

Research Article

Assessment of Local Health Worker Attitudes toward International Medical Volunteers in Low- and Middle-income Countries: A Global Survey

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ABSTRACT

Background: International Medical Volunteers (IMVs) positively and negatively impact host countries, and the goals of their trips may not always align with the interests of the hosts in Low- and Middle-Income Countries (LMICs). We sought to better understand local physicians' interest of hosting IMVs and what type of support they desired.

Methods: This study was a convenience sample survey-based needs assessment. The surveys were distributed to local physicians by 28 professional society groups in LMICs.

Findings: A total of 102 physicians from 51 countries completed the survey. Despite 61.8% participants having no experience with IMVs, 75% were interested in hosting them. Host physicians most desired clinical education (39%), research collaboration (18%), and Systems Development (11%). The most requested specialties were obstetrics and gynecology (25%) and emergency medicine (11%). Respondents considered public hospitals (62%) to be the most helpful clinical setting in which IMVs could work, and 3 months (47%) as the ideal length of stay.

Respondents expressed interest in advertising the specific needs of the host country to potential IMVs (80%). Qualitative analyses suggested hosts wanted more training opportunities, inclusion of all stakeholders, culturally competent volunteers, and aid focused on subspecialty education, health policy, public health, and research.

Conclusion: Hosts desire more bidirectional clinical education and research capacity building than just direct clinical care. Importantly, cultural competence is key to a successful host partnership, potentially improved through IMV preparation. Finally, respondents want IMVs to ensure that they stay within their scope of practice and training.

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1. INTRODUCTION

International medical volunteerism has become ever present as our world becomes more tightly interconnected and the cost and ease of travel makes brief trips to distant countries doable for many physicians from a high-income Country (HIC) [1,2]. International Medical Volunteers (IMVs) from HICs often visit medical institutions in low- and Middle-Income Countries (LMICs), as these countries are often perceived to have fewer resources, less medical training, and more demand for physicians than supply [3].

While there have been many positive outcomes from international collaborations, such as improving access to medical care, increasing education of local health providers, and supplementing medical provisions [4], the impact of IMV work on a host community or country is highly variable and can have both positive and negative consequences [1–7]. This disconnect between intentions and outcomes may occur in many instances because IMV work is often dictated by the desires of the volunteers themselves or aid organizations of high-resource countries rather than by the specific needs of the resource-poor settings [3,5]. Some studies suggest that IMV provide substandard care in some cases—compared to local Healthcare Workers (HCWs) and host institutions directly [1]. There are also issues with dependence on foreign aid and inadequate follow-up after a treatment or surgical procedure by an IMV [1,3,4]. As an extreme example, there are even “adventure holidays”

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that are advertised and sold to international HCWs and that appear to benefit the IMVs more than the local health system [3].

Despite these concerns, little is known about the role, process and effectiveness of international medical volunteers in LMICs, particularly from the perspective of LMIC-based HCWs [2]. While many organizations engage in international medical volunteerism, it is unclear how often these international medical expeditions meet the needs of the host country. One study evaluating both IMVs and local HCWs noted discrepant and unrealistic expectations between groups [2]. Given the current deficit in research regarding the needs of potential hosts of IMVs, our objective was to address the following questions:

1. Is there a solicited need for medical volunteerism in LMICs?
2. What are the characteristics of hospitals and host countries that have a need for medical volunteers?
3. What are the specific needs of LMIC health systems that could be met by an IMV.
4. How long is the ideal stay for volunteers to meet these needs?

The primary aim of this study is to provide a quantitative and qualitative characterization of the level of interest (in IMV) and specific needs of host countries and institutions from the perspective of local HCWs. Additionally, we hope to provide an informed perspective on the characteristics of a productive volunteer experience.

2. MATERIALS AND METHODS

This study was a survey-based needs assessment consisting of single- and multiple-part questions, allowing for single, multiple, and free text responses where appropriate. The survey was web-based, and responses were collected via Google Forms from June 2017 to March 2018.

The survey was created in English, and translated into French, Spanish, and Arabic by medical professional native speakers, and back-translated by separate physicians also fluent in the respective language to ensure integrity of the translation. We then searched for and contacted professional societies for each country listed as a LMIC by the World Bank [8] for six specialties (Internal Medicine, General Surgery, Pediatrics, Obstetrics and Gynecology, Emergency Medicine, and Ophthalmology). Many of the organizations did not respond or did not have accessible contact information. Of those that we were able to reach, the leadership of their groups emailed their members or publicly posted links to the survey with information regarding the details and purpose of the study. Those completing the consent process were offered a link to complete the survey via the web. The ethics approval was obtained from the University of Maryland, Baltimore Institutional Review Board.

Survey questions including demographics, background, hospital profile, level of interest in IMVs, desired activities for IMVs, and duration of stay. There were questions regarding the experience of working with IMVs, the desirable type of IMV, the desirable specialty, the desirable clinical setting, and preferred length of stay. Questions regarding interest in working with IMV, were evaluated using a five-point Likert scale. There was one free-text question regarding personal experience with IMVs.

All categorical survey responses were standardized before conducting traditional descriptive analysis and visualization. The free-text responses were summarized and thematically analyzed. A codebook was developed by the research team, focusing on themes identified during the data collection process. The codes were applied, changes were made based on additional themes that arose during the coding, and data were iteratively re-coded. Every transcript was double coded to identify potential discrepancies which were then discussed and resolved between coders. This iterative is based on grounded theory and permits unbiased development of the results and key themes [9].

3. RESULTS

A total of 102 participants completed the survey in four languages. Demographic information regarding primary language spoken, membership in an international society, medical specialty of the respondent, and practice setting are found in Table 1. The country

Table 1 | Demographic information of participants

	No. of each listed (N)	Percentage of each listed (%)
Survey language used		
English	69	68
Spanish	28	27
Arabic	4	4
French	1	1
Primary language spoken		
Spanish	31	31
English	20	20
Arabic	4	4
French, Nepali	3	3
Amharic, Filipino, Kiswahili, Mongolian, Russian, Sinhalese, Turkish, Urdu, Uzbek	2	2
Adara, Afaan Oromo, Afrikaans, Armenian, Assamese, Azerbaijani, Bangla, Bengali, Bissa, Bulgarian, Dari, Dinka, Dutch, Farsi, Haussa, Hebrew, Italian, Kinyarwanda, Kirundi, Kyrgyz, Portuguese, Somali, Swahili, Tok Pisin, Vietnamese	1	1
Member of international society = Yes	57	57
Specialty		
Obstetrics and gynecology	37	37
Internal medicine	16	16
Other	12	12
Pediatrics	11	11
General surgery	10	10
Internal medicine subspecialty	8	8
Emergency medicine	8	8
Surgical subspecialty	5	5
Critical care	2	2
Trauma	1	1
Pathology	1	1
Practice setting		
Academic	53	53
Public	40	40
Private	35	35
Referral center	33	33
Urban	22	22
Rural	12	12

of the respondent is noted in Figure 1. Forty-nine percent of participants believe there are not enough resources at their facility, 28.4% do not believe there are enough doctors in their respective clinical settings. In contrast, 12.7% of participants believe there are sufficient doctors and 8.8% believe there are sufficient resources. Other markers such as teaching nurses, poor health literacy, no up-to-date evidence-based protocols, no specialties, lack of human resources, “laboratory medicine 50 years behind”, department of health, and not enough experienced nurses were indicated at 1% each by participants as a descriptor of their primary clinical setting.

3.1. Prior Experience with IMVs

A majority of participants, 61.8% had no experience with IMVs, 13.7% rarely, 15.7% sometimes, 9.8% often, and 2.9% always. Those experienced with IMVs believed that 87.5% of IMVs practice within their scope.

3.2. Future Interest and Desires

Regardless of prior experience with an IMV, the majority of respondents were interested in working with IMVs with 76% either interested or very interested (Table 2). Only 2% of participants were actively against working with IMVs. The most important capacity of an IMV is clinical education, followed by research collaboration, systems development, and direct clinical intervention of a medical adult (Table 2). When asked “what capacity would you like an IMV to join you”, clinical education and research collaboration were the most indicated. Various types of direct clinical intervention including elective surgical, adult medical, pediatric, and disaster

Table 2 | Desired characteristics in IMV work

	Percentage (%)
Most desired specialty	
Obstetrics and gynecology	25
Emergency medicine	11
Pediatrics	9
General surgery	9
Internal medicine	8
Surgical subspecialty	7
Medical subspecialty	7
Oncology	6
Emergency Medical Services (EMS)	6
Other	6
Pathology	2
Anesthesiology	2
Critical care	2
Psychiatry/psychology	2
Most important capacity for IMVs	
Clinical education	39
Research collaboration	18
Systems development	11
Direct clinical intervention: medical (adult)	11
Equipment education	6
Direct clinical intervention: elective surgical	6
Direct clinical intervention: disaster response (surgical)	3
Direct clinical intervention: disaster response (medical)	3
Direct clinical intervention: medical (pediatric)	2
None	1
Interest in international medical volunteers	
Against	1
Minimal interest	6
Somewhat interested	17
Interested	48
Very interested	28

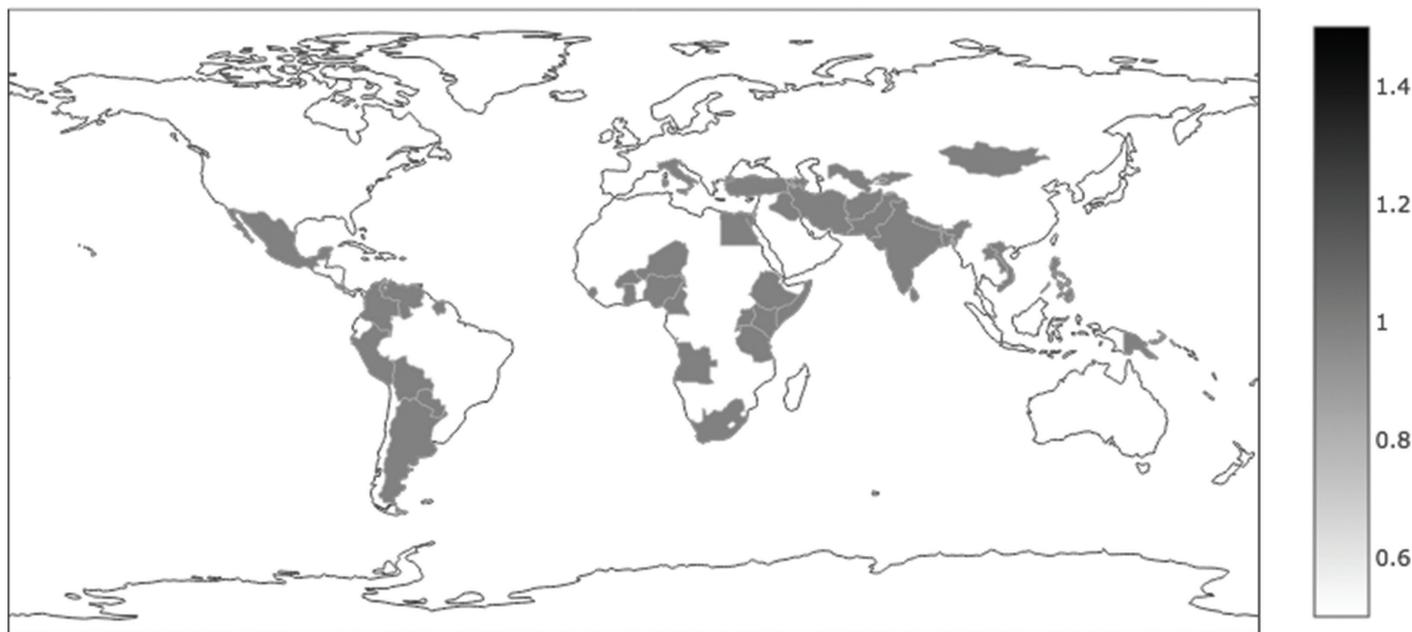


Figure 1 | Map of survey responses.

response were also indicated. Systems development was indicated by 51% of participants and equipment education was indicated by 39.2% of participants. Doctors were indicated as the most important role, indicated at 76%, followed next by nurse at 11%.

The survey noted the most desired specialty of an IMV was Obstetrics and Gynecology (OB/GYN) at 25%, followed by Emergency Medicine at 11% (Table 2). In addition, 6% requested Emergency Medical Services, a subspecialty of Emergency Medicine. Of note, a majority of the surveys were taken by those in OB/GYN.

Most participants indicated public hospitals as the most helpful clinical setting at 61.8%, followed by academic hospitals at 32.4%, remote hospitals at 28.4%, regional referral hospitals at 16.7%, outpatient clinic at 8.8%, and private hospitals at 4.9%.

Hosts focused on four key topics for improvement for future IMV interactions including improved opportunities for hosts, better preparation of IMVs, teamwork with hosts, and focused aid in subspecialty or non-clinical help (Table 3).

Participants indicated that currently, most IMVs stay for 3 months at 47.1%, 1 month at 36.3%, or 6 months at 28.4%. The preferred length of stay is comparable with 28.4% indicating 3 months (Figure 2). IMV preparation should include multiple steps. The most important is obtaining medical licensure and approval, followed by bringing own equipment, language classes, cultural sensitivity training, arranging for own visa, arranging own housing (Table 4). About 80.4% of participants indicated that advertising of host needs to IMVs would be helpful.

3.3. Scope of Practice

In the qualitative data, most believed that IMVs should be strictly confined within their scope of practice, as demonstrated by a respondent stating their anger toward IMVs that “experiment with

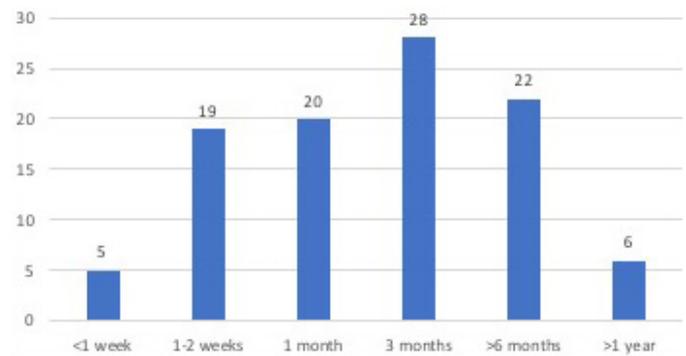


Figure 2 | Preferred length of stay for IMVs.

Table 4 | Characteristics of preparation/requirements for IMVs

		Percentage of respondents (%)
Host suggestions for preparation/requirements for IMVs (participants chose all that applied)		
Obtain medical licensure (or approval)	52	51
Language classes	46	45
Bring own equipment	46	45
Cultural sensitivity training	46	45
Arrange own visa	45	44
Arrange own housing	44	43
Other	7	7
What role should students play in IMV trips (n = 102)		
Comfortable with anything	11	11
Comfortable with students operating at their own comfort level	17	17
Only allow students to operate with same level of supervision they have at their home institution	32	31
Only allow students to observe	22	22
Do not think it is appropriate for students to come	19	19
Other	1	1

Table 3 | Host experiences with IMVs, qualitative analysis

Themes	More prevalent subthemes	Less prevalent subthemes	Quotes
Opportunities for hosts	<ul style="list-style-type: none"> Medical education and training Subspecialty training Learning new/different approaches in medicine 	<ul style="list-style-type: none"> Bilateral opportunities for hosts 	“Emergency medicine is growing and there is no emergency consultants in the country. It is highly important for our EM trainees to share and practice together to enhance their knowledge and skills.”
Preparation of IMVs	<ul style="list-style-type: none"> Language and cultural barriers Cultural superiority that breeds lack of trust Understand local health system 	<ul style="list-style-type: none"> Flexibility and willingness to learn Short length of stay Inexperienced volunteers 	“It would be good if they have learned to see what is good and how hard people work with chronic below subsistence pay and no vacation and avoid telling stories of the one or two heroic cases they attended while they are sipping cocktails by the beach on the weekend while leaving the local people to continue to work. They have to absolutely avoid superior attitude.”
Teamwork with hosts	<ul style="list-style-type: none"> Need to collaborate with hosts Exchange of ideas and reciprocal growth Importance of major stakeholders 	<ul style="list-style-type: none"> Systems strengthening to improve local healthcare 	“As long as they are helping with teaching and capacity building that is needed and appreciated. IMVs who lecture only, who do not work with the Lao for capacity building, are not helpful in this capacity. Residents and junior doctors who pair with Lao doctors to grow together are excellent. But residents should not come with the expectation of teaching.”
Focused needs	<ul style="list-style-type: none"> Non-clinical help: policy, public health, research Subspecialty training as area of need 	<ul style="list-style-type: none"> Alleviate local practitioner shortage Sustainability of medical supply and maintenance. 	<p>“Training and advances in fetal surgery are not present in my environment.”</p> <p>“Support in the construction of public health policies in favor of patients,” and “research support” as a specific need.</p>

our people in areas they are not qualified.” Others stated that there was a need for IMVs to be flexible in their practice due to local constraints (lack of resources, physician shortage) and differences in medical practice.

In the survey, most indicated that the role of IMV students should be at the same level of supervision at their respective home institutions (Table 4). Notably, 22% believe students should only observe and 19% believe students are not appropriate at all. In contrast, 17% believe students can operate at their own comfort levels and 11% are comfortable with anything.

4. DISCUSSION

This study highlighted the importance of obtaining host countries' perspectives on medical volunteerism in an effort to develop an open access system which could potentially strengthen collaboration among the two groups. While there is a wealth of knowledge and research on medical volunteerism, many studies have focused on the medical volunteer experience while neglecting to mention the impact on the host experience. For example one such study focused on the cultural competency gained by a group of surgical volunteers without noting the influence, the mission had on host volunteers [10]. Other studies aimed to hypothesize on the ideal mission trip but focused mainly on the perspective of the volunteers not the host [11]. One study described the Ideal Mission trip and the “seven sins of medical mission trips” [12] explaining what could be potential room for improvement; however, did not verify whether host institutions agreed with their interpretation of the “ideal” medical mission. Further studies emphasized education and assessment tools for volunteers but failed to describe the desire for reciprocal knowledge transfer among the host and volunteers [13]. In general, the literature narrates the need for generalized guidelines for a successful short-term medical mission trip [11] including clinical and cultural education for volunteers but in summary miss the importance of elucidating the expectation of the hosts.

This study provides the first step in elucidating what host physicians desire from IMVs. It stresses that host physicians do want IMVs, and the value that volunteers provide to LMICs. However, it reveals that there are clear aspects that would make the collaborations more beneficial to both sides.

Importantly, our qualitative results have shown that bidirectional education is key and should be a part of any IMV organization. Volunteers frequently show significant value in the education and professional development derived from international experiences [14]. Host physicians should be included in these broad educational experiences as they frequently requested that clinical education, especially on subspecialty topics, be included in IMV programs.

Research collaboration was also a key host request, and highlights the importance for building research capacity in LMICs. While there has been growth in research capacity in LMICs, major barriers exist with high-income country partners focusing on research output rather than building research capacity [15]. IMV programs can be innovative in their aim to build sustainable knowledge alongside their host physician partners beyond direct medical intervention. Particular deficits in research capacity can be addressed through cost sharing for research and publication alongside training in research methodology and grant application.

Host physicians continue to value the impact of direct medical intervention provided by IMVs. However, targeted subspecialty practitioners were more often requested, notably OB/GYN and Emergency Medicine. This reflects existing literature on surgical caseloads from humanitarian organizations, showing frequent OB/GYN and orthopedic cases [16].

In a World Health Assembly 2019 resolution, emergency care system development and primary care are seen as a priority in achieving universal health care [17]. Clinical education in EM would help hosts fulfill this global priority. Clinical education for primary care, including obstetric and gynecologic care, is key to help hosts reach universal health care goals in their communities.

Key ethical aspects arose in our study, with host physicians strongly suggesting improved cultural competence and operating only within one's scope of practice. This supports ethics literature and practice guidelines that have promoted these values in short-term experiences in global health [18,19]. These core values always focus on the health and well-being of communities visited and consistently include pre-departure preparation, respect for cultural differences, bidirectional relationships, and local capacity building to ensure sustainability. A study on hosts in Bolivia and India reflected our findings, where hosts called for improved IMV attitudes and behaviors, and fulfillment of IMV promises [20]. Pre-departure preparation continues to grow [21], and hosts should also be a part of the curriculum development and critical self-reflection for IMVs.

Our study fits with the growing body of literature on short-term experiences in global health. Whereas much of the existing research has assessed the programs and the volunteers, very few have focused directly on the hosts themselves.

Host physicians specifically agree with the need for collaboration, cultural competence, better preparation of IMVs, and stricter oversight [19]. However, our study also have shown that there is a greater desire from the hosts for research and clinical education collaboration among both parties. Finally, an outstanding number of host physicians (80.4%) stated wanting to be able to advertise for their specific needs. Currently, there is no clear platform. One possibility is the development of an open access system where they can advertise what they need and are matched with volunteers who can provide those services.

Limitations of this study include a small sample size and the availability of only four languages for the survey. In addition, responses may have been skewed by professionals that were part of international professional organizations, making them potentially more likely to be interested in IMVs. There was also a skewed representation in terms of medical specialty with a majority of respondents in the field of obstetrics and gynecology. Still, this is an attempt to capture the sentiment about IMV from the perspective of the hosts, and we hope that the insights gained can motivate larger, more representative studies in the future.

5. CONCLUSION

Hosts remain at the core of any IMV experience and are vital to the success and sustainability of IMV efforts. Hosts desire more bidirectional clinical education and research capacity building than just direct clinical care. IMVs must uphold their ethical duties of cultural competency, mutual benefit, and scope of practice in every

experience. Future collaboration with hosts can help unleash the potential of IMVs in contributing to the sustainable improvement of health and well-being in the communities served while minimizing harm.

CONFLICTS OF INTEREST

The authors declare they have no conflicts of interest.

AUTHORS' CONTRIBUTION

CB and LL were responsible for the study conceptualization. CB, LL, NK and MM were responsible for writing (original draft) the manuscript. Data curation was carried out by SB. Formal analysis carried out by SB, NK and MM. Project administration was carried out by CB and LL. MM, AV, AP and LL supervised the project and wrote the final manuscript.

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