) created an online database where other researchers and providers could access and add standardized evaluation tools for use in medical missions. Unfortunately, Caldron, Impens, Pavlova, and Groot (2015) found that though many researchers use Maki et al. (2008) as a citation in their work, there was only one instance of their standardized tool being used for an evaluation. Eventually, in 2013 the website established by Maki and his team was taken down due to inactivity and lack of funding (Caldron, Impens, Pavlova & Groot, 2015).

Education

Professionals identified numerous instances where a lack of adequate education had influenced the effectiveness of a medical mission. When volunteers traveled abroad they may have been required to perform unfamiliar procedures with limited resources. Without proper training for volunteers, situations that endanger patients may have occurred. One physician, Jennifer Whitfield, recalls that as a resident she was asked to perform very complex and challenging procedures that she was not properly trained in. The pressure of making these life and death choices was not lost on Dr. Whitfield, who felt that "she was just one mistake away from 'doing something that would destroy [her] for medicine forever.'" She was confident that some of her actions did not result in positive outcomes for the patients she treated abroad (Bartelme, 2015).

Butler (2016) believed that negative outcomes and complications associated with medical treatment overshadows an entire mission. As such, volunteers should only provide care to those patients who would have a "straightforward" recovery unless otherwise specified (Butler, 2016). Asgary and Junck (2013) argued that humanitarian medical volunteers should only be performing outside their scope of practice if they received the proper education. Teaching should have been comprehensive and focused on local epidemiology, cultural habits, community needs, and the local environment. These topics helped providers have a better understanding of what unusual medical issues may be encountered and what resources would be most beneficial in aiding a target community. One educational option included regularly scheduled debriefings and open discussions before and during the medical mission (Asgary & Junck, 2013).

A significant volume of STMM volunteers were untrained or possessed minimal experience, such as medical and nursing students who lack the skills required to perform safe patient care, regardless of pre-orientation education. Berry (2016) found that a local provider had helped a STMM set up a clinic in a low-income Guatemalan community. Half-way through the day she received a frantic call from one of her staff that prompted her to return to the clinic site. When she arrived, she discovered that the mission was composed of primarily high school students who were attempting to relabel aspirin as antibiotics. The local provider immediately requested that the mission be terminated and refused to work with the group again (Berry, 2016). Untrained volunteers and students reported feeling unprepared when providing care in which they are not formally trained. These volunteers however, believed that there are different rules abroad and consider

themselves privileged to be responsible for administering care (Loiseau et al., 2016). O'Donnell et al. (2014), conducted 24 interviews of local healthcare workers of which 75% felt that residents attending STMMs did have adequate training. Nevertheless, local providers still had to spend time teaching residents the basic skills and knowledge required by the host community (O'Donnell et al., 2014). It was recommended that pre-trip training and education should be a standard requirement prior to participation in a STMM program.

Berry (2016) suggested that even when volunteers and students received pre-orientation training they could still cause harm to patients, potentially damaging the relationships that STMMs established with local healthcare providers. Asgary & Junck (2013) believed that visiting healthcare professionals should be held accountable for their care as they would be in their home institutions. While there may be situations where care outside of the scope of practice is required, that care is more likely to be handled safely and appropriately if there was greater accountability for healthcare providers (Asgary & Junck, 2013).

Providing pre-departure education for volunteers. When assessing volunteer educational effectiveness, Alghothani, Alghothni, and Atassi (2012) found that 77.8% of the18 individuals surveyed felt that the education given to them before the mission was only somewhat effective. An additional study by Chiu (2014) examined the outcome of an orientation class provided to STMM participants traveling to Taiwan. The orientation included an overview of the host nation, possible duties, travel plans, and scheduling. Subsequent surveys of the participants revealed that while 76% felt that orientation was

sufficient, they still did not have the proper skills to provide care abroad (Chiu et al., 2014). However, a study by Steinke (2015) found that community orientation of STMM participants improved their cultural competency at home and abroad. Results of this study revealed that 36% of those who participated in cultural orientation did manage to raise their level of social competency (Steinke et al., 2015). The study confirmed the importance of educating providers on basic knowledge of the host culture, rituals and traditions. Participants of some STMM reported they would like orientations to last at least half a day and emphasize cultural competency, history, language, and special skills. Out of those surveyed, participants stated that they would be satisfied with an email orientation packet, while organizers wanted to conduct orientation in person (Compton et al., 2014).

Culture Shock. An important element that should have been included in pre-trip training sessions was a review of culture shock. Culture shock, or cultural dissonance occured when participants were exposed to different perceptions and behavior that did not align with their own (Ferranto, 2013). The resulting stress led to confusion associated with communication and care. Volunteers who were unprepared for the extreme differences they encountered may struggle to make appropriate medical decisions when faced with the realities of an impoverished community (Asgary & Junck, 2013). For example, Operation Smile established a strict screening system to ensure that only individuals in foreign communities that benefit the most from a cleft lip or cleft palate surgery received treatment first. However, in many cultures individuals with cleft lips and palates are shunned from society. As a result, there were many desperate

individuals who came to Operation Smile hoping that their family member could be cured. According to Ott and Olson (2011) as many as two to four hundred individuals attempted to go through the screening process, with only about 130 being selected. Most higher income countries have not experienced this type of healthcare dilemma, making this extremely stressful for unprepared volunteers (Ott & Olson, 2011).

Medical education of local healthcare professionals. Efforts could be made to improve education of the local population as well. Many low-income countries suffered from a shortage of personnel trained in modern medical procedures. Medical volunteers helped to provide some of these procedures to the community, but did not create a sustainable environment to serve the community when the missionaries returned home (Martiniuk et al., 2012). Frank Glover reported that during the Ebola crisis Liberia, which hosted only 200 physicians before the outbreak, was left with just 50 providers after mission groups called for their workers to return home (Bartelme, 2015). Similarly, when Paul Young was beginning his career in neurosurgery in the early 2000s, he found that Kenya had only 12 neurosurgeons for its population of 34 million people (Bartelme, 2015). The World Health Organization estimated that South-East Asia had the highest deficit of healthcare workers in the world with 6.9 million workers needed. This was followed closely by Africa, with a healthcare professional deficit of 4.2 million (World Health Organization, 2016).

Some missions began to establish sustainable education programs that provided local healthcare teams with resources to care for their communities after the STMMs return home. One common technique required volunteers to train local professionals on

specific procedures. The locals then went on to train other individuals in the surrounding communities (O'Donnell et al., 2014). Dupuis (2003) believed that for this technique to work, training needed to take place over a longer period of time to ensure that the local provider was comfortable implementing the new technique before expected to perform it independently.

Butler (2016) described several models that were used as training by STMM teams for local healthcare providers. The first utilized visiting surgeons to train local physicians and provide supplies and instruments that remained in the country. During the training surgeons focused on using the resources that the local population already owned to ensure that they were able to perform the operation should the donated resources be insufficient. The model included partnering with local hospitals or universities to provide an environment for teaching over the course of the STMM. Combining this with the previously stated model, where trained local healthcare workers taught other local providers (Butler, 2016) increased the likelihood of long-term success.

Another educational technique included "camps" where larger groups of experienced providers traveled abroad and hosted training sessions. The sessions addressed solutions to common needs across many communities within a target geographical area. Classes were attended by healthcare providers from multiple countries, who returned home with the ability to implement standardized care. Seminars consisted of lectures, simulations, and demonstrations (Butler, 2016).

The use of online conferences and internet resources provided another opportunity for widespread medical instruction. Using technology as an educational tool helped local providers improve their ability to care for their patients. However, limited access to wireless networks presented an educational barrier for providers of low-income communities. For example, less than 25% of sub-Saharan Africa had access to the internet, making the current use of technology as a resource unrealistic for these areas (Butler, 2016).

The final educational model proposed educating physicians from low-income communities in high-income countries. Butler (2016) believed that exposing providers to evidence-based practice helped increase the drive for research in low income communities. The training ensured that the physicians were educated in the most modern techniques available. One drawback to the exchange program was that the local provider was trained in countries with more resources and different health patterns than encountered in his/her home community. Local providers also struggled to acquire the necessary funds to pay for housing and food while they resided in the high-income country. Despite its drawbacks, this type of program had been successfully implemented by a few different universities throughout North America (Butler, 2016).

Education on the navigation of federal policy. Without proper education on how to navigate bureaucratic red tape, local communities were unable to gain the education and independence required to sustain the effects of the STMM. O'Donnell et al. (2014) found that while local healthcare providers wanted to participate in exchange programs, it was often difficult due to the high cost and complex immigration policies

required to enter and study in the US. Similarly, Asgary and Junck (2013) found that organizations established by STMMs in a foreign country found it difficult to employ local providers in leadership positions. Much of a facility's funding came from US donations, and the proper procedure for documenting and handling the funds was complex. Local providers lacked the language skills required to follow up with the US organizations that help manage the flow of money and the documentation required for donated funds (Asgary & Junck, 2013).

Volunteer Experience vs Community Need

As stated previously, one of the primary reasons individuals chose to volunteer for STMMs was to fulfill their altruistic desires (McLennan, 2014; Sykes, 2014). Local hosts in the Dominican Republic stated that "[Volunteers] see the dire needs of the [locals]," "They see the poverty and they want to help out" (Loiseau et al., 2016). Likewise, visiting physicians and students reported that their experiences abroad deeply impacted their lives, giving them fresh perspectives on the value of cost effective techniques and culturally appropriate care (Bido et al, 2015; Campbell et al., 2010). Vu, Johnson, Francois, and Simms-Cendan (2014) conducted interviews with 347 individuals, one of the largest sample sizes used to assess volunteer perspectives of benefits of STMMs. The majority of those interviewed strongly believed that their experiences helped them throughout their careers. Professionals reported that their time abroad helped them to adapt faster to new situations, improved their ability to communicate with patients of diverse cultural and socioeconomic backgrounds, and enhanced their interpersonal communication with their coworkers (Vu et al., 2014).

Desire to do good. Some healthcare providers questioned whether STMMs were driven by desires for cathartic experiences more than adequate healthcare. Evidence of this concern was seen during a STMM to Honduras when a medical team ran out of a commonly prescribed medication. Volunteers were so desperate to help the remaining patients that they proposed relabeling available vitamins and distributing them in the hopes that some of the patients would experience a placebo effect (McLennan, 2014). The desire for emotional satisfaction was also commonly seen during times of crisis or disaster, when there was a large influx of volunteers who want to provide much needed aid in the affected community. The overwhelming support that a community received during these events may have undermined the local infrastructure because it removed the urgency that the local government felt to help their citizens. Instead the community came to rely on the foreign providers and was ill prepared to function independently once the influx of volunteers ends (Asgary & Junk, 2013; McLennan, 2014).

When the focus of STMMs was on experiences as opposed to providing sustainable care, the local community's needs may have been overlooked. Local healthcare professionals in the Dominican Republic reported a situation where needed medical services were being offered to the community but only during times that were convenient to the volunteers. As a result, the men and women working in the sugarcane fields during the day were unable to attend the clinic, thus missing out on the opportunity for care. While the volunteer's desire to help was being met, the community's actual needs were overlooked (Loiseau et al., 2016). Medical missions often arrived in a country with preconceived notions about the community's needs but often failed to

consult with local providers. The resulting repetitive actions and wasted resources lead to unsustainable care. For example, STMMs that provided aid to the Dominican Republic distributed medication and education focused on the prevention of common local health conditions. When each new team arrived, they did not consult with local providers, and often redistributed the same resources, rendering much of their care redundant (Loiseau et al., 2016).

Desire for education. The desire for an educational experience could not outweigh the needs of the target community. In 2003, Christian Dupuis wrote an article describing his experiences providing surgical services to communities throughout Southeast Asia. Dupuis (2003) noted that visiting surgeons were using STMMS to "train their residents using the poor kids of Southeast Asia."

Putting limits on how and where volunteers provided care may ensure that only the highest priority community needs are addressed. Local providers were better able to ensure the safety of their community when they had input on STMM goals. Unfortunately, if local organizations were to impose limits on care, there is a chance that missions would shift their focus, and resources, to a community where they have greater ability to choose their own experiences. Local providers were therefore encouraged to provide for the needs of STMMs to ensure their continued support in the community, leading to greater community dependence on the missions, and little sustainability (Berry, 2014).

Cost of experience. Of the over 6000 medical missions originating from the USA each year, it was estimated that there is a collective expenditure of $250 million dollars spent on volunteers and supplies (Maki et al., 2008). Unfortunately, a lack of research into the overall cost effectiveness of STMMs resulted in little accountability of how these dollars were spent. Instead, available statistics were either rough estimates, or focused on an isolated mission experience (Caldron et al., 2015; Skyes, 2014). Current available estimates indicated that the funds may not have always been applied in a cost-effective manner. A study conducted by the Catholic Health Association, estimated that a total of $3.45 million dollars was spent on their STMMs. Of this amount, participants estimated that half was spent solely on international travel, with another 19% on in-country living and travel. Only about 25% was believed to have been used for required resources and patient care (Compton et al., 2014). Another analysis revealed that sending one group of 25 individuals to Honduras with necessary supplies amounted to about $50,000. While Honduran healthcare providers appreciated the help, they noted that same amount of money, if donated, would have covered the operating costs of their local clinic for a full year (Bartelme, 2015). Similarly, Butler (2016) found that the $30,000 spent sending a team to Ghana, could have been used toward the $60,000 required to build an entirely new hospital wing in the country.

Funding for STMMs can also lead to a conflict of interest between providers and local needs. Some organizations offered to pay providers for specific procedures performed abroad. As a result, larger organizations experienced an influx of volunteers leaving smaller organizations at risk for a shortage of personnel. Often, the smaller

missions that did address the immediate needs of the community, found that there were not enough people willing to sacrifice their pay to volunteer (Berry, 2014). Additionally, some STMM's were willing to donate time and resources to get to the community, but they expected the local healthcare organization to provide housing and living expenses. Local organizations needed to shift their focus from fundraising for the local population, to fundraising for mission expenses (Berry, 2014).

Benefits versus risks. McLennan (2014) believed that the benefits associated with STMM's outweigh any harm associated with the motivations of volunteers. In other words, the size and nature of STMMs could not inherently cause harm. STMM's provided care that was driven by providers instead of the local community. While there was still a provision of beneficial healthcare, the risk of dependency exists (McLennan, 2014). Mission groups were responsible for recognizing the fine line between providing sustainable care verses care that encourages dependency (Compton et al., 2014; McLennan, 2014;). Catholic sponsored STMMs found that sustainable care was associated with partnerships that empowered the local community. A key component of this goal included identifying volunteers focused on providing for the needs of the local community as well as working with and learning from local healthcare providers (Compton et al., 2014). Local providers in the Dominican Republic recommended that only qualified volunteers, willing to work with local organizations should be attending STMMs, though they acknowledge, that "the community is open to any help that the volunteer can bring" (Loiseau et al., 2016).

Establishing Relationships

STMM research shows that sustainable outcomes were directly related to establishing positive relationships within the host community. All relationships, whether inter-discipline, intra-hospital, or between academic institutions, needed to coordinate efforts with local healthcare professionals and identify local needs (Butler, 2016). Education, collaboration, and time commitment were all necessary components in building productive relationships designed to provide sustainable healthcare.

Education of the needs and culture of the local community was imperative when establishing long term relationships between STMM's and the communities they serve. Asgary and Junck (2013) believed that education focused on the language, history, political climate, and social interactions within the community helped to establish positive relationships with local providers. Training activities increased the awareness of possible barriers and cultural differences that volunteers may encounter. Building respect for the local community prevented any cultural gaffes that could have damaged an emerging relationship (Asgary & Junck, 2013). Education established the foundation for collaborative relationships.

Local and visiting providers agreed that there needs to be collaboration to establish common goals and expectations for the mission and identify the strengths and weaknesses of STMM's and local healthcare teams. By working together, foreign organizations and host communities addressed critical needs, coordinated care based on ability, and partnered physicians with complementary skills (Loiseau et al., 2016).

Collaboration empowered the local providers to make decisions about how their community was being treated (Bido et al., 2015; Butler, 2016; Compton et al., 2014). According to Algothani et al. (2012) about 66.7% of volunteer physicians who attended STMMs for Syrian refugees felt that collaboration and communication between local healthcare providers and mission doctors could be improved. Increased collaboration efforts determined that mission resources should be sent directly to local providers. The community used the resources to establish on-site medical facilities that was staffed by local practitioners (Alghothani, Alghothani, Atassi, 2013). Sustainable outcomes such as these were achieved when volunteers and local providers understood their differing communities and were willing to work with each other to establish mutual goals (Compton et al., 2014). Collaboration, by its nature required long-term commitment to strengthen relationships.

McLennan (2014) believed that STMM's mitigated barriers to partnerships by committing time to the communities they serve. Some organizations began to extend their trips, giving volunteers time to train medical personnel, establish permanent sites for future missions, and participate in follow-up care (O'donnell et al., 2014; Asgary & Junck, 2012). Local interviewees from the Dominican Republic agreed that it would have been more effective for volunteers to stay for longer periods of time as well as visit more frequently to achieve sustainable outcomes (Loiseau et al, 2016).

Benefits of Host-Provider Relationships. Establishing effective relationships resulted in a greater sharing of knowledge between local and foreign providers. When these discussions took place the local healthcare culture began to change. For example,

since 2008, Operation Boston Walk supported annual mission trips to a local hospital in the Dominican Republic. Local healthcare providers found that the regular interaction with Operation Boston Walk allowed host physicians to expand their surgical and joint repair skills and improve their sterile procedure and preoperative patient care (Bido et al., 2015). Most notably, the nurses reported that Operation Boston Walk influenced how interacted with physicians and provided patient care. By observing the interactions between volunteer nurses and physicians, the local nurses developed a desire for greater autonomy and began requesting continuing education opportunities. The nurses also reported that they felt more confident advocating for patients and addressing patient safety issues. Overall, the nurses and doctors found that the improved communication was directly related their observations of volunteer interactions (Bido et al., 2015).

Similarly, the relationship with healthcare professionals in the Dominican Republic encouraged Operation Boston Walk physicians to spend more time collaborating with the host physicians. One healthcare professional recalled that initially the host doctors were pushed aside. With time, however there was more opportunity to collaborate with local teams. The Boston Walk physicians also gained valuable technical skills through their interaction with foreign medical professionals. Many employed cost-effective methods when they returned home, to reduce waste. In addition, differences in pain management led some physicians to question whether they are over medicating some of their patients in the United States (Bido et al., 2015).

Barriers to effective relationships. As demonstrated, sustainability goals were strongly supported by the strength of the relationships between the STMM's and the host

communities. Values, beliefs and behaviors that threatened the relationship were recognized and continuously mitigated. A general disregard for the host communities, patient mistrust, and financial burden were commonly identified barriers.

Research indicated that volunteers tended to disregard host providers and ignored their insights into the needs of the community (Dupuis, 2003). One visiting professional told a local surgeon who requested to scrub with him, that he preferred to work with the nurse instead. The notion that the visiting providers had superior techniques likely influenced this behavior. Dupuis (2003) himself recalled an incident where a local surgeon asked him to look over some of his completed surgical cases. He realized that the surgeon was skilled in techniques far more advanced than assumed. The issue becomes more complex when local providers assumed that visiting physicians were more experienced. For example, Dominican Republic providers noted that there is an "implied teaching role" associated with visiting physicians, that made it uncomfortable to questions or challenge mission team practices (Bido et al., 2015).

Unfortunately, when the patients believed that STMM's provided superior care, they began to mistrust their local healthcare system (Loiseau et al., 2016; McLennan, 2014). Jennifer Whitfield observed this phenomenon and found that while the foreign missions were present, local physicians experienced a decrease in business and stunted the growth of their clinics. Ironically, the patients put their trust in physicians with very little experience in treating local diseases (Bartelme, 2015). The ignorance of indigenous diseases often lead to a greater strain on local resources after the mission returned home. Langowski and Iltis (2011) noted that once a STMM left, there was no accountability in

care, and follow-up inevitably fell to the local healthcare system. Any inadequate or poorly communicated treatment plans lead patients to believe that their local providers had failed them producing even greater levels of distrust (Langowski & Iltis, 2011).

STMMs also imposed a significant financial burden for local healthcare institutions (Butler, 2016). When a medical mission partnered with a local facility, they used equipment, patient rooms, fuel, and other resources. The facility was left to absorb the cost of these resources and was expected to cover the cost of follow-up care (Butler, 2016). Resource allocation focused on providing for the success of the STMM instead of supporting the community resulted in a dependent relationship and strained local budgets (McLennan, 2014).

Further Research Opportunities

The literature analysis reveals a critical need for research examining the risks and benefits of STMM's. Also needed is the creation of a system of accountability for medical missions. A standardized objective evaluation tool is essential for evaluating long-term sustainable outcomes, research into its development and consistent adoption is critical. Additionally, future research should focus on the development of a standard educational design for pre STMM volunteers, and analysis tools designed to evaluate educational outcomes for both volunteer and host providers. Equally important is research and analysis of host and patient perceptions of STMM care. In addition it is necessary to examine the cost effectiveness of STMM trips. Finally, STMM's should participate in an objective long-term sustainability outcome analysis of STMM activities.

Research examining these topics may provide the data necessary to establish standardized procedures for STMMs. Protocols will allow for objective comparisons between several types of medical mission trips. Comparison analysis determines which educational programs, care paths, and mission characteristics produce the desired long-term sustainability goals.

Conclusion

The number of STMMs has increased steadily over the last few decades. Ease of travel coupled with a desire to provide care to disadvantaged people groups has motivated greater numbers of healthcare providers to enter the mission field. Until recently, medical missions primarily focused on altruistic activities with little attention given to long-term outcomes. However, medical professionals are increasingly questioning whether their efforts are producing sustainable outcomes in the communities they have served. An analysis of available literature reveals that altruistic intensions may not be enough to produce sustainable outcomes in target communities. Research associated with STMMs is primarily limited to subjective reviews but does provide insight into both the effectiveness of, and barriers to sustainable medical missions. Unfortunately, the overall finding is that there is a general lack of standardization, education, evaluation, and recording of information (Maki et al.2008; Martiniuk et al., 2012; Sykes, 2014).

The lack of standard evaluation procedures presents a problem with long-term assessment of mission outcomes. Without an objective way to evaluate STMMs, it is

impossible to determine the true effect mission trips have on target communities. Furthermore, there is almost no evaluation of patient and host perceptions of care. Of the twenty-nine articles analyzed, only two included an evaluation of host impressions and only one included patient perspectives (Bido et al, 2015; O'Donnell et al., 2014). Without a clear understanding of patient needs and outcomes, it is impossible to assess for quality of care and sustainability goals.

The lack of accountability for STMMs is illustrated by the fact that here is no governing body to encourage unbiased evaluation or mandate data reporting. The evaluation tool created by Maki et al. (2008) provided a standard for STMM assessment, however, a lack of use and interest resulted in its abandonment (Caldron et al., 2015). Currently, no objective assessment tool for STMM outcomes exists, and sponsors are left to subjectively evaluate their own results. Subjective assessments are prone to poor analysis because of the natural tendency toward a false positive bias (Berry, 2016; Maki et al., 2008). The individual evaluations that are conducted rarely address long-term sustainability outcomes and provide no indication of the effect STMMs have on target communities after their departure.

Inadequate education of volunteers was also identified as a significant barrier to sustainable STMMs (Asgary & Junck, 2013). Poor education leads to miscommunication, cultural missteps, misdiagnoses, and even malpractice. As a result, it becomes difficult for STMMs to establish trust and produce quality patient care within target communities (Steinke, 2015). Untrained and under educated volunteers pose a significant risk to patient safety. In addition, providers may not be prepared for the

responsibilities assigned to them while abroad (Loiseau et al., 2016). Unfamiliar and resource limited environments only exacerbate safety risks. Researchers have identified the need for increased predeparture education, but few sponsors have actually implemented specific teaching techniques.

Education for local hosts helps to train the limited healthcare providers that work within a community. Local hosts often desire a sustainable and mutually beneficial exchange of knowledge and ideas. Unfortunately, federal policy makes it difficult for local providers to visit high-income countries. Educating participants on how to best navigate through the red tape may encourage a more equal sharing of knowledge and improve host-provider relationships (O'Donnell et al., 2014). More effective education includes international seminars and the "teaching the teacher" technique. There is also hope that one day modern technology can be more extensively used to provide education abroad (Butler, 2016).

Relationships are essential to a successful STMM and provide an opportunity to assess the strengths and weaknesses of all individuals in the healthcare team. Establishing strong connections with local healthcare members provides a strong foundation for productive teamwork. A good relationship between the hosts and providers makes it easier for missions to identify and address critical needs in target communities (Butler, 2016). Common barriers to effective relationships are associated with negative stereo-types, cultural ignorance and financial burdens (Bido et al., 2015; Dupuis, 2003).

Finally, it is important for STMMs to ensure that their participants are dedicated to promoting community health and establishing strong relationships. The pursuit of medical missions for the sole purpose of educational or altruistic experience poses a risk to the target communities (McLennan, 2014). While altruistic desire is not an inappropriate reason to volunteer for medical missions, the pursuit of charitable situations can lead to repetitive and ineffective medical care resulting from poor understanding of community needs (Loiseau et al., 2016). Volunteers should be selectively chosen based on their ability to work with others, and willingness to learn from the host community (Compton et al., 2014).

It is impossible to answer the question as to whether STMM's are doing more harm than good. There is simply not enough research to determine their true effectiveness. While STMMs have the potential to positively impact the communities they serve, healthcare professionals must understand the risks associated with each mission trip and mitigate them through education, commitment, and relationship building. Ultimately, long-term sustainable outcomes can only be evaluated through objective analysis of each STMM. Until a standard evaluation tool is routinely utilized, establishing consistent sustainable outcomes without creating cultural dependence on foreign aid will remain a challenge.

Appendix A

Literature Summary				
Author(s)	Title	Design	Key Findings	Recommendation for Future Research
Alghothani, N., Alghothani, Y., & Atassi, B.	Evaluation of a short-term medical mission to Syrian refugee camps in Turkey.	Empirical Study	STMMs are comprised of many different volunteers from a variety of educational backgrounds. Over 75% of respondents somewhat agree that education provided to patients was helpful but they all felt it could be improved. Two thirds of physicians felt that communication with local healthcare systems could be improved. Follow up was a referral to a local provider. Resources were sent to local providers to establish more sustainable care.	Continued periodic evaluation. Use of a standard evaluation tool.
Asgary, R., & Junck, E.	Evaluation of a short-term medical mission to Syrian refugee camps in Turkey.	Case Study	Need to be knowledgeable about local diseases and customs. Need to have long-term relationships to establish needs and goals. There needs to be long-term plans to improve follow up and accountability. There needs to be education focused on skills that are outside the normal scope of practice. There should also be education about the local customs, foods, medications, and infections. There needs to be education on what to expect during the STMM because of the possibility of culture shock. Relationships can lead to dependency if mission is not properly handled. STMMs	Better education for volunteers. Standards for training Standards for evaluation.

			should be evaluated by their organizations and feedback should be provided to volunteers.	
Bartelme, T.	Medical Missions: Do No Harm?	Theoretical Article	Physicians report that they were providing care that they are not trained in. There was also a severe shortage of local physicians available to the population. Patients gather for care and there are not enough physicians and not enough time to care for them all. During the Ebola crisis most of Liberia's doctors were volunteers who returned home. There were only about 50 physicians for the entire country. Patients also perceive the visiting team as superior to the local healthcare. In reality, the visiting team does not understand the local diseases and medical customs. Reports that STMMs are life changing for volunteers may not be long lasting. One physician established an educational program to help African doctors train together to help improve neurosurgery.	
Bido, J., Singer, S. J., Diez Portela, D., Ghazinouri, R., Driscoll, D. A., Alcantara Abreu, L., … Katz, J. N.	Sustainability assessment of a short-term international medical mission.	Case Study	A knowledge transfer between hosts and providers has improved local healthcare policies and encouraged foreign providers to be more cost effective and open minded. Local healthcare providers also report that through observation, the communication between nurses and physicians has improved. There is also a greater desire for seeking continual education. Returning yearly has provided local hosts the opportunity to be more involved in what education they receive as well as establishing mutual goals. Volunteers also report that when they first began their missions it was easy for the local providers to get lost. There is an implied teaching role that may encourage the volunteers to be less open.	Incorporate more language education material.

Berry, N. S.	Did we do good? NGOs, conflicts of interest and the evaluation of short-term medical missions in Sololá, Guatemala.	Case Study	Providers treat complications that are not the highest priority. There is also a lack of education and follow up to ensure patient compliance and safety. The desire to do good creates a bias with evaluation because the expectation of good results creates good results. There has been some effort to standardize evaluations of STMMs. All evaluations are done by the missions themselves. Those that volunteer do so because of a desire to help the less fortunate. There are those that participate in STMMs when there is an incentive. Providers also feel able to put limitations or dictate what type of care they are given. Local providers may want to put limits on volunteers but feel unable to because then the aid would stop. Locals have to perform follow up care which they may not be capable of or afford to do. Local providers may try to run a STMM facility but are unable to because of language and foreign policy barriers.	
Butler, M. W.	Developing pediatric surgery in low- and middle-income countries: An evaluation of contemporary education and care delivery models.	Case Study	Visiting surgeons are not familiar with local culture and medical needs. Hosts could lose money because their patients are not coming to them for care and they may have to accompany the visiting physicians. The use of equipment can also cost money for the hosts. Locals can also lose faith in the local healthcare system. There needs to be an education for volunteers focused on cultural customs, language, medical conditions, and socioeconomic environment. Visiting providers should partner with locals to set goals and distribute resources. Care should only be provided to cases where there is low risk of complication. One way to educate local	Research into long-term or permanent missions and their impact on a community.

			providers is through a system where STMMs train a few providers who then go on to train other providers. Large teaching workshops can help provide techniques for overarching issues.	
Caldron, P. H., Impens, A., Pavlova, M., & Groot, W.	A systematic review of social, economic and diplomatic aspects of short-term medical missions.	Literature Review	There is no national or international governing entity to monitor STMM organization and evaluation. It is possible there are more STMMs than are known because there is a lack of reporting. Most articles are qualitative data.	Research on perspectives of patient and community served. Cost of STMMs.
Campbell, A., Sullivan, M., Sherman, R., & Magee, W. P.	The Medical Mission and Modern Cultural Competency Training.	Case Study	Cultural Competency is important because 92% of students surveyed were interested in international service opportunities. Missions abroad can be used to train students in cultural competency. Students report improved confidence as well as improved culturally sensitive care.	
Chiu, Y. W., Weng, Y. H., Chen, C. F., Yang, C. Y., & Lee, M. L.	Perceptions and Efficiency of Short-Term Medical Aid Missions Among Key Groups of Health Professionals.	Case Study	Participants want to be a part of STMMs because of their desire to help people, desire for new experiences, travel, and for assignments. There is a need for interpreters and language education, especially with medical terminology. There is also a need for education of the local culture and needs.	
Chuang, C., Khatri, S. H., Gill, M. S., Trehan, N., Masineni, S., Chikkam, V., … Levine, D. L.	Medical and pharmacy student concerns about participating on international service-learning trips Career choice, professional education and development.	Case Study	The students had to rely on interpreters or smart devices to communicate. Students feel the trips give them valuable experience. They feel that their personal and professional lives were impacted by their experiences. They have a greater understanding of global needs. Students were concerned especially with language barriers.	Pre-trip orientation and curriculum assessment.

Compton, B., Lasker, J. N., & Rozier, M.	Short-term medical mission trips: phase I research findings.	Case Study	Volunteers should be selected based on their ability to work in a team as well as those willing to learn from the host community. Orientation should last at least half a day and focus on local customs and what to expect while abroad. Partners in the local community need to participate in the establishment of goals for the STMM. There is no standard for evaluation. There should be longer stays and more frequent visits. There should be efforts for the volunteers to understand the local language.	Standard for evaluation
Dilger, H.	Claiming territory: medical mission, interreligious revivalism, and the spatialization of health interventions in urban Tanzania.	Case Study	Faith based organizations can have an impact on the development of a community. STMMs have to work with limited resources. Medical missions were once primarily faith based. STMMs are comprised of a wide variety of individuals.	
Dupuis, C. C.	Humanitarian missions in the third world: a polite dissent.	Case Study/Editorial	STMM volunteers are focused on finding experiences for training instead of providing safe care. In some situations, this has even resulted in patient death. There is no follow up and no one to hold the mission accountable for complications that result from their care. The cost of sending a foreign provider abroad is much higher than it would be to have a local physician perform the same level of care. Care should not be performed abroad if it would not be performed at home. Partnering and communicating with the local provider is important. Visiting physicians underestimate the foreign providers' abilities and are not always friendly an open. Though volunteers are well intentioned they may be providing care	Research on longer stays with smaller teams that integrate into the community.

			that is not necessary, nor meeting the immediate need.	
Grundmann, C. H.	Sent to Heal! About the Biblical Roots, the History, and the Legacy of Medical Missions.	Historical Review	Medical missions started in the mid-1800s in China. Originally, they were religious missions but with the rise of medical care it became essential in missionary work. Originally it was a long-term commitment, where providers worked for years. National healthcare encouraged medical missions to move away from a religious only aspect and other organizations began to sponsor trips as well. Improvements in affordable and fast travel decreased the time required to provide care.	
Langowski, M. K., & Iltis, A. S.	Global health needs and the short-term medical volunteer: Ethical considerations.	Literature Review	Not all medical care given to low-income communities is beneficial. The community may not have been included in goal setting and assessments. Volunteers may be diverting patients away from local providers. Professionals may also be providing care outside their scope of practice. There is a lack of accountability associated with follow up for the medical mission. Training for visiting providers on the work environment as well as other complications they may face could help with the implementation of care. Visiting providers should partner with local healthcare agencies in order to provide ethical and cost-effective care.	
Loiseau, B., Sibbald, R., Raman, S. A., Darren, B.,	Perceptions of the Role of Short-Term Volunteerism in International Development: Views	Empirical Study	Hosts and volunteers believe that medical missions helped local health efforts by providing resources and service. Local hosts believe that volunteers help to raise awareness of their country's conditions. Volunteers feel that their efforts could lead to dependency if	Research into ways to promote social change to help prolong the effects of missions.

Loh, L. C., & Dimaras, H.	from Volunteers, Local Hosts, and Community Members.		they are not careful. There can be conflict over the limited resources brought by the volunteers. Additionally, with many teams visiting the work that is done by one team may be undone by the next. Volunteers feel that they are not prepared for the culture and feel unable to adequately relate to cultural practices and norms of the local peoples. Local hosts feel that the volunteers are superior. Volunteers believe that their care is of higher quality. Both local and volunteer participants believe that altruism is a motivation for STMMs. There are times when volunteers are practicing outside of their scope, but locals feel that there is not anything unethical because there is a licensed person to monitor the situation. Volunteers feel privileged to work outside of their scope of practice. Volunteers should be trained in cultural norms and expectations for the trip. They should at least have an intermediate understanding of the native language. A willingness to help and learn from the local population is identified as necessary from volunteers.	
Maki, J., Qualls, M., White, B., Kleefield, S., & Crone, R.	Health impact assessment and short-term medical missions: A methods study to evaluate quality of care.	Methodological Study	Need for standard of evaluation. Evaluation should include the cost of the mission, the efficiency of the mission when treating patients, the impact or effectiveness of the mission, how prepared the team was before and during the mission, what resources are dedicated to education during the mission, and the sustainability of the mission. Provided tool cannot evaluate specific needs of the mission. Also requires the missions to evaluate themselves which does not eliminate the bias. The evaluation tool provided requires patient	Use of standard method of medical mission evaluation Evaluation needs to be made from an objective standpoint.

			interviews that may be difficult due to time restraints and language barriers.	
Martiniuk, A., Manouchehrian, M., Negin, J. A., & Zwi, A. B.	Brain Gains: A Literature Review of Medical Missions to low and Middle-Income Countries.	Literature Review	Cleft lip and palate surgeries are the main medical traditions treated. Medical Professionals felt that the missions satisfied their desire to help others. Hosts feel that the missions improve recognition of the plight of the country. Missions are not sustainable. Resources may not be appropriately allocated. Providers may be asked to provide care they are not experienced in. This care may still be the best option for the patients at the time. Visitors may just be visiting to gain unique experiences and may not be contributing to the long-term improvement of the country. Visitors are not fully aware of the extent of the poverty they may face, and their lack of awareness can lead to the perception of superiority in the STMM volunteers. There is a bias when healthcare providers analyze and research their own missions.	Investigation of skills required for the host country Investigation of the long-term effect missions have on the local healthcare. Discussion of the obligation of mission concerning follow up care. Missions need to be carefully planned and results need to be reported. There should be extensive training to prepare for the realities of the culture and challenges they may be facing.
McLennan, S	Medical voluntourism in Honduras: “Helping” the poor?	Case Study	International Volunteers are motivated by altruistic desires. This may reinforce stereotypes that volunteers are superior to local communities. Local patients believe this as well and can lead to dependency on the volunteers. Volunteers are reliant on interpreters. There should be education of cultural differences and socioeconomic situation. There are often limited resources for volunteers to use. Volunteers can be of varying education levels and can be affected by local conditions. Volunteers feel that their care does not always address the larger issue, however, they still feel they make a difference. Many	Long term programs.

			teams volunteer to the same place year after year.	
O'Donnell, S., Adler, D. H., Inboriboon, P. C., Alvarado, H., Acosta, R., Godoy-Monzon, D., … Godoy-Monzon, D.	Perspectives of South American physicians hosting foreign rotators in emergency medicine.	Case Study	There is a desire for hosts and visiting teams to share information about healthcare systems and research. This is done through lectures, discussions, and demonstrations. Hosts believe that relationships should be long term and lead to increased number of STMM to the community. Some hosts would like volunteers to be better trained. Others feel that any help is good. Language was a large barrier for care and communication. Hosts would like to travel to the US but are unable to because of the high cost of travel and the bureaucratic policies.	
Ott, B. B., & Olson, R. M.	Ethical issues of medical missions: The clinicians' view.	Case Study	Operation Smile is a STMM specializing in surgery, especially cleft lip and palate. There is a specific policy established for determining who gets care. There are many more patients than they are capable of caring for. One barrier to care is language. It makes it difficult to get an informed consent for surgery. There is a variety of healthcare personnel but no students. The number of patients disrupts the hospital routine costing them money. Local providers may also be asked to work overtime. There are facilities established that provide care year-round. As locals become licensed they move into career positions in these facilities.	
Steinke, M. K., Riner, M. E., & Shieh, C.	The Impact of Cultural Competence Education on Short-Term Medical Mission Groups.	Case Study	Providing education to volunteers increases their cultural competency scores. This was a small study, however, and previous exposure to cultural competence was not considered.	There should be a standard program for cultural education.

Suchdev, P., Ahrens, K., Click, E., Macklin, L., Evangelista, D., & Graham, E.	A model for sustainable short-term international medical trips.	Methodological Study	Medical trips are conducted to provide experience and value to the volunteer. They also only provide temporary help and are not delivering care according to the standard of the sponsoring country. Missions need to establish a goal with the local providers. To do this they need to establish relationship with the community. There needs to be education given to the providers on what to expect in the host community as well as their medical needs. Teams should evaluate the individual skills of the members to better work together. Trips should also return multiple times to the same location to establish a sustainable relationship. Evaluation and reporting of the data should take place in ever STMM so that it can be used and referenced.	
Sykes, K. J.	Short-Term Medical Service Trips: A Systematic Review of the Evidence.	Literature Review	Medical missions may not be treating the primary source of the healthcare problems in the community. There are many resources and funds dedicated to STMMs. There is a lack of standard practice guidelines for STMMs. Patients in low income countries are at high risk. Missions may be addressing the community needs or they may be used to practice techniques on patients in need. People participate in STMMs for personal development, diplomatic relations, emotional benefits, and the altruistic desire to help the less fortunate. Missions can be sponsored by faith-based organizations, educational organizations, and medical facilities. Follow up for patients with STMMs range from 1 day to 1 week. There are benefits to using a standard evaluation tool though the unified questions may not assess all aspects of the mission. There	There should be a system of data collection in place. Data needs to be collected from the patient's perspective. Research focused on benefits of financial, social, and psychological care.

			should be an increase in cultural competence training. Partnership should not include an exchange of patients or healthcare personnel as it is very expensive. Instead materials should be donated and local healthcare personnel can be trained in their communities.	
Vu, M. T., Johnson, T. R., Francois, R., Simms-Cendan, J.	Sustained impact of short-term international medical mission trips: Resident perspectives.	Case Study	Students who participate in medical missions feel that their lives are changed for the better. They believe that they are able to adapt to new healthcare situations better as well as improve their communication with patients and staff. They also feel they are better able to provide care for patients of diverse cultural and socioeconomic backgrounds.	There should be an increase of STMMs to provide more opportunities for students to attend. Studying how the students perform during and after the mission to determine the impact of a STMM experience.
Widmer, M., Betran, A. P., Merialdi, M., Requejo, J., & Karpf, T.	The role of faith-based organizations in maternal and newborn healthcare in Africa.	Case Study	Maternal and newborn healthcare is limited in Africa. STMMs can help to deliver this care. It is possible that the care given by STMMs is better than what is normally available. Missions are not recognized and may not be adequately supported. Stronger partnerships could improve reporting as well as funding for these missions.	Research into why care in these STMMs are perceived as better than the local healthcare.

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