International Short-term Medical Service Trips: Guidelines from the Literature and Perspectives from the Field

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Abstract

The increasing interest in practising medicine overseas has outpaced research conducted to evaluate its effectiveness and the development of guidelines from evidence-based best practices. Short-term medical teams regularly travel to provide medical care, yet there is little research on the impact or practices of these missions. This study assessed current practices and challenges of short-term medical service teams, using questionnaire-based interviews of 40 participants in recent medical service trips. Study results and a review of recommendations in peer-reviewed journals were used to develop guidelines for international short-term medical trips in relation to mission, collaboration, education and capacity building, provider qualifications, appropriate donations, and cultural sensitivity and understanding. Guidelines that inform models, approaches, best practices and minimum standards for short-term medical service trips should be adopted so that improved and sustainable outcomes can be consistently achieved.

Introduction

Medical professionals in the United States have been increasingly travelling abroad on short-term medical service trips with the aim of improving the health of populations worldwide (Thompson et al. 2003). In 2003, an estimated 2.5 million individuals were involved in short-term outreach trips; however, the number involved in medical missions is unclear (Honig 2005; Bajkiewicz 2009). In

2004, MAP International, a non-governmental organization, provided medicines for 880 medical teams with nearly 16,000 participants, and this likely represents a relatively small portion of medical mission trips (Dohn and Dohn 2006). A more recent review identified 543 organizations involved in short-term medical service trips, with an average of 10 missions per year, at a cost of 50,000 US dollars per mission, suggesting that 250 million dollars might be a conservative estimate of annual expenditure on short-term medical mission trips (Maki et al. 2008). The health needs of populations served by mission trips are as varied as the medical approaches used to address them. Short-term trips provide services for primary healthcare, dentistry, training of local professionals, and surgical procedures to address conditions such as cleft palate and fistula, among others, as well as services following disasters such as the recent Haiti earthquake.

With the recent growth in the number of international medical service trips, there is a paucity of guidelines and evaluation measures for individuals and organizations involved. Maki et al (2008) propose an assessment tool focusing on areas of concern common to most short-term medical mission trips that incorporates host, patient and personnel perspectives; however, it has not been implemented on a widespread basis. Currently, there are no comprehensive guidelines for professionals providing medical care on international short-term medical trips in a stable development setting. The majority of existing guidelines focus on post-disaster situations, though the World Health Organization (WHO) has published guidelines on drug and medical equipment donations (The Sphere Project 2004; Pan American Health Organization [PAHO] 1999, 2003; WHO 1999, 2000). One potential challenge to the development of guidelines for short-term medical service trips is the lack of rigorous investigations into best practices of such assistance. This study sought to document experiences and lessons learned from a variety of individuals and organizations participating in short-term trips.

Methods

The study aimed to assess current practices of short-term medical service trips, document challenges encountered by participants and provide recommendations from the provider perspective on how trips should be conducted. The study was limited to participants in short-term medical service trips that (1) were less than 2 months in duration, (2) consisted of teams with at least three members, (3) were focused on general medical and surgical care (i.e., no dental trips), and (4) were to stable developing countries and were not emergency related. No list of individuals participating in short-term overseas medical service provision overseas exists, necessitating the use of a convenience sample. A pool of respondents of diverse age, experience and background was sought to increase the generalizability of the study (Grandheim and Lundman 2004). To achieve diversity among respondents, the sample was stratified by the type of organizational sponsor; approximately one third of respondents were from academic institutions, faith-based groups and secular non-governmental organizations (NGOs). Participants were recruited from organizations known to sponsor trips, networks in the medical and NGO communities and individual referral; there was approximately one (median = 1; range 1-3) respondent per organization, and no two individuals participated in the same trip. The final sample comprised 40 respondents, including health professionals and non-health professionals who had participated in international short-term medical service trips in the past 6 years.

Interviews focused on individual experiences with medical service trips and gathered detailed information on the individual's most recent trip. Interviews were between 30 and 50 minutes in duration and were conducted in person or via phone, depending on the respondent's location. All prospective participants were first read a study information sheet; if they agreed to participate, the interview was completed. The survey instrument was primarily a quantitative tool with close-ended questions; however, several open-ended questions were included to capture more detailed information on challenges and recommendations for future trips. The survey tool was developed based on discussions with individuals who had participated in medical mission trips. Prior to finalization, the instrument was piloted to ensure clarity; individuals participating in the development and piloting

of the questionnaire were not eligible to participate in the study. Data were analyzed in SPSS, version 15.0 (Chicago, IL) using standard statistical methods with a focus on individual and team/trip descriptive statistics.

The study was reviewed by the Johns Hopkins Bloomberg School of Public Health Committee on Human Research.

Results

Of the 40 respondents, the majority were female (68%) and the average age was 39 years (range 23 to 71). Participants were from 17 different states across the United States and included relatively high numbers of respondents from Maryland (35%) and California (18%). Half of those included in the final sample were physicians, followed by other health professionals (40%) and non-health professionals (10%). On their most recent trips, they had worked in 16 countries across four continents; 40% travelled with secular NGOs, 28% with academic institutions and 32% with faith-based groups. Overall, the 40 respondents had participated in 300 medical service trips, with an average of 7.5 trips per person.

Individual experiences on the most recent trip varied tremendously, as did trip objectives and team composition. Teams averaged 18 participants (range 3 to 55; median = 15.5), and 58% of respondents reported it was their first time going to the location. Descriptive characteristics of the trips and medical teams are summarized in Table 1. Over half (53%) of the trips were planned with a health-affiliated organization and/or health professional(s) in the host country. Trips were financed from a variety of sources, primarily the volunteers' personal finances (88%); other funding sources included donations (40%), grants (20%), organizational sponsors (18%), churches (13%) and medical schools (13%).[1] The average reported cost per team was 22,650 US dollars (CI 16,024 to 29,277; median = 17,820). A significant portion of costs were covered by local counterpart organizations and/or communities as in-kind support while in the country, with 80% of respondents reporting some type of local support for their team.

Table 1. Profile of team and trip

Months since most recent trip at time of interview, median (min, max)	9 (1, 68)
Type of organization participated with	
NGO, no. (%)	16 (40.0)
Faith based, no. (%)	13 (32.5)
Academic, no. (%)	11 (27.5)
Location of trip	
South America, no. (%)	14 (35.0)
Caribbean, no. (%)	10 (25.0)
Central America, no. (%)	9 (22.5)
Africa, no. (%)	5 (12.5)
Asia, no. (%)	2 (5.0)
Number of sites visited by team, mean (min, max)	2.8 (1, 10)

[1] Multiple responses were permitted.

Table 1. Continued

Area where majority of medical services were provided	
Rural, no. (%)	29 (72.5)
Urban, no. (%)	11 (27.5)
Length of trip (in days), mean (min, max)	14 (5, 49)
Length of working time (in days), mean (min, max)	11 (4, 28)
Team's primary objective for trip	
Provide medical services, no. (%)	29 (72.5)
Training, no. (%)	8 (20.0)
Of US, no. (%)	3 (7.5)
Of locals, no. (%)	4 (10.0)[a]
Faith based, no. (%)	2 (5.0)
Research, no. (%)	1 (2.5)
Culture/language exchange, no. (%)	0 (0.0)
Team's other objectives for trip, multiple answers	
Provide medical services, no. (%)	7 (17.5)
Training, no. (%)	14 (35.0)
Of US, no. (%)	6 (15.0)
Of locals, no. (%)	4 (10.0)[b]
Research, no. (%)	4 (10.0)
Faith based, no. (%)	6 (15.0)
Culture/language exchange, no. (%)	4 (10.0)
Other, no. (%)	8 (20.0)
None, no. (%)	7 (17.5)
Number of people on team, mean (min, max)	18.1 (3, 55)
Physicians, mean (min, max)	4.8 (0, 16)
Nurses, mean (min, max)	4.0 (0, 15)
Other health professionals, mean (min, max)	3.8 (0, 16)
Non-health workers, mean (min, max)	5.5 (0, 46)
First time going to site of most recent trip, no. (%)	23 (57.5)
Number of times organization has sent team to site before, mean (min, max)	13.5 (0, 100)
Team needed interpreters, no. (%)	35 (87.5)
Number of interpreters, mean (min, max)	6.3 (1, 15)

Table 1. Continued

Demographics of interpreters	
Nationals, no. (%)	28 (70.0)
Expatriats in country, no. (%)	13 (32.5)
Expatriats from organization, no. (%)	9 (22.5)
None needed, no. (%)	5 (12.5)

NGO = non-governmental organization.
[a] One interviewee did not specify who was trained; therefore percentages do not sum to the total of 20%.
[b] Four interviewees did not specify who was trained; therefore percentages do not sum to the total of 35%.

Short-term medical service trips either provided a variety of medical services or focused specifically on one type of surgery (Table 2). More than a quarter of teams (28%) focused on surgical interventions; teams offering other services tended to focus on general medicine and pediatric care. On average, teams saw a total of 1,243 patients (range 4 to 4,550; median = 630); there was no significant relationship between team size and number of patients seen per working day (p = .877, n = 30), even after stratification by service type (surgery, p = .281, n = 8; primary care, p = .690, n = 22). The lack of association between team size and patients treated may be associated with poor reporting quality, where the majority of respondents indicated that numbers provided were estimates and that patient treatment records were not maintained by organizations sponsoring the trips. Most respondents (80%) indicated that medical records were kept in the country with the local partner organization, other health organizations or patients; however, a substantial minority (20%) of records were destroyed or kept solely with the American medical team.

Table 2. Medical services

Services provided by team included	
General adult medical, no. (%)	21 (52.5)
Obstetrics/gynecology, no. (%)	10 (25.0)
Pediatrics, no. (%)	28 (70.0)
Ophthalmology, no. (%)	7 (17.5)
Surgery, no. (%)	11 (27.5)
Dentistry, no. (%)	8 (20.0)
Other, no. (%)[a]	11 (27.5)
Number of patients treated by team, mean (min, max), N = 30	1243 (4, 4550) median = 630
Medical records, either existing or created, were kept in country,[b] no. (%)	32 (80.0)
Interviewee knew that team used international algorithms or guidelines on the trip, no. (%)	5 (12.5)
Interviewee aware that team performed an assessment of the medical services provided, no. (%)	17 (42.5)
Team assessment provided to a local health organization or governmental body,[c] no. (%), N = 17	9 (52.9)

Table 2. Continued

Team provided medical training to locals, no. (%)	17 (42.5)
Profession of providers that were trained (*N*=17)	
Physicians, no. (%)	13 (76.5)
Nurses, no. (%)	8 (47.1)
Medical students, no. (%)	4 (23.5)
Community health workers, no. (%)	1 (5.9)
Others, no. (%)	5 (29.4)
Group health education was a component of the trip, no. (%)	9 (22.5)
Team provided other services, besides medical, while in host country, no. (%)	13 (32.5)
Infrastructure/construction, no. (%), *N*= 13	5 (38.5)
Faith-based activities, no. (%), *N*= 13	4 (30.8)

[a] Other included social work, cardiology, surgery referrals, orthopedics, gastroenterology, audiology, optometry, psychology, physical therapy, occupational therapy and chiropractics.
[b] Included with local coordinating organization, other local health organization or patients.
[c] Included categories marked as host organization, host Ministry of Health and other local health organization.

The majority of respondents (90%) reported that their teams brought donations, but several respondents reported not taking any, including medications, because they viewed it as building dependency (Table 3). Of the 36 respondents whose teams had donated medicines, 11% indicated medications had expired. Most donations (80%) were left with health organizations or health professionals; however, 20% of participants reported that donations were not left with qualified medical professionals or health organizations. Respondents reported that some type of guideline, including national customs regulations or personal guidelines, were followed by 30% of teams. However, awareness of international recommendations was limited. Only 13% of respondents reporting familiarity with algorithms or treatment guidelines common in developing countries, and 25% reporting awareness of the WHO Guidelines for Drug Donations (WHO 1999). While no respondents indicated that their team adhered to WHO guidelines, a few reported using components of the WHO guidelines, such as not donating expired medications or leaving drug donations with appropriately skilled professionals.

Table 3. Donations

Teams brought the following donations to the host country	
Medicines, no. (%)	36 (90.0)
Medical supplies, no. (%)	36 (90.0)
Medical equipment, no. (%)	22 (55.0)
Money, no. (%)	11 (27.5)
Other, no. (%)	25 (62.5)
None, no. (%)	2 (5.0)

Table 3. Continued

If medicines were brought, teams that brought expired medications, no. (%) *N* = 36	4 (11.1)
Supplies left in country, *N* = 35:	
Local health organization and/or health professional(s), no. (%)	27 (77.1)
Non-health organization or person(s), no. (%)	4 (11.4)
Storage for next US-based medical service trip, no. (%)	4 (11.4)
Team followed guidelines/regulations for donating medications, no. (%), *N* = 25	12 (48.0)
National customs regulations, no. (%)	6 (50.0)
Personal guidelines/beliefs, no. (%)	4 (33.3)
National regulations and personal guidelines/beliefs, no. (%)	1 (8.3)
Organizational and donor guidelines, no. (%)	1 (8.3)
Interviewee aware of WHO Drug Donation Guidelines, no. (%)	10 (25.0)

Approximately 78% of teams involved local health providers in provision of care by, and training was provided to local providers on 43% of trips, the majority of which focused on capacity building for physicians and nurses. Over half of respondents did not know whether medical licensure or approval for visiting medical professionals was required in the country where they had worked; among physicians and nurses interviewed, this proportion was lower, at 44% (Table 4).

Table 4. Involvement of local health workers

Nationals involved in patient care with team, no. (%)	31 (77.5)
Profession of nationals involved in patient care, *N* = 31	
Physicians, no. (%)	21 (67.7)
Nurses, no. (%)	25 (80.6)
Community health workers, no. (%)	4 (12.9)
Residents or medical students, no. (%)	6 (19.4)
Other, no. (%)	14 (45.2)
Ministry of Health in country aware of team's presence, no. (%), *N* = 27[a]	26 (96.3)
Interviewee's perspective on MOH's involvement with coordinating team's activities, *N* = 26	
Aware of team's activities, nothing further, no. (%)	17 (65.4)
Minor assistance with team's activities, no. (%)	4 (15.4)
Significant assistance with team's activities, no. (%)	3 (11.5)
Essential assistance with team's activities, no. (%)	1 (3.8)
Interviewee reporting requirement of government licensure or approval in host country	
Yes, no. (%)	12 (30.0)

Table 4. Continued

No, no. (%)	7 (17.5)
Do not know, no. (%)	21 (52.5)

[a] Twelve did not know, and one was missing data.

Open-ended responses revealed a more comprehensive picture that represents diverse perspectives; common themes (mentioned in open-ended questions by ≥20% of respondents) and recommendations for medical service trips from the provider's perspective are summarized in Box 1. In general, respondents stressed a capacity-building approach as the preferred model (rather than direct patient care). Education and training of local healthcare providers, in both basic and more advanced care, was viewed as a more sustainable and lasting solution for improvements in a population's health. In open-ended responses, four (10%) respondents reported that short-term medical service trips should not be conducted, based on their experiences.

Discussion

Short-term medical trips commonly face criticism on resources used, particularly pertaining to time and financial expenses (DeCamp 2007). In addition to the argument that time spent planning might be better utilized on other endeavours aimed at improving health, a parallel criticism can be made for money, where the thousands of dollars spent could have a greater impact if directly invested in the local health system (Wall et al. 2006). Alternatively, short-term medical trips can improve the lives of patients who may not have been treated otherwise. The ad hoc nature of many current trips and the variation in their goals and impact underscores the importance for the development of guidelines. In the existing literature, most publications on short-term medical trips are written from the provider's perspective. Some accounts provide only personal experiences and perspectives (DeCamp 2007; Dupuis 2004, 2006; Fairclough and Spencer 1981; Robinson 2006; Wolfberg 2006), while others have drawn on experiences to develop suggested guidelines for future teams (Ruiz-Razura et al. 2000; Suchdev et al. 2007; Wall et al. 2006; Walsh 2004; Woods and Kiely 2000; Wright et al. 2007). This study represents an initial attempt to assess short-term international medical mission trips that are conducted by a range of individuals and organizations. Recommendations were developed based on study findings and the existing literature, with the aim of facilitating dialogue and illustrating the need for further research into the positive and negative aspects of short-term medical mission trips.

Mission. *A common sense of purpose should be shared by all team members, and field activities should be evaluated to ensure they reflect team objectives.* While this is stressed in the literature, only 13% of interviewees mentioned the importance of a cohesive and transparent mission; lack of team communication and understanding were major challenges reported by some respondents. The overarching goal of most humanitarian health organizations is to reduce health disparities between populations, and the current trend is to do so via provision of medical services and supplies (Walsh 2004). If the mission is to reduce health disparities, a genuine commitment to addressing community priorities and needs is essential (Suchdev et al. 2007). However, some would argue this is beyond the scope of short-term trips and that more time is required to achieve these goals (Suchdev et al. 2007; Wolfberg 2006).

Collaboration. *Identification of an appropriate collaborating partner that is an active member of the local health infrastructure is essential to the success and impact of medical service trips.* All study participants collaborated with a local organization, though only 53% were health organizations or health professionals. That short-term medical assistance trips may bypass and undermine local health infrastructure, thereby creating dependency and more problems for future generations, is a documented concern (Banatvala and Zwi 2000). Collaboration ensures community acceptance and enhances continuity of care, thereby promoting longer-term impact (Ruiz-Razura et al. 2000; Suchdev et al. 2007; Wall et al. 2006; Wright et al. 2007). One medical mission organization has

helped to establish local NGOs through training and capacity-building efforts. These local organizations continue to provide care to underserved populations, illustrating the potential for sustainability and longer-term impacts of medical mission trips (Ruiz-Razura et al. 2000).

Education and Capacity Building. *A focus on education and training of local providers during short-term medical trips is necessary if long-term sustainable impact is to be achieved.* Fewer than half of teams in this study provided medical training to local professionals, though a quarter of respondents stressed that capacity building and education were important considerations. Integration of short-term medical service trip activities with the operations of local providers can ensure a more sustainable impact. The proposed paradigm shift for short-term medical trips suggests a focus on training and education, with increased attention given to capacity building for ongoing local interventions and providers that will remain in the community after the team has departed (DeCamp 2007; Roberts 2006; Ruiz-Razura et al. 2000; Suchdev et al. 2007; Wall et al. 2006; Wolfberg 2006; Wright et al. 2007).

Themes and recommendations for short-term medical service trips

- Have thorough logistical planning and organizing.
- Prepare for appropriate measures to overcome language barriers.
- Ensure the team understands cultural and regional components in the areas to be served, particularly in regard to health needs.
- Be cautious and thoughtful about medication and other medical donations (long-term effects, appropriateness, complications afterwards, etc.).
- Prepare for continuity of care and follow-up for when team leaves.
- Set realistic expectations for team and locals.
- Be flexible and adaptable.
- Build long-term relationships.
- Focus more on an education/training-oriented model of service versus provision of care.
- Integrate into and collaborate with local health professionals and health systems (mentioned by almost three quarters of the respondents).

Provider Qualifications. *Health professionals on international service trips should have appropriate licences from their own country and proper approval for practising medicine in countries where they provide services; not doing so is unethical* (Ruiz-Razura et al. 2000). Less than half of respondents in this study were aware of government regulations in the respective countries where they practised medicine. Some countries require an actual licence, while others require a copy of the equivalent United States licensure. Complication rates of cleft palate operations by foreign amateur physicians have been estimated at over 30%, and a study of complications occurring from short-term surgical trips reported four deaths due to anesthesia complications (Dupuis 2004; Fisher et al. 2001). Medical students and residents often participate in short-term medical trips, and with appropriate supervision this can be a valuable learning experience. However, their presence should not displace training of local providers who will continue providing care to the local population; nor should it jeopardize treatment outcomes (Wright et al. 2007).

Appropriate Donations. *Donations of non-expired medications and medical equipment should be left with trained medical personnel or health organizations to ensure proper use once the team has departed.* Among survey respondents, 77% left medical donations with health professionals or organizations, and at least 11% of teams donated expired medications. Medications are often dispensed inappropriately, including by volunteers without clinical training, or are left with individuals or organiza-

tions that are not qualified to dispense them; furthermore, distribution that is not in accordance with patient medical needs is a common problem (Roberts 2006). While international standards for drug and medical equipment donation guidelines are outlined in the WHO Guidelines for Drug Donations (1999) and the WHO Guidelines for Health Care Equipment Donations (2000), only one quarter of study respondents were aware of these guidelines, and none indicated the guidelines were followed on their most recent service trip. This suggests that sponsoring organizations should provide training surrounding this issue prior to departure for medical service trips.

Cultural Sensitivity and Understanding. *Adequate patient–provider communication, respect and understanding of cultural differences are essential for patient safety and the success of the medical service trip.* Over 40% of study participants reported that appropriate language skills are essential for a trip, indicating awareness of the issue; however, 20% reported that language barriers or lack of translators were challenges faced by their team. A key component to safety is ensuring patients have an adequate understanding of what transpires during consultations and/or a clear understanding of surgery-associated risks. Cultural sensitivity and respect are crucial concerns for visiting teams, especially in relation to understanding local medical practices and beliefs that can be crucial for patient safety (Ruiz-Razura et al. 2000).

Study Limitations

The study is limited in scope, and additional research is warranted, particularly of evaluations of short-term medical service trip impacts from the perspective of the communities they serve. The primary limitation of this study is the convenience sample; no complete list of organizations or individuals participating in short-term international medical trips existed, preventing the use of random sampling. Another important limitation is the small sample size, ideal for qualitative research but less than desirable for quantitative outcomes. Furthermore, only one member per team was interviewed. It is likely that others may have had more detailed knowledge and that having multiple respondents per team would have yielded more accurate information. Recall is also a limitation, necessitating a focus on the respondent's most recent trip rather than on cumulative experience on medical service trips. Lastly, the study was limited to US providers, who may not have responded objectively to some questions. Local communities and host organizations were not included in the study, allowing only the provider perspective to be documented; the perspective most lacking in the literature is that of the receiving population.

Conclusions

While international short-term medical service trips may be motivated by genuine humanitarian concerns, they should aim to achieve the broader objectives of enhancing local health service provision and improving health status in the communities they serve. A focus on ethical issues, professional practice and accountability needs to be maintained so that unintended negative consequences do not outweigh the benefits of services provided. Newer models for international short-term medical trips that focus on providing a mixture of capacity building and health service provision need to be considered if sustainable impacts are to be achieved. The increasing interest in practising medicine overseas has outpaced research on the effectiveness of short-term medical service trips and the formulation of evidence-based best practices for such medical teams. Development of evidence-based guidelines and minimum standards would improve the result of medical service trips by promoting health in the communities they target while ensuring minimum standards in patient care and accountability. Short-term medical service trips require considerable amounts of energy and resources and are likely to persist in the near future. Efforts to incorporate evidence-based practices and broader development objectives of sustainable improvements in community health into medical mission trips could contribute to longer-lasting and improved outcomes.

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