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Preparing For International Medical Service

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This article addresses two critical aspects of personal preparation for involvement in international health (IH) experiences: (1) an understanding of some of the general issues in IH care and (2) logistic issues. Attention to these factors leads to a much richer experience with a minimum of problems.

In preparation for effective participation in the global arena of emergency medicine (EM), a useful exercise is first to consider the entire domain of inter- and trans-national health. As Basch [1] states in the preface to the second edition of his *Textbook of International Health*, IH "is a big subject that can accommodate many interpretations" [1]. IH covers all aspects of attempting to achieve the World Health Organization (WHO) ideal of attaining "complete physical, mental and social well-being and not merely the absence of disease or infirmity" [2]. It can include involvement in a variety of health-related domains, including infectious disease, maternal-child health or health promotion, disease and injury prevention, disease management capacity building, and direct patient care.

Within this broad and loosely defined field of medicine, there is a wide range of possibilities for short- or long-term involvement. EM physicians are versatile health care providers with training and exposure to a "uniquely integrated horizontal body of medical knowledge and skills concerning the acute phases of all types of disease and injury" [3]. Within this framework, the EM physician is well prepared to participate in a field that involves many aspects of routine EM, such as multi-tasking, decision-making with incomplete information, interfacing with varieties of people and personalities

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under stressful conditions, and most other sociologic aspects of daily EM practice.

This article serves an introduction to some of the core issues that would be in certificate or Masters of Public Health (MPH) programs for physicians seeking to become involved in IH for a short-term (weeks to months) or long-term (1 year to lifelong career track) experience. It should not supplant advanced reading or curricula on IH. For the EM resident, the ideal preparation for an academic career in global health would be a fellowship of 1 or 2 years that would typically include an MPH and fieldwork experiences (see the article by Anderson et al elsewhere in this issue). The background section of this article provides an overview of IH, focusing on issues relevant to EM. The latter section presents steps for a thorough preparation for going abroad.

Background

IH refers to health practices, policies, and other health-related issues faced by all populations. Global health is a newer concept, outlined by the United States National Academy of Sciences Institute of Medicine as ''health problems, issues, and concerns that transcend national boundaries and are influenced by circumstances or experiences in other countries and are best addressed by cooperative actions and solutions'' [4]. Becoming familiar with current IH concepts and the history and scope of IH development lead to a much richer experience and help decrease the chances of committing any socio-cultural faux pas.

World history plays a major role in many current issues and attitudes in global health. Western European colonial empires were mostly established around 400 years ago and largely dissolved only over the last 50 years since World War II (WWII) [5]. The concept of all lands belonging to a sovereign state has only become a reality since WWII. The Cold War with Soviet and American ''spheres of influence'' aligning much of the world and controlling their respective spheres came to an end in the early 1990s. Since that time, social order in many of the artificially created ''countries'' has broken down due to a variety of factors from ancient socio-cultural dividing lines to quest for control of increasingly scarce natural resources.

In the waning years of colonialism, two models divided the European colonial world: the Anglophone and Francophone worlds. The models of colonization were different in many ways beyond language and prevailing colonizing religion (French Catholicism, English Protestantism), with enduring differences on how the populations of many of the world's poorest nations view life [6].

Modern allopathic medicine based on molecular explanations of the pathophysiology of human disease is less than 200 years old. Indigenous health models of diagnosis and treatment have been evolving over

thousands of years as a part of the fabric of societies, with some more being highly codified than others. Many modern therapies take their roots in these ancient folk systems.

Before WWII, two major institutions dominated the realm of IH development. The Pasteur Institutes were a series of research and treatment institutes that originated in Paris and spread throughout the Francophone world largely of Southeast Asia, the Middle East, and Africa, with affiliations in South America. Those still in operation continue to function as research centers and beacons of the French scientific establishment. The Rockefeller Institute was the other dominant international organization. It became involved in IH in the 1920s, leaving legacies largely throughout Latin America. Efforts of both were largely directed to the control or eradication of major infectious scourges such as malaria, typhoid, plague, and other tropical and sanitation-based public health problems. After WWII, IH has been characterized by Basch [1] as having evolved through different stages (Table 1).

One of the most influential, organized agendas in IH came out of a WHO/United Nations Children's Expeditionary Fund-sponsored conference on primary health care (PHC) held in Alma Ata, Kazakhstan in 1978, attended by 134 countries and 67 organizations. Now known as the Alma Ata declaration, the promulgation of this agenda marked a major shift of focus from individual microbial infections to a systems development perspective [7]. PHC is a construct, and, like many agenda constructs, it was developed without significant ground-laying. The defining criteria were not fully and clearly enumerated, though the principles were outlined (Box 1). As van der Geest et al [8] have pointed out, this lack of precision in

Table 1
Post World War II stages of evolution of international health

Years	Stage	Character
1945–1950s	Organization and integration	Period of general international stability with intergovernmental cooperation for reconstruction.
1950s–1970s	Consolidation	Development of various UN agencies largely around a medical model focused on eradication of diseases with decreasing cooperation in some sectors as Cold War issues crept into the mix.
1970s–1980s	Programs and projects	UN agencies developed a series of "agendas" such as primary health care, community empowerment, and women's issues.
1980s–1990s	Health sector reform	The World Bank, The International Monetary Fund, and various NGOs have focused more on underlying health and societal system-level issues as obstacles to optimum health.

Abbreviations: NGO, nongovernmental organization; UN, United Nations.

Data from Basch PF. The textbook of international health. 2nd edition. New York: Oxford; 1999.

Box 1. Alma Ata Principles

- Reflect socio-economic characteristics of a country.
- Address main health problems in a community.
- Involve all relevant sectors of development.
- Promote community/individual self-reliance and participation.
- Pursue health care for all, with priority to those in need—principle of equity.
- Rely on health workers trained socially and technically to work as a health team.

definition has led to differing interpretations at the levels of social organization from village to regional to national and international and from country to country. The PHC principles directly implicate emergency health services as an essential component in delivering high-quality primary health care to a community. Linked to the PHC agenda was another goal, set for the year 2000, to achieve for all peoples of the world "a level of health that will permit them to lead a socially and economically productive life," since referred to simply as the "Health for All" movement: "A main social target of governments, international organizations and the whole world community in the coming decades should be the attainment by all peoples of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life" (Article V. Alma Ata Declaration) [8].

In an analysis of the state of public health in developing countries, Macfarlane [9] summarized some of the major critical assessments of the PHC movement in the context of global sociologic evolution between 1978 and the late 1990s, noting the increased understanding of the "complicated health scenarios that face communities and public-health practitioners in poor countries." Publication of the Global Burden of Disease Report [10] in 1996 increased awareness of the impact of chronic diseases and injuries on overall health burden, leading to recognition by international development agencies that attention must be directed at these and at the infectious diseases. As Sen [11] notes in a review of the global health status as part of a special series published in Lancet in 2000, "A feature of the current global health status picture is the 'double burden' of disease. Countries that are struggling with old and new infectious-disease epidemics must now also deal with the emerging epidemics of chronic non-communicable disease such as heart disease, stroke, diabetes, and cancer." Cardiovascular disease alone accounts for the majority of deaths at all income levels around the world [12].

A number of public health authors, notably Beaglehole [13], Macfarlane [9], Sen [11], Navarro [14], and Farmer [15,16], have pointed out in various

ways that the concomitants to health in any society involve the entire global ecology, from local social and environmental factors to global political influence on local conditions that favor continued poverty, the oft-cited primary root cause of not achieving the Alma Ata "Health for All" goal.

Attention to current global news and issues along with the historical precepts that have set the stage for current events has moved from being a useful addition to IH involvement to becoming essential core knowledge on the level of pathophysiologic understanding of individual disease processes. This knowledge is critical if one is to participate effectively in IH on the professional level. In addition to the medical journals (eg, *Lancet* and *The British Medical Journal*) that tend to have a more international focus, current events, frequently with analyses, can be monitored through internationally focused news agencies such as the British Broadcasting Company or directly from one of the three major wire services—the Associated Press, Reuters, or Agence France-Presse. Gaining an awareness of the historical context online is more difficult because many Internet sites that discuss background to current situations are sponsored by organizations with agendas that may influence their impartiality. To have a full understanding of the forces that frequently are determinants of health status in various countries, one must consider local or regional events and context to the global political processes, as John [17] did when she spent several months working in British Parliament after graduation from a new international-focused medical curriculum in England. With such broader, more in-depth understanding of the factors that affect health on a global scale, one develops an appreciation of the linkage noted by social activist physician Rudolph Virchow's oft quoted or paraphrased statement: "Medicine is a social science and politics is only medicine on a larger scale" [18].

Developing a successful international health experience

Although much work to improve global health is accomplished far from the point of delivery and in nonmedical domains [17], first-hand experience is invaluable as an introduction to the issues for future involvement in global health initiatives and as a framing experience for any United States EM practice setting, particularly with increasing diversity and dispersion of immigrant populations. The following discussion is directed at preparations for clinical experiences outside the United States.

Addressing the following key points will help clarify one's goals and objectives and will lead to a richer, more rewarding experience.

Purpose

What are the reasons to go? What is your personal motivation?

Focused introspection coupled with discussion with a trusted, non-judgmental advisor helps to achieve the best match of individual goals and

expectations with the right type of experience. Regardless of how one has become interested in IH service, exploration of underlying motives is helpful because these experiences frequently have so little similarity to familiar settings.

There are a myriad of reasons that one might choose to participate in an international experience, from altruism to adventure travel to connecting with cultural roots. Krogh and Pust [19], in a handbook for faculty advisors of students interested in international experiences, drawing on years of experience, list seven motivational factors frequently found and note that others may appear as well. Box 2 presents these seven domains along with several more focused on the experienced practitioner.

In addition to the core motivations discussed by Krogh and Pust, other foundations for international service that may be more relevant to practicing clinicians include desires to teach, to have more in-depth exposure to another culture than offered by general tourism, and to ''re-invigorate'' a career through practicing in a more Spartan setting and others. No individual motivation should be inherently assumed to be bad or good or taken at face value but should be subjected to critique through introspection and discussion with colleagues, nonmedical acquaintances, and, most importantly, family, if applicable.

Reflection on the topics presented here and in Box 1, even for the practitioner with experience in the international arena, helps clarify the issues as they are presented with each new potential engagement. At times it is not easy to express one's motivations succinctly. A Canadian orthopedic

Box 2. Motivations for international health service

- Desire for a broader perspective on medicine
- A wish to target a specific gap in the existing medical curriculum
- A wish to improve clinical diagnostic skills
- Idealism
- Religious conviction or ''sense of mission''
- Desire for adventure
- Escapism
- The challenge of a different setting/learning new skills
- Encountering interesting new cultures and customs
- The adventure of travel to exotic, faraway lands
- A desire to teach
- Belief that such work is inherently worthwhile
- Belief that one is simply ''cut out'' for this type of work
- Charitable service for self- and family growth
- Wanting to give of oneself to less advantaged populations

surgeon, interviewed on return from a month of service to victims of an African civil war, one of many volunteer missions for him, commented "You don't feel good that you went, but you would feel bad if you hadn't" [20].

Type of experience

Rural versus urban, technology rich versus resource poor? Would you consider something other than direct patient care in an emergency department (ED) setting (ie, research, public health, program development, consultation, or teaching)? What expertise can you bring to the developing world?

Do you want a structured or an unstructured experience? Consider the variety of organizations one can work with (Table 2) and the distinct roles a physician can assume when working abroad. Even if your strengths as a practicing EM physician have been predominantly clinical, you could consider teaching, program development (eg, a new EM residency training domestic violence awareness project), or research, depending upon the stated needs of the population you plan to work with and your interests. Although certain organizations may have a focus outside of EM, you could contact them individually to create a project that might suit their overall mission. In general, a planned, structured experience is more likely to be effective for a given population because someone has already presumably sought out the needs of a target group.

Unstructured experiences, such as travel to a new country and showing up at an emergency facility, might be fun for a vacation or for initial data gathering but are less likely to be productive for an individual with limited time and resources to donate. Many organizations that accept physicians for IH work vary tremendously in their underlying mission; consistency with current IH philosophies; ability to serve a target population; and provision of funds, housing, and adequate preparation for the participating physician. Table 3 provides a small compilation of some of these resources from which to begin one's data collection.

Timing and duration

When is the appropriate time in your current employment to plan an IH experience? Will your employer view it as vacation, sick time, or uncredited, meaning there will be a requirement to make it up over the course of a year? Is it possible to take 6 months or a year off or away from your job without jeopardizing your current position? How much time do you need to be away to have a meaningful experience?

The answers to these questions may not be readily apparent from your current job description, and one strategy might entail collecting answers from other colleagues and personnel before approaching your supervisor to

Table 2
Multinational and intergovernmental organizations

Organization	Strengths	Weaknesses
United Nations Organizations	Provides technical assistance and training	Severe funding constraints Many MDs, too few other disciplines represented
WHO (www.who.int)	Formulates and disseminates expert advice Establishes normative standards and guidelines on a variety of topics Training programs and fellowships Direct access to ministries of health Strong global health activities	
UNICEF	Positive public image Strong country-level activities	Sustainability of initiatives Vertical approach to health
UNFP	Technical expertise on contraceptive methods Advocacy for population policies	Vulnerability to shifts in political opinions (eg, abortion)
UNDP	World's largest multilateral source of grant funding for development cooperation	Uneven representation at country level Resources thin
UNAIDS (www.unaids.org)	Raise awareness Monitor and evaluate Provide training	
World Bank group Five major organizations	Lends money at competitive rates to low- and middle-income countries Substantial source of external funding for health and education Infrastructure development Extensive research capacity	Economic considerations may dominate decisions
Bilateral, binational organizations USAID, Peace Corps	Provide grants, loans, training, tech assistance USAID provides long-term tech support to United States academics Consultation and NGO institutions to support country programs Flexible, good resources Long-term commitments	Priorities often closely linked with foreign policy and political considerations May be minimally responsive to recipient country's priorities

Table 2 (*Continued*)

Organization	Strengths	Weaknesses
	Potential to coordinate health activities	
NGOs		
Thousands of health-related PVOs and NGOs, both in donor and recipient countries (ex. foundations, secular private organizations, religious development, contracting agencies, private corporations)	Diverse organizations: religious and secular	Funds and technical expertise limited
	Narrow and broad in scope	Tendency to target single group or disease
	Paid staff and volunteers	May be difficult to move toward sustainability or long-term staying power
	Long- and short-term commitments	Hard to evaluate accomplishments
	Single-and multiple-problem focus	Hard to coordinate efforts between PVOs
	Can have high flexibility	
	Lower costs	
	Limited bureaucracy	
	Cultural sensitivity	

Abbreviations: NGO, nongovernmental organization; PVO, private voluntary organization; UNDP, United Nations Development Program; UNFP, United Nations Fund for Publishing; UNICEF, United Nations Children's Fund; USAID, United States Agency for International Development; WHO, World Health Organization.

negotiate time away. Look for precedents that might help your negotiating strategy. Have previous faculty been allowed to count it as "teaching time" or "mini-sabbatical" time? What do you anticipate bringing home to your sponsoring institution—grand rounds talks, publication, a manual for residents, advising, or increased cultural competence? An appropriate length of time for an international experience depends upon the initial goals set forth by the individual. Commitments of longer duration (1 year or more) tend to be more enriching but require significantly more advanced planning and life disruption. Short-term experiences (weeks to months), with continuity over time to one location, can also be extremely rewarding.

Career development

How will an international experience affect your lifetime career plans? Will potential future United States-based employers view the time abroad as a plus or minus when they evaluate a resume? Will you jeopardize career advancement if you take time out to work overseas?

Table 3
Some International health programs and organizations

Organization	Service location information	Contact information
Direct patient care		
Private nonprofit organizations		
Ayudamos, Inc.		www.ayudamos.org
Bridges to the Community	Nicaragua	www.bridgestocommunity.org
Carolina Honduras Health Foundation		Tel.: (803) 259-3513
Doctors of the World USA	Kosovo, Mexico, US Human Rights Clinics	www.doctorsoftheworld.org
Doctors Without Borders	Over 80 countries	www.doctorswithoutborders.org
Health Volunteer Consulting Network, Inc.	Caribbean	www.helpinhand.org
Helping Hands Health Education	Nepal	www.sannr.com/helpinghands
Helps International	Guatemala	www.helpsintl.org
Loma Linda University		www.llu.edu/international
Medical Expeditions International	China, India, Romania	www.medexinternational.org
Religious/missionary group		
Aloha Medical Mission	Bangladesh, Laos	www.alohamm.org
American Jewish World Service		www.ajws.org
Humanitarian Projects	Africa, Asia, Latin America	
Doctors on Call for Service, Inc.	Africa	www.docs.org
Fellowship of Associates for Medical Evangelism	Africa, Asia, Central America	www.fameworld.com
Medical Benevolence Foundation	Africa, Asia, Haiti	www.mbfoundation.org
Mission Doctors Association	Africa, Guatemala	www.missiondoctors.org
Vellore Christian Medical College Board	India	www.velloremc.org
Teaching opportunities		
Health Volunteers Overseas	Africa, Asia, Caribbean, Latin America	www.hvousa.org
Heart to Heart International	Various sites and opportunities to deliver medicines, conduct symposia, train local MDs	www.heartoheart.org
International Health Service	Honduras; Patient and physician education	www.ihsofmn.org
International Relief Teams		www.irteams.org
Mission Doctors Association	Africa, Guatemala	www.missiondoctors.org

Table 3 (*Continued*)

Organization	Service location information	Contact information
Physicians for Peace	Worldwide sites	www.physiciansforpeace.org
Project Hope	Over 30 countries	www.projecthope.org
Public Health Focus		
Lalmba	Ethiopia, Kenya	www.lalmba.org
Disaster Relief		
Northwest Medical Teams International	Several locations; short-term notice especially welcome	
International Medical Relief	Comprehensive services	www.icm-la.com/about.html
Multiple resource opportunities		
Diversion Magazine, Doctors Who Volunteer	Various locations	www.diversionmag.com/volunteerintro.asp
International Emergency Medicine Rotations Database	Various locations	www.ed.bmc.org/iem/search.cfm
International Health Medical Education Consortium	Various locations	www.ihmec.org
International Medical Volunteers	Various locations	www.imva.org
Medic's Guide to Work and Electives Around the World	Programs in over 100 countries listed	www.hodderheadline.co.uk (to order)
Medic's Travel website	Various locations	www.medicstravel.org
Physician Guide to Volunteer Humanitarian Opportunities	Various locations	www.physiciansguide.com/volunteer.html
University of Colorado Health Sciences Center	Various locations	www.uchsc.edu/international

Misperceptions exist that only work with large governmental or nongovernmental organizations (NGOs) brings career advancement. This may be true within certain organizations. It is possible that promotion and the achievement of competitive salaries might be more difficult at academic institutions upon return from an extended international experience, especially if one has fallen behind in publications or research. However, many physicians with successful United States-based careers have integrated IH work into the fabric of their medical career. Choose role models from a variety of careers to help develop your own. Consider episodic overseas work, with ongoing project development or research in a given population to create the foundation for grant development and enhancement of your academic profile. Familiarize yourself with the various types of multinational organizations and intergovernmental organizations to help you develop an understanding of the choices available (see Box 2 and Table 2). If properly undertaken with appropriate planning and attitude, virtually all

international experiences enrich a practitioner's later practice with the resultant global perspective [21].

Funding

Do some organizations have training programs or fellowships? What type of support will you need, and how will you cover malpractice and licensure needs while away?

The level of support and possibility for funding varies from organization to organization and may change within a short period of time, depending upon a given organization's fiscal stability. Longer-term experiences are more likely to have stipends or scholarships attached to them. Some professional societies have limited scholarships for residents (but not attendings), including Massachusetts Medical Society (www.globalmedicine.org/GMN/grant.html), Yale/Johnson & Johnson Physician Scholars International Health Program (www.info.med.yale.edu/scholar), Fogarty International Center (www.aamc.org/students/medstudents/overseasfellowship), and the Albert Schweitzer Fellowship (www.schweitzerfellowship.org). Refer to Box 2 for potential fellowship programs.

Family issues

How will the experience affect your family or significant other? Can children be included into a particular IH experience? If so, when is the right time to bring children?

Many physicians have integrated spouses and children into IH work. Look for organizations that encourage the inclusion of family and have potential roles for other occupations in a given community. Network with colleagues to learn of past experiences and models for familial integration.

Personal attributes

Common characteristics of physicians who successfully work abroad include being adventurous, adaptable, and self-confident but with a well-controlled ego, knowledge of limits, patience, and tolerance with the pace of change that may not be consistent with one's own [22]. Most importantly, honest self-reflection and evaluation of personal motivation and goals is critical for the preparatory phase of a successful IH experience.

Identify an advisor/mentor

Because the various aspects of IH are being forced by general global economic trends to become more accountable for their actions and expenditures, organizations involved in global health development are becoming more demanding in their criteria for accepting even volunteers. Unless an aspiring entrant into the field has a ready portal through

established affiliations, choosing a mentor involved in an area of interest is likely to improve the odds of achieving a meaningful interaction with IH more quickly. Depending on whether the reader is a student, resident, faculty, or community practitioner, the directions to seek a mentor are likely to be different. Community practitioners are encouraged not to be hesitant about contacting authors and organizations of interest in seeking an entry point. Far more United States medical participants in IH are likely community based than academic institution based.

Residents and students should seek faculty and staff within their institution who are actively involved in IH and should seek administrative advice from program directors and IH faculty liaisons because there are a number of specific relevant issues that, at the time of this writing, are not standardized. Arenas in which to look for mentors include (1) special interest sections of academic and specialty societies; (2) academic institutions, such as schools of public health; (3) organizations that promote the development of IH work and education, such as International Health Medical Education Consortium (IHMEC) (www.ihmec.org) and Health Volunteers Overseas (www.hvousa.org/sg.cfm); (4) International Health Conferences, where networking is a vital component of the meeting (eg, Global Health Council [www.globalhealth.org] or IHMEC).

Preparation

The key to a successful IH experience is adequate preparation, regardless of the length and type of experience. Even a thoughtfully planned experience can be variable in quality because there are numerous factors on the host end that can thwart the most well-structured plans. Areas of focus for preparation include the following.

Academic

International medical work can entail basic sciences knowledge and skills outside the traditional parameters of medicine practiced in the United States in addition to contextual understanding. Depending on the intended setting, knowledge in health services research, community health development, anthropology, and tropical medicine may be critical to being an effective contributor. In some resource-poor settings, skill in performing nonautomated biochemical and microbiologic laboratory analyses may be necessary.

IH development has become a distinct professional domain with its own body of knowledge and professional culture. Although humanitarian relief operations represent one end of the spectrum of civilian participation in international medical situations, the quality of participatory experiences in other areas is enhanced for all stakeholders as outside participants increase their awareness of the multitude of issues influencing global health. As any budding medical student must learn the ''culture'' of each medical domain as they pass through clinical rotations, so should the aspiring participant in

global health development seek not only an intellectual knowledge base, but also an appreciation of the social skill set appropriate for global health care participation.

Programs of shorter duration might be preferable to provide a basic foundation of knowledge before a short-term or first-time field experience. The University of Arizona offers an 80-hour, full-time summer course for medical students and residents with clinical experience who are planning for a field experience in a developing nation. It is a multispecialty, case-based, problem-solving course, highly rated and respected since its inception in 1982 (www.globalhealth.arizona.edu/IHIndex.html). The CDC, through its Division of International Health, sponsors "short courses" to educate health personnel in a number of areas, including outbreak response, epidemiology, and communications (www.cdc.gov/epo/dih/short.html). Global Health Action is a 30-year-old organization that trains individuals for health and leadership training in international settings (www.globalhealthaction.org/courses.html). Other agencies and some schools of public health offer 1-week to several-week-long "certificate courses," frequently with a focus such as humanitarian relief, finance, or project management (see the article by VanRooyen et al elsewhere in this issue for listing of focused certificate courses). Although some of the focused workshops are designed for people already involved in global health but seeking specific information, those directed at relief efforts offer participants a chance to acquire the basic skill set necessary to be an effective, nondisruptive participant in such multifactorial settings.

An MPH degree can be obtained as a 1- or 2-year full-time course of study or a multi-year part-time experience. At least 10 of the 34 United States-accredited public health schools offer concentrations in IH. The programs vary widely in scope, content, and faculty interests. In addition, some schools offer Internet-based courses. The interested reader is advised to investigate potential programs in greater depth to find the best match for his or her interests. Some notable programs include (in alphabetical order): Boston University, Columbia, Emory, Harvard, Hopkins, Tulane, University of California (Berkley and Los Angeles), University of Michigan, University of North Carolina, University of Washington, and Yale [22]. This is only a representative listing because, with increasing awareness of the importance of global health, new programs appear regularly. Overseas programs of outstanding reputation include the London School of Hygiene and Tropical Medicine (www.lshtm.ac.uk/courses/) and the IH program at the University of Uppsala, Sweden (www.kbh.uu.se/imch/education/courses.pdf). In many instances it may be possible to select an area of study without having to complete an entire course or degree.

Language training

Language barriers between EM physicians and patients are known to reduce quality of care and patient compliance in the United States [23]. Even

a short-term (10-week, 2 hours per week) medical Spanish course for United States ED physicians has been shown to improve patient satisfaction and decrease the use of interpreters [24]. Effective delivery of care in an international setting is even more dependent upon adequate language skills. Intensive foreign-language preparation for many countries may not be practical for the provider wishing to work overseas; however, the assumption that English will suffice may be unrealistic. It is important to speak with others who have worked in the region to identify the requisite language skills and attempt to master those skills whenever possible.

Resources abound for formal and informal language study. Language departments at local universities, in addition to providing courses, make tapes and other learning aids available and may have access to native speakers even in relatively less commonly spoken languages [25]. French and Spanish are two of the more common languages used for international work. Gaining a basic understanding of these may be facilitated by audio, CD-ROM, DVD, and video programs. If time permits before departure, in-country language immersion courses are helpful. Often, these courses do not have a medical focus, but many are modeled around small group/one-on-one learning, in which case conversations may be tailored around the medical interview with the help of a learning guide (eg, Spanish for Health Care Professionals, Harvey). Table 4 provides a guide to types of language resources.

Cultural orientation

An important step in the preparation for IH work is the study of cultural factors relevant to the pertinent population. In-depth discussion of ethnographic techniques critical to successful involvement in global health is beyond the scope of this article but should not be overlooked. Inadequate attention to ethnographic understanding of a culture foreign to one's own has led to failure of many international projects, as Renne [26] documented in her frustrations with implementing a family planning program in Northern Nigeria.

Cultural competence. Cultural competence refers to the ability of health care providers to deliver effective services to racially, ethnically, and culturally diverse patient populations. It should be considered a means, not an end, to working with a new, diverse population [27]. Key components of cultural competency include the development of self-awareness, cultural knowledge, the ability to perform a cultural assessment (ethnography), and effective communication. The ability to study the cultural context (ie, the norms of the culture that shape health behaviors in that population) may not always be feasible before departure. Whenever possible, these resources should be sought from the medical, social, and anthropologic literature to facilitate the study of cultural beliefs and historical perspective of the target population. If one is traveling with a well-developed organization, information should

Table 4
Language resources

Type	Utility	Resources
Audio/ CD-Rom	Passive listening/ interactive learning; usually not health focused	Berlitz
		Pimsleur
		US Foreign Service Department
		US Defense Department
		A Su Salud—Interactive learning through telenova-style health drama with focus on language and culture in health context; ordering information available from the publisher, Yale University Press, www.yale.edu/yup/salud/
		Practical Portuguese for Health Professionals—Textbook and audiocassettes; ordering information available from the publisher, Southeastern Massachusetts Area Health Education Center, Inc, www.smahec.org/news.php
Books	Self-study; can be used as an on-site reference	*Spanish Health Care for Professionals* (Barron's Education Series)
		Que Paso? An English-Spanish Guide for Medical Personnel (University of New Mexico Press)
		Pocket Medical French (Russell Dollinger)
		How to Learn a Foreign Language (Storm King Press)
		Yes! You Can Learn a Foreign Language (Passport Book)
		Where There is No Doctor (Hesperian Foundation)—Translated into 80+ languages; useful to have copies in English and host country language for general health information; abundant use of simple illustrations valuable for vocabulary development
Web sites		Several web sites list language study opportunities. The Worldwide Classroom indexes language study centers overseas at www.worldwide.edu. Additionally, www.languages-on-the-web.com provides a wide variety of online resources.

be made available to prepare volunteers on the culture and population being served.

A culturally competent physician is aware of different cultural beliefs or concepts of illness and health and has the skills to explore how or whether these beliefs are relevant to a specific individual. There are several models available that emphasize the important concepts of the cross-cultural communication process. One such example is the RESPECT model, developed by Boston University Residency Training Program in Internal

Medicine, Diversity Curriculum Taskforce (Box 3) [27]. Use of this model and similar models provides helpful preparation for work in any cross-cultural setting, at home and abroad. Bigby's *Cross Cultural Medicine* [27] is an excellent text that can be combined with any study of the local population.

Culture shock. "Culture shock" refers to various reactions many people experience when they move into a culture that is markedly different from their own. Signs of culture shock include homesickness, withdrawal, irritability, stereotyping of and hostility toward host nationals, loss of ability to work effectively, and physical ailments [28]. The stages of adjustment to a new cultural environment as described by Bennett [29] are not uncommon to most people going to work in a new environment for the first time. The stages include (1) initial realization that the setting is less familiar than one thought; (2) irritation and hostility, especially when it becomes apparent that many things are unfamiliar and cannot be taken for granted or are not in one's control; (3) gradual adjustment and appreciation of a different way of doing things and level of comfort with the culture; and (4) final adaptation to and assimilation into the new environment.

The potential effects of culture shock can be minimized through the development of cultural competency. Acknowledging one's personal identity and understanding one's culture and stereotypes is the first step. Identifying how one's race, ethnicity, culture, socioeconomic status, sexual orientation, and other characteristics may affect one's beliefs and biases is

Box 3. Boston University RESPECT model for cultural competency

Respect—A demonstrable attitude involving verbal and nonverbal communications
Explanatory model—What is the patient's point of view about his or her illness? How does it relate to the physician's point of view? All points of view must be elicited and reconciled.
Sociocultural context—How class, race, ethnicity, gender, education, sexual orientation, immigrant status, and family and gender roles, for example, affect care
Power—Acknowledging the power differential between patients and physicians
Empathy—Putting into words the significance of the patient's concerns so that he or she feels understood by the patient
Concerns and fears—Eliciting the patient's emotions and concerns
Therapeutic alliance/trust—A measurable outcome that enhances adherence to, and engagement in, health care

critical. Developing an adequate knowledge base about the cultural context of the host country is important.

Personal safety

Safety is a global, national, regional, and local phenomenon and should be considered as such by the physician planning international work [30]. Most health care workers are not at serious personal risk while abroad if they take common-sense steps for prevention. Studies show that accidents (transportation) and cardiovascular disease are the most common sources of injury and death to travelers [31]. Road traffic crashes represent one of the highest risks for death or injury globally. Travelers are as at risk as the local populations, accounting for 21% to 26% of travel-related deaths [31]. Many people, while abroad, choose to expose themselves to situations that they would not normally be in at home (eg, travel on unlit, poor-condition roads; travel to war zones or through areas of extreme poverty or high crime), thus raising the likelihood of a untoward events. In the wake of the September 11 attacks and the war in Iraq, many United States–based international programs have developed detailed crisis management and contingency plans for the students and faculty who they are sending overseas [32]. Every professional planning to work abroad should consider the need for health and evacuation insurance before departure. Comprehensive resources exist with general and specific safety issues pertaining to international travel and work (Table 5), but the basic rules for safety are as follows.

Know your country. Learn everything possible pertaining to the health and safety issues of the country you are planning to work in before departure. Review Department of State warnings as they are issued. Consider registering with the local United States embassy for periods of extended stay.

Pack lightly. Carry the minimum amount of valuables necessary for your trip and plan a place to conceal them. Dress conservatively and in accordance with local customs wherever possible. Do not wear expensive jewelry. Avoid putting everything of value in one location, especially external packs that are easy targets for thieves. Label luggage inside and out, and carry copies of passport/visa documents in separate locations.

Money security. Avoid carrying large bills. The US State Department recommends carrying most of one's money in traveler's checks, although there may be difficulty using traveler's checks or credit cards in certain countries.

Avoid crime. Familiarize yourself with local surroundings during daylight hours and learn the areas to avoid from the local population. Take note of important locations, such as hospitals and police stations. Learn to use the

Table 5
Traveler safety resources

Organization/web site	Description
US Department of State (www.travel.state.gov)	Updated government travel announcements and warnings. Includes consular information sheets, passport and visa information, advice on preparing for crisis abroad, and judicial assistance.
World Health Organization (www.who.int/ith)	Includes information on accidents, injuries, violence, and environmental risks
Association for Safe International Road Travel (www.asirt.org)	Promotes road safety travel thorough education and advocacy. Provides resources for safe travel in a variety of countries.
Safety Abroad First—Educational Travel Information (SAFETI) (www.lmu.edu/globaled/safeti/aboutsafeti.html)	The SAFTI Clearinghouse Project distributes resources to develop and implement international programs, emphasizing issues of health and safety. Student focused, but good general information about safety.
All Trip Insurance (www.alltripinsurance.com)	Arrangements for health care needs and transportation home in case of serious accident or medical incident. Covers malpractice in some cases. Policies vary; consult your primary insurance carrier first to see if they have agreements with any major overseas evacuation companies.
Champion Insurance Advantage (www.champion-ins.com)	
Highway to Health (www.highway2health.com)	
International SOS Assistance (www.internationalsos.com)	

local phone system, especially in case of emergency. Use the same common sense that one would at home: avoid crowded areas, public demonstrations, and poorly lit streets. Beware of strangers who approach you, especially offering bargains or asking for help. Take care in using photographic equipment, with thought to what might draw attention and sensitivity to the local government or population.

Consider transportation issues. Take care in choosing methods of transportation, and pay special attention to road safety. Always wear seat belts, and do not be afraid to ask to be let out of a bus or a car if you feel the driving is unsafe. When using local highways and roads, familiarize yourself with the itinerary and safety issues beforehand (see www.asirt.org). Avoid traveling at night. Be aware that accidents may be staged to target unaware motorists. Be careful accepting help (eg, for a tire change) on the highway.

Consider health and evacuation insurance. Review personal insurance coverage before departure for personal property and health. Most insurance carriers do not cover emergency evacuation in case of a serious accident or medical incident. Supplemental policies may be purchased easily before

departure and should be considered, especially for the physician going to more underdeveloped regions of the world (see Box 3).

Health issues

Taking care of one's health pre-departure and in-country is one of the most important aspects of preparation for an IH experience. Resources abound on the topic of health care for the international traveler. Timely information on epidemics, meteorology conditions, geophysical events, and drug regimens is readily available through the Internet, although it may be difficult to obtain timely information once on-site. General categories for consideration are presented here, along with suggested resources for more in depth investigation. These resources should serve as a guide, rather than a substitute, for the physician seeking professional medical advice before departure.

Pretravel preparation. It is important to start planning well in advance of departure for full completion of a potential immunization schedule (6 to 8 weeks minimum). One should assess all proposed visits, stopovers, length of stays, and sequence of travel because this may determine whether a given vaccine is required or not. A review of existing epidemics in the proposed host countries and familiarity with the host countries' administrative policies on immunizations is important, especially with respect to yellow fever and cholera. The most current, reliable sites on this topic include the Centers for Disease Control and Prevention (www.cdc.gov/travel), the WHO site on travel-related infections (www.who.int/ith/), the International Society for Travel Medicine (www.istm.org), and the International Association Medical Assistance for Travelers (www.iamat.sentex.com).

Consideration should be given to underlying medical conditions that might predispose the individual to serious infections. Examples of this might include pregnancy, splenectomy, or HIV-positive status. Evaluation of these factors should be undertaken with one's personal physician or through consultation with the nearest travel clinic.

Some authorities advise the inclusion of a medical kit designed to help travelers treat themselves, especially for travel to areas with less access to medical services. Dardick [33] provides a model for a symptom-oriented kit, with special attention to things that an individual might have predisposition to, such as jet lag or motion sickness (Table 6).

In-country prevention. One of the most common problems to afflict travelers is diarrhea. The rates of attack are between 10% and 60% of travelers to developing nations, with up to 20% requiring confinement for the first few days [34]. The most common offending organisms are enterotoxigenic *Escherichia coli*, Campylobacter, Salmonella, and Shigella, although parasites and viral enteric pathogens are also potential causative agents [35]. Diarrhea is usually self-limited and followed by a complete recovery;

Table 6
Traveler's medical kit

Medical problem	Treatment
Pain relief	Aspirin
	Acetaminophen or ibuprofen
	Codeine if severe pain anticipated
	Keep all drugs in original containers to avoid border problems
Cold symptoms	Antihistamine
	Topical decongestant
	Cough suppressant
	Disposable thermometer
	Throat lozenges
Infection	Depends on personal past history of infection susceptibility
	Skin: topical mupirocin, clotrimazole
	GI: ciprofloxacin or Levaquin for traveler's diarrhea; bismuth subsalicylate (tablets and liquid) and loperamide; antacids, laxative
	GU: trimethorprim/sulfamethoxazole or ciprofloxacin for UTI; clotrimazole for vaginal yeast
Skin care	Antibacterial soap
	Disposable hand wipes
	Calamine lotion
	Prescription steroid cream
	Talcum powder
Environmental issues	Sunscreen
	Insect repellent with DEET
	Acetazolamide/steroids for high altitude work
	Water purification tablets or device
First aid	Adhesive bandages
	Sterile gauze
	Tape
	Pins/needles
	Tweezers
	First aid manual
	Respiratory face mask
	Gloves
Specific health needs	Adequate supply of any medications/supplies used regularly
	Extra eyeglass or contacts
	Hearing aid batteries
	Spare parts for prosthetic devices
	Letter from doctor if have older pacemaker or using needles (eg, insulin syringes)
	Dental kit
	Motion sickness medication

Abbreviations: GI, gastrointestinal; GU, genitourinary; UTI, urinary tract infection.

however, it can cause substantial morbidity and inconvenience. Risk can be minimized by avoiding raw, undercooked meats and seafood, raw fruit, food at vendor street stands, and unhygienic conditions. Avoiding untreated tap water (for drinking or tooth brushing), ice cubes, and fruit drinks made with tap water is imperative. Proper hand washing technique is key to

avoiding illness. Treatment consists of fluids and electrolytes; fluoroquilones should be reserved for cases that consist of more than three loose stools in an 8-hour period associated with nausea, vomiting, fever, or blood in the stool [35].

Malaria. Malaria is a significant health risk to international travelers. Transmission can occur (in order of descending risk) in areas of sub-Saharan Africa, Oceania, Southeast Asia, South Asia, and Central and South America [36]. The risk varies significantly from one region to another and according to time of travel and altitude. Age, history of exposure, and pregnancy status affect outcome. The risk of a fatal event among nonimmune patients rises sharply with age. Natural acquired immunity can develop over time, but adults with interrupted heavy transmission or uninterrupted moderate exposure may not be protected. Poor compliance with chemotherapy regimens has been identified as a significant risk factor among travelers and may vary according to tolerance of the regimen [37,38].

An effective approach to prevention is summarized with the following list [19]:

- Assess the risk of infection as it relates to complete itinerary of travel and individual's personal health status.
- Advise on the importance of methods for reducing contact with anopheline mosquitos (eg, use of nets; repellents with DEET; avoidance of nocturnal activities, the primary flying time of anophelines).
- Identify the appropriate antimalarial chemoprophylaxis through consultation with a travel clinic or personal physician and local authorities for any specific destinations (Northwestern Thailand at the Burmese border, for example, harbors the most drug-resistant forms of malaria, functioning as the trials location for new regimens before implementation in other regions globally [39,40]).
- Decide on terminal presumptive treatment (to prevent emergence of primary or secondary liver stages) of *P vivax* or *P ovale*.
- Educate traveler on need to demand diagnostic evaluation for malaria in event of fever.

Other infections/hazards. The risk of exposure to other infections (eg, tuberculosis, parasites, sexually transmitted diseases, hepatitis, and cutaneous bacteria) depends upon the area visited and the general precautions taken pre-travel and in-country. The use of universal precautions cannot be overemphasized. Working in developing countries often exposes the health care provider to a much higher risk of work-related infections than at home. Lack of supplies, such as gloves, masks, and gowns, can augment this risk. Physicians planning to work in areas of high HIV risk should consider bringing their own supply of anti-retroviral therapy. Although the decision to use and bring postexposure prophylaxis is a personal one, physicians

should be acquainted with formal recommendations despite the fact that no universal protocol is agreed upon by everyone. Refer to the CDC recommendations [41].

Logistical details

Passport. Take note of the expiration date. There may be some countries that do not issue a visa if the passport expiration date is close to the visa expiration date. Detailed instructions for obtaining a passport are outlined on the Department of State Web site (www.travel.state.gov/passport_services.html). Note that there are several situations for which it is recommended or required that you apply in person (eg, first passport, passport expired for over 15 years). This process can take several months, so it is important to leave enough time for processing. There are passport agencies in most major cities that can expedite the process but for a significant fee above the regular cost. Be sure to photocopy your passport and leave copies at home and in distinct bags that you will bring with you. Emergency replacement of a lost passport in foreign embassies is much easier with proof of a previous, valid passport.

Visas. Be sure that the visa(s) you obtain cover(s) a longer period than the intended stay. Project possible travel to neighboring countries because it might be more difficult to obtain visas once you are there. For specific country visa requirements, check individual consulates. Zierer Visa Service (www.zvs.com) can provide updated current visa requirements, by country, to help expedite the process.

Licensure and malpractice. A physician going to work abroad cannot assume that their current United States malpractice policy covers them outside the United States. Developing countries are frequently perceived as less litigious and less meticulous about licensure details than United States counterparts, but this is not necessarily the case. It is important to maintain the status of licensure and malpractice for the safety of the individual and the treated population. Failure to keep a medical license current during a prolonged overseas stay may create future difficulties in the reapplication process.

Contingency plans. An important rule of thumb in preparation for foreign work is to expect the unexpected. Be sure to make copies of all itineraries, passport/visa information, credit cards, serial numbers of traveler's checks, tickets, insurance policies, medications, and contact information for the designated contacts at home.

Return, reverse culture shock

Reverse culture shock refers to the disorientation that occurs upon return from an IH experience, regardless of the length of time abroad. Physicians may find the feelings of difficulty surrounding re-entry as exceeding the

initial culture shock. Frustration at waste and excess after working in areas of intense need and limited resources is a frequent reflection [30]. Inability to adequately describe the intensity of the experience or to find a willing open audience is another common difficulty. Although it is difficult to prepare for reverse culture shock, physician awareness of the situation may ameliorate the transition. Gone are the days of a 1-week to 2-month boat trip for return allowing for personal debriefing and reintegration. Today one can leave a war-torn refugee camp full of starving children to arrive home 12 hours later expected to be ready to have cocktails in a world-class hotel with home-based colleagues.

International health at home

Although the rewards of experiencing IH service cannot be overemphasized, it is not always economically or logistically feasible to leave one's current employment and home. The following list has been adapted from Staton's [25] comprehensive list of resources and ideas to consider as alternatives until the timing is right.

- Join local organizations, advocacy groups, or specialty section within a professional organization. Some organizations to consider are International Health Medical Education Consortium (www.ihmec.org), Society for Academic Emergency Medicine (www.saem.org), American College of Emergency Physicians (ACEP), American Academy of Emergency Medicine (AAEM), Amnesty International (www.amnesty.org), or Physicians for Human Rights (www.phrusa.org).
- Support the financial needs of IH groups or colleagues abroad through donations or fundraisers.
- Care for immigrants/migrant health workers at a free clinic or neighborhood health center in your community.
- Collect supplies (eg, books, medical equipment, stethoscopes). Donations can be arranged through several organizations, including Remedy (www.remedyinc.org), World Medical Mission/Samaritans Purse (www.amrf.com), Global Medicine Network (www.globalmedicine.org), MEDICC (www.medicc.org), Worldscopes (www.caring4humanity.org), and the International Medical Equipment (www.imecamerica.org).
- Research projects relevant to developing countries. Consider the main priorities of the WHO, such as the 3 × 5 Initiative (www.who.int/en/), Global Forum for Health Research (www.globalforumhealth.org), or Canadian Coalition for Global Health Research (www.cghrc.ca/cghrc.html).
- Participate in teleconference/e-mail medical consults and involve your local institution; resources are the Global Medicine Network (www.globalmedicine.org) and Medical Missions for Children (www.mmissions.org).

- Keep current with NGO newsletters (www.humanitariantimes.com, www.globalhealth.org, www.doctorsoftheworld.org, www.hvousa.org).

Summary

In many ways, preparation for medical service outside the United States is not greatly different from preparation for a self-guided vacation tour of another country. The major differences are in the rigor that one should apply to being sure all details are set, particularly if one is planning to go to a site away from a capital city. Additionally, the mental preparation is required in terms of the understanding of global health issues in a holistic sense and the personal mental preparation for working under what may be austere conditions. With solid preparation, anyone interested in IH experiences should be able to have a rewarding, trouble-free experience.

Additional resources

www.GlobalHealth.gov

This Web site is sponsored by the US Department of Health and Human Services to showcase their international linkages in projects and other international cooperative ventures. The site has job listings within the agency and links to job listings from other international agencies, such as the WHO and PAHO. There is a page with a listing of various international agency and organization Web sites. One particularly useful page refers to current status of J-1 and H-1B visas. This would be helpful as a cross-reference for anyone considering hosting a foreign colleague for a formal participatory visit.

World Bank: Information on Poverty and Health (PovertyNet [www.worldbank.org/poverty/index.htm], Voices of the Poor Initiative [www.worldbank.org/poverty/voices/])

Despite the varied opinions on the policies of the World Bank, it does generate some informative, well-researched reports on various topics. The World Bank is now the largest financial resource global to health development. The "Voices of the Poor" initiative has generated three reports that cover issues of global economic concern related largely to health.

Supercourse: Epidemiology, the Internet and Global Health (www.pitt.edu/~super1/index1.htm)

This is a project run out of the University of Pittsburgh of open-source lectures contributed by faculty from around the world on a variety of topics. There is a large collection of lectures on disasters and epidemiology. It is

a useful reference for introductory concepts, but the lectures are generally a slide with a short comment and do not provide much detail.

Diversion Magazine Volunteer Opportunities (www.diversionmag.com/default.asp)

This is a commercial, advertising-supported Internet database of submitted, unedited organizations that engage healthcare workers in volunteer service settings of variable time periods. Listings are international and within the United States.

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