SPECIAL ARTICLE

Recommendations for Planning and Managing International Short-term Pharmacy Service Trips

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International pharmacy service trips by schools and colleges of pharmacy allow students to provide health care to medically underserved areas. A literature review (2000-2016) in databases and Internet searches with specific keywords or terms was performed to assess current practices to establish and maintain successful pharmacy service trips. Educational documents such as syllabi were obtained from pharmacy programs and examined. A preliminary draft was developed and authors worked on sections of interest and expertise. Considerations and current recommendations are provided for the key aspects of the home institution and the host country requirements for pharmacy service trips based on findings from a literature search and the authors' collective, extensive experience. Evaluation of the trip and ethical considerations are also discussed. This article serves as a resource for schools and colleges of pharmacy that are interested in the development of new pharmacy service trips and provides key considerations for continuous quality improvement of current or future activities.

Keywords: international, APPE, global, pharmacy, mission

INTRODUCTION

Schools and colleges in all health professions, including pharmacy, are providing opportunities for students to participate in trips to medically underserved areas.¹⁻¹¹ The literature has shown positive outcomes for pharmacy students who participate in such trips including interprofessional collaboration, application of pharmacy knowledge, and the gratification of providing care to an outside community.¹⁰

Such trips may be known as mission trips or medical service trips and students may or may not receive academic credit for their participation. Although occasionally these trips may be introductory or advanced pharmacy practice experiences (IPPEs or APPEs), this article will focus primarily on pharmacy service trips that are not part of a formal IPPE or APPE program. Although usually offered in underdeveloped countries, some trips may be to medically underserved areas in the United States. In general, students provide health care services under the

supervision of a pharmacist or other licensed health care practitioner. Notwithstanding the importance of mission-appropriate engagement by schools and colleges of pharmacy as a core component of their institution's vision and mission, since we are emphasizing pharmacy's role in service trips more broadly, we will use the term pharmacy service trips.

Planning requirements for schools and colleges hoping to offer pharmacy service trips to students can be complex and time consuming. Several have been published to assist faculty members charged with planning global/international APPEs and pharmacy service trips for students.³⁻⁹ Alsharif and colleagues published an article on international APPEs in which they addressed current practices for both the home and host country or site and institution.¹⁰ In a second article, Dornblaser and colleagues discussed relevant planning issues including preceptor and student selection and qualifications, and student learning outcomes for international APPEs.¹¹

International APPEs can represent one form of pharmacy service trips, however, not all pharmacy service trips are necessarily APPEs. For example, the planning and resources required for a 4-6 week international APPE in partnership with a school or college located in a capital

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city overseas are not the same as for a short-term (one to six weeks) pharmacy service trip, with or without academic credit. These pharmacy service trips may be to a rural or remote location lacking electricity and running water, and in which the partner is a nongovernmental organization, or liaisons or representatives of local communities. Such experiences provide their own unique issues including different disease burden, limited medications, mechanisms for procurement of medications, safety and health concerns, food and local community or nongovernmental organization partner expectations, capabilities, and resources.

In this article, we will discuss short-term pharmacy service trips (as part of a medical team) and current recommendations related to the logistical and ethical issues for both the home institution and the host country and educational considerations unique to pharmacy service trips with academic credit.

METHODS

The literature (2000–2016) on service trips from Pub Med, Google Scholar, and International Pharmaceutical Abstracts was searched for relevant information in the fields of nursing, medicine, public health, physical therapy, and veterinary medicine using the following key words or terms: global rotations or experiential experiences; international rotations; home or host country; home or host institution; standards; site establishment; global medicine; international global health experiences; international clinical rotation site; education abroad; ethical and specifically related topics (eg, visas, passports). The authors also reviewed documents from their own institutions and others of which the authors had personal knowledge related to service trips. A preliminary draft was developed, with authors contributing to the sections that reflected their interest and areas of expertise. The preliminary drafts were reviewed twice by two of the

authors, returned to the authors of each section for revisions, and then the final draft was edited by all of the authors. Final edits were arrived at by consensus via phone conferences and emails.

CONSIDERATIONS BY THE HOME INSTITUTION

Guiding Principles

Establishing a mission or common sense of purpose is the first step in developing a successful short-term service trip. At the heart of most or perhaps all local, national, and global endeavors should be the desire to contribute to greater global health equity. All schools and colleges should develop a statement of purpose around this and other core objectives. This will help answer key questions or considerations for such endeavors including the following: Should the school be offering such trips? What are the motivations for providing such experiences? How can the school ensure a sustainable, positive impact on the local communities? How does the school address the ethical issues which may arise? A school or college also may have to determine which of the opportunities available are most suitable based on the resources to support those who were chosen to participate.

Despite good intentions, service trips can often become self-serving for the institution and ineffective, inappropriate, or burdensome to the existing health care infrastructure and to the local population. Table 1 provides a summary based on the collective experience of the authors of some of the most common unintended consequences of short-term service trips. The Children's Health International Medical Project of Seattle developed a set of guiding principles in outlining a model for sustainable, ethical, short-term medical service trips (Table 2).¹² These guidelines, in addition to the key questions posed above, should be considered when developing a program to limit the unintended consequences of these undertakings.

Table 1. Unintended Consequences of Short-term Medical Trips

Self-serving Programs	The program provides value for the medical volunteers without meeting the community's needs.
Ineffective Programs	The program provides temporary, short-term treatment, with no available follow-up care options. The program fails to address root causes. The program fails to provide sustainable care.
Inappropriate Programs	Members of the team may not have appropriate training (language or medical training) and may provide care for which they are not qualified. Programs fail to follow current standards of medical care due to access or continuity.
Burdensome Programs	Medical teams may set a precedent that cannot be followed by local providers. Locals may become dependent on foreign care. Programs may divert local resources and undermine community care givers.

Table 2. Guiding Principles for Medical Service Trips¹²

Mission:	by establishing a common sense of purpose
Collaboration:	with the community and its infrastructure
Education:	for the community and volunteers
Service:	of the community's health needs
Teamwork:	among the team members of diverse specialties
Sustainability:	by working to build capacity in the local community
Evaluation:	of outcomes and whether goals are being met

A collaborative partnership is one of mutual respect between medical volunteers and locals. This relationship is key to the success of service trips. Local stakeholders should be consulted in crafting the service trip to ensure that the services provided address the priorities of the community and that the team is working within the existing local health care infrastructure, facilitating integration of services, and ensuring continuity without burdening or undermining local care. A community needs to be assessed upfront and regularly, during and after the service trip, to help the team understand local health needs and develop the strategies necessary to meet and sustain them. Sustainability can be enhanced by identifying a committed, collaborative community partner to prevent dependency relationships, empower the local community, address root causes for social inequity and disparity, build capacity, and avoid interference with local health infrastructure or undermining local caregivers. However, if the local health needs cannot be met by the local health care system, more frequent visits by respective teams will help in sustaining services.

Though short-term service trips are often education oriented, educational benefits to the volunteers should not become the primary objective. Reciprocal education between the receiving community and volunteers ensures all parties benefit from the opportunity, strengthen the collaboration, and assist in capacity building. Examples of such education could be practical wellness activities based on the health needs of the community such as water hygiene or dental hygiene or developing the physical examination skills of community health care workers or providing in-service training for them in pharmacology and the clinical uses of the medications used, or training them to conduct outreach and education while monitoring common chronic diseases using protocols and standardized reporting tools.

Pharmacy students should be adequately supervised and prepared for service trips. This should include (at a minimum) training in the language as well as nonverbal communication that is culturally and educationally appropriate, pharmaceutical training, and accountability

training. Accountability training should include instructing students not to provide services for which they do not have appropriate training or resources and to perform at a level equivalent to that which is acceptable in the United States. Much of the above can be accomplished via a course, required orientation, seminars, simulations, and/or Web-based activities.

Finally, the goals and mission of the pharmacy service trip must be evaluated in light of the probable effects on the host community. How will the trip be evaluated and who is responsible for the evaluation? Will the impact of the intervention last beyond the duration of the trip? How can the impact of the trip be sustained once it is over? Will any of the goods or services provided have a negative impact on local providers or businesses? If so, how can such negative effects be minimized? What is the risk that the trip will create dependencies in the local health care system? How will team members collaborate with the local health care community and provide meaningful education to enhance local health care capabilities? Further guidance for faculty members on some of the ethical and assessment/evaluation aspects of pharmacy service trip planning are included below.

Ethical Concerns

Individuals may volunteer for a pharmacy service trip with the best of intentions and a genuine desire to help people. Unfortunately, good intentions, while necessary, are by themselves not sufficient to ensure that a pharmacy service trip is planned and conducted in an ethical fashion. Pharmacy service trips may have negative consequences as well as the desired positive ones. Consequently, the faculty members planning the trip must take special care to ensure that the trip is carried out with adequate attention to minimizing harm and adherence to a reasonable standard of professional ethics. The ethical concerns and questions that faculty members should consider will be addressed below and are reiterated throughout the remainder of this article.

Students' motivations for participating in a pharmacy service trip may be as much related to the educational opportunities provided by the trip and a desire to develop their professional skills, as it is to an intrinsic wish to volunteer and be of service to others. Thus, students may not have a full appreciation for the ethical problems that can arise on a pharmacy service trip.¹³⁻¹⁷ Diprose states that short-term volunteer projects have shifted the emphasis from knowledge transfer to local communities to the personal growth of the volunteer.¹⁸ Smith and Laurie state that, "...a focus on professional skills needs in the Global South is superseded by a growing emphasis on the needs of the individual volunteer and their own

personal development.”¹⁹ They also express concerns at what they describe as a tacit acknowledgement by agencies offering volunteering opportunities that sending young, incompletely trained volunteers may not offer significant benefit in the Global South. Students themselves appear to be sensitive to the fact that service trips can have negative consequences including possible clinical harm to patients. They are also aware of the power differentials and cultural barriers that may exist between students from the Global North and villagers and farmers from the Global South.¹⁷

Other negative consequences noted by students themselves include the understanding that service trips can result in dependencies, wherein the host government decreases health spending because of a dependency on health services provided by foreign volunteers. Service trips can also create distortions in the local economy by providing free goods and services that compete with local providers (eg, bringing 500 bars of soap may have public health benefits, but it also means a local business owner may sell 500 fewer bars).

Berry notes that service trips may also come into conflict with the local in-country nongovernmental organization with whom they partner.¹⁶ Nongovernmental organizations often depend on the fees paid to them by teams of overseas volunteers for a substantial portion of their operating income. Unless the nongovernmental organization and the volunteer group have agreed in advance as to what the nature of the support services will be and who can provide the volunteers with housing, meals, transportation, and tourism and leisure options, volunteers may place demands upon a local agency that it is unable to meet. Frustration on the part of both volunteers and the nongovernmental organization is likely to result.

Logistical Considerations

Schools and colleges of pharmacy will encounter a number of critical decision points relative to engaging in short-term service trips. Paramount is the determination of whether the school will engage in the activity as an independent initiative or cooperate with an external organization. The logistic considerations vary tremendously based on this one critical decision: whether to partner or to lead without a partner. In this section we will approach logistics from each perspective.

First, let us consider the situation of a school or college leading an independent service trip. It is critical that the faculty coordinator for the trip visit the site and conduct a site analysis, ideally, at least one year prior to the service trip. Site selection for engagements is often the result of relationships between a particular faculty

member or a member of the school's administration and the site the students are sent to. In fact, at least two of the institutions represented in this article have partner institution agreements which have been in place for 30-plus years. Certainly, any outreach to a site should be consistent with the school's mission, vision, and values as previously discussed.

Additionally, the safety and security of students are paramount. For example, many universities have policies which prohibit the official travel of faculty members and students to areas of the globe where there are US Department of State travel warnings. Because travel warnings and restrictions can change quickly, it is important for the faculty lead and each participant who holds a US passport to register with the US State Department's Smart Traveler Enrollment Program (STEP).²⁰ The program registers the traveler's information with the local US consulate in the country to which the person is traveling, and provides regular email updates to the traveler when new travel alerts are posted. An article by Alsharif and colleagues provides more in-depth information about travel safety.¹⁰

As faculty members and students engage in pharmacy service trips through their schools and colleges of pharmacy, there are numerous key questions to consider.

What is the purpose of the service engagement? Perhaps it is educational (ie, providing continuing education instruction or training at a university or hospital). Perhaps it is to provide medical services, such as a free clinic or health screening. It might even be public health oriented, focusing on clean water, sanitation, or disease prevention efforts. Regardless, clarity on the purpose of the service trip is important for all stakeholders.

What are the health risks and precautions for the team to consider? Depending upon the region/area of the world, these can be significant. Even in the industrialized world, faculty coordinators should never take potential health and safety for granted. Natural disasters and the risk of terrorism should always be considered. Many universities require that students traveling anywhere outside of the United States or Canada meet with and be evaluated by a travel medicine provider.²¹ These are trained and credentialed health care professionals who specialize in tropical disease and health risks associated with travel. It is ideal for participants to complete individual travel medicine consults not less than three months prior to departure to ensure adequate time for any follow-up interventions (eg, immunizations). A full discussion of health issues and precaution considerations is available in the literature.^{10,22,23}

What medical care resources are available in the area to which the team is travelling? This is an important question for two reasons. First, the pharmacy service team

might identify a patient who needs follow-up medical care by local professionals, so they will need information to make appropriate referrals. Second, in the event that one of the team members becomes ill, establishing a relationship with a local hospital is a helpful resource if health concerns arise, such as if the individual seeking care is unable to convalesce on his or her own.

Does the school or college of pharmacy or the university have a requirement for faculty members and students to purchase supplemental travel health insurance policies? Check with the university's international studies office to determine if a contract for supplemental travel health insurance already exists. Generally, these policies are inexpensive and highly advisable.

If English is not the native local language spoken, it is essential to consider the number of translators available for the team, especially if none of the team members speak the local language. While there are variations in recommendations for the number of translators needed for a medical team in a clinic, many teams often plan for one translator for every primary care provider and one for every two supporting health care professionals. Compensation of translators may need to be taken into account. However, some schools include undergraduate students in service trips, which may raise the possibility of recruiting students with origins in the host country or who are majoring in languages spoken in the host country to serve as translators.

Finally, pharmacist and student pharmacist participation in a medical team is frequently focused on the provision of medications. Readers are encouraged to visit Médecins Sans Frontières (Doctors Without Borders)²⁴ or Christian Pharmacists Fellowship International²⁵ for information on procurement of medications. In recent months and years, the authors' experience is that it has become most cost effective and less of a regulatory risk to purchase medicines in the host country from a reputable pharmacy source, thus supporting the local economy and preventing the confiscation of drugs or heavy taxes levied if the team transfers medicines across international borders. Of course, transporting medications from the United States may be necessary due to drug quality, lack of resources, or access issues in the service area to which the team is travelling. In this case, the faculty coordinator should arrange in advance of the trip a team meeting to repackage medicines into small, individual, dispensable quantities, appropriately pre-labeled in the native language.²⁶

In some cases, the school or college is not leading the pharmacy service trip, but rather partnering with a nongovernmental organization or established mission-sending organization. The advantages to this model are

primarily that the logistics for the service trip are arranged by the organization, which is invaluable especially for schools or colleges just starting pharmacy service trips, because working with the organization expedites the ability to organize a new service trip and reduces the overall workload of the faculty coordinator. Notwithstanding these benefits, it will still be incumbent upon the faculty coordinator to ensure that appropriate university-level approvals are obtained prior to committing to the trip. This may require establishing a memorandum of understanding (MoU) with the external partner that clearly identifies roles and responsibilities, resources, costs, duration, number of students, etc. More detailed descriptions of MoUs and other arrangements are provided by Alsharif and colleagues.¹⁰

An additional potential advantage of working with a nongovernmental organization is that the partner organization can receive funds directly from the student or individuals who are supporting the students' trip, removing responsibility from the school or college for handling the financial exchanges related to the trip. Despite the trip not being led by the school or college, the same rules are likely to apply regarding traveling to countries with travel warnings, travel insurance, etc., all of which must be disclosed fully to participants.

While there are many upsides, one of the downsides to participating with a nongovernmental organization or mission-sending organization is that most of these entities, which hold 501(c)3 tax-exempt status with the US government, do not provide refunds in the event that a trip is cancelled or if the student, for any reason, is no longer able to participate. Most organizations will allow for funds to be applied to a future short-term trip, but it is the experience of the authors that few if any will provide a refund, no matter the student's circumstances. Thus, whenever working with these organizations, it is critical to determine the organization's policies before committing to a trip, and then ensure that students are fully aware both verbally and in writing of the policies and procedures related to trip funds and refunds. Another possible drawback is that these groups are less flexible with the itinerary for the trip than a school or college would be if it organized and led the trip. Depending on the overarching purposes of the service trip, whether to provide entry for future long-term work or continued short-term engagement, the faculty lead will need to be realistic in expectations for the trip outcomes given the nongovernmental organization's objectives for the trip.

In summary, either leading or partnering can be appropriate and rewarding approaches to organizing a service trip. However, the approach should be carefully considered, keeping in mind the purposes of the home

institution. After a couple of sending cycles, the authors' experience has been that a blend of school-led and organization-partnered trips usually evolve.

Educational Considerations

The following is a summary of the key educational logistical components of the pharmacy service trip. The articles by Alsharif and Dornblaser mentioned earlier discuss several of the issues in more detail.^{10,11}

Student Selection. Recommendations for student selection for participating in a pharmacy service trip include that the student must have successfully completed all previous academic requirements. Students should also go through a screening process to ensure that they are emotionally and academically mature enough to participate in a service trip. These qualifications may be assessed through an essay and/or interview. A written application may include a section asking applicants to describe their motivations for pursuing a service trip, including professional and personal expectations. Applicants should be able to articulate their understanding of the mission of the program to which they are applying. Applicants could also be asked what they believe will be the greatest challenge they will face, how they anticipate dealing with the challenge, and, just as importantly, what they hope to give back. It may be important to evaluate applicants' readiness for the challenges in a face-to-face interview to assess motivation, interpersonal skills, and awareness of the potential physical and/or emotional demands of a service trip. Applicants' language skills should be assessed by specifically asking them which languages they speak, years spoken, and level of fluency.

Ethically, the student selection process should include an evaluation of students' motivation for participating in the mission. Students whose motivation appears to be excessively self-serving or who are primarily interested in tourist/leisure activities are unlikely to be effective team members. Conversely, students with unrealistic expectations of the impact the service trip will have on local communities (eg, the host community will be profoundly grateful for the health care services) may be disappointed in the outcomes of the trip and this may hinder the team's efficiency. Also, team leaders should ensure

that students have sufficient clinical or practice skills to be of reasonable value to the team.

Lastly, students who are on academic probation or have been cited for unprofessional behavior (eg, using unprofessional communication verbally or electronically, lying, being unresponsive to requests) should not be allowed to participate in a service trip. As a point of comparison, Table 3 summarizes steps used for selection of medical students for similar experiences.²⁷

Orientation/Training. Pre-departure training should begin at least 4 months before the trip but preparation may take up to one year. The earlier the students are able to meet and establish a relationship with the other members of the team, the more likely they will achieve the goals of the service trip and have a positive experience. Students would benefit from taking a language course so preparation time could easily include an entire semester. However, schools could offer a crash course in language specific to medical and pharmacy terminology instead. Also, with most pharmacy service mission teams having translators, the language preparation may not be as vital but does serve to enrich the experience. For students who are designing a quality improvement or research project related to the service trip, sufficient time is needed for Institutional Review Board approval as this can be a long process when international approval boards are involved.

Acts of reflection and reciprocity may be practiced before as well as during the trip. The service-learning model is ideal for service-based experiences to ensure optimal learning. The model, which includes reflection (preparation, action, analysis), is effective and has been used in community teaching experiences within the United States to allow students to better understand diverse populations, cultures, and health care disparities, and may be included in orientation and training.²⁸⁻³⁰ Jacoby and colleagues³⁰ explain service learning as: "a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities for reflection designed to achieve desired learning outcomes." The service-learning model is based on the principle that learning does not occur as the result of experience itself, but rather as a result of reflection designed to achieve specific

Table 3. Steps Used for Selection of Medical Students for Service Experiences²⁷

Application/essay: include motivation.

Academic Standing: ensure that all previous academic requirements have been met.

Interview: review motivation, interpersonal skills, career goals and how the experience will help the candidate in their career.

Committee Selection: each member of the committee creates a list of the individual ranking of candidates. The committee then has a discussion of applications and interviews. The committee then ranks all candidates and comes to a final consensus when selecting participants.

outcomes. Two key elements of the model are the concepts of reflection and reciprocity.³⁰ Reflection is fundamental to successful service-learning because it is the element that connects service and learning,³⁰ while reciprocity is essential to ensure mutual benefit for all parties involved. Discussion of reflection is beyond the scope of this article but in-depth discussion is provided in the literature.³³⁻³⁵

Other activities may be incorporated into the preparation for a pharmacy service trip. Pre-trip training may include discussion of the local culture, research on a topic area, formulary development, and trainings on prevalent disease states.⁷ Some programs require a team-building activity.⁵ The development of patient education materials may also be included.⁵ This may be challenging for students and would require oversight by the faculty coordinator.

Several articles have extensively discussed the importance of cultural sensitivity in general and in service trips.^{10,11,31-34} Students must undergo cultural sensitivity training prior to departure. A key aspect of that is for students to view the health care they are providing within the larger cultural context of the selected country or local community in order to have the best understanding of the social determinants of disease and health. Understanding the local community health beliefs and healing practices, family and extended family roles, gender roles, spirituality, communication practices, and biological heredity factors (eg, disease predisposition, pharmacogenomics) are essential to optimizing patient care.^{10,11,31-34}

Expectations and Post-trip Requirements. Very clear objectives must be a part of any experience. The expectations may vary depending on whether or not the experience is for academic credit. Objectives should be presented to the students well in advance of the trip, and feedback may be given throughout the trip as well as upon returning.

Post-trip requirements may include such activities as a formal presentation reflecting on the service trip and promoting advocacy.³⁵ Continuous reflection should be incorporated into all service trips. Thus, a formal presentation reflecting on the service trip and promoting advocacy can be required upon return to the United States.³⁵ Students also may create presentations for future service trip participants. These may be used to build a video library of the most common diseases encountered including the evidence-based pharmacotherapy from the resources available at the host site.³⁵ Lastly, students can be required to present the results of any quality improvement or research projects conducted and how such projects enhance the long-term health of the community.³⁶

Credit/No-credit Experience. Schools and colleges offering a pharmacy service trip must also decide if students will receive academic credit. The Accreditation Council for Pharmacy Education (ACPE) requires that any international experience taken for APPE credit be counted as an elective.³⁷ Thus, learning objectives and assessment methods must be developed and should meet educational outcomes set by ACPE standards and Center for the Advancement of Pharmacy Education (CAPE) outcomes.³⁸ These in turn may vary with the scope of practice and activities in which the students will engage. An inpatient, clinical experience in a country's national hospital will be quite different from a student's experience on a rural pharmacy service trip. The former will require planned activities and formal learning objectives, while the latter will necessitate more broadly defined learning objectives. Also, the activities that students perform are likely to vary according to the minute-by-minute needs of the practice setting or prior experience based on a sustained relationship with the local community. Of course, if no academic credit is being awarded for participation in the pharmacy service trip, a much less formal process without written learning outcomes may be appropriate.

In general, pharmacy service trips for credit have the potential to meet several ACPE and CAPE learning outcomes including but not limited to interprofessional interaction, direct patient care focus, promotion of health and wellness, problem solving, providing education, patient advocacy, communication, self-awareness and cultural sensitivity.^{37,38}

Clinic Requirements. A variety of service trips have been described in the literature for student experiences.⁵⁻⁷ The service trips may take place in a clinic and/or hospital and could include offsite, mobile, or "away" clinics. Students may be given a list of all formulary medications, references, and dispensing supplies needed as these may be limited or difficult to access in the host country. In some cases, the pharmacy students may be involved in creating the formulary and providing team education about the medications included.

The students will most likely spend time dispensing medications. Typical pharmacy student responsibilities in the dispensary include determining the most appropriate medication for each patient based on diagnosis and available inventory, preparing medications with appropriate labeling for each patient, and providing patient education. Students need to have an understanding of the medication use process since such service trips include a component of drug management supply, including inventory, stocking, dispensing, and record keeping. It is critical that students be prepared and knowledgeable about the most

common drugs dispensed. A typical list includes analgesics, antiinfectives, antihypertensives, antidiabetic agents, cough, cold, allergy, asthma, gastrointestinal, vitamins, eye and ear products, and topical and systemic antifungal and anthelmintic medications.³⁹ In addition, students must be academically competent to address common disease- and medication-related problems encountered in the community. Drug information references may be provided; however, students can be encouraged to bring their own resources (ie, smart phone, pediatric dosing handbook, drug information handbook, Sanford guide). It is especially important for students to understand that electricity may not be available at all times, if at all, so it is a good idea to bring hard copies of reference materials. Students should also ensure that any drug information references kept on their smart phones are actually resident on the phone and do not require Internet access as Wi-Fi and Internet access may not be available. Students should be advised that pharmaceutical calculations and compounding skills will be used extensively during the service trip, thus, they may benefit from practicing these skills in advance of the trip.

The medical team may be asked to conduct home visits, generally for a patient who is too old or sick to travel to the clinic or to have a day-long clinic trip (going to another village and setting up a temporary clinic for patients in that village). It is important to be aware that such visits/trips may require long hikes in unpredictable weather conditions (mud, rain, heat), therefore, preparing for these circumstances is imperative. Also, a medical supply kit should be prepared that contains a stock of drugs and basic medical supplies to use at the temporary clinic.

Interprofessional Education. The ACPE 2016 standard 11 and CAPE outcomes emphasize interprofessional education.^{37,38} Service trips provide great opportunity for members of the team to demonstrate competence in interprofessional team dynamics, conflict resolution, effective communication and appreciating roles and responsibilities of other members of the team within and outside the professions represented. Table 4 is an outline of the typical tasks performed by each team member, but these responsibilities can change at any time. However, the main responsibility for every team member should be to run an efficient clinic while providing the best possible collaborative patient care. Effective teams will generally have a medical director, and his/her decisions should be viewed as final when team members disagree on a course of action. To ensure an effective pharmacy team, the pharmacy preceptor should be approachable, treat the students with trust and respect, explain the decision-making process to the students, ask

Table 4. Typical Responsibilities of Service Trip Team Members

Responsibilities of the attending physician:
Precept over a team of 5-7 medical residents/students and pharmacy residents/students
Review all patient cases and perform additional tests/exams as needed
Provide educational material on topics pertaining to tropical medicine
Oversee and help direct resident and team projects
Be on call after clinic hours as needed
Responsibilities of the medical residents and students:
Perform thorough patient histories
Perform physical exams on patients as needed
Write succinct yet thorough medical charts for each patient
Go on at least one home visit with follow-up
Participate in one day-long away trip
Make decisions on medications to be used based on diagnosis and available inventory
Write appropriate labels in language of the patient and counsel each patient on their medications
Residents may be assigned a specific project to work on throughout the mission
Students may be required to take an oral and written exam
Responsibilities of the pharmacist, pharmacy residents, and pharmacy students:
Make decisions on medications to be used based on diagnosis and available inventory
Write appropriate labels in Spanish and counsel each patient on their medications
Perform an inventory of all medications at the beginning and end of the mission
Prepare medication bags for away clinics
Participate in one day-long away trip
Perform thorough patient histories when needed
Students may be assigned a specific project to work on throughout the mission
Responsibilities of the nurses:
Assist medical students/residents/attending physicians during physical exams as needed
Perform lab tests, urinalysis, blood glucose tests and other monitoring tests as needed
Maintain all medical supplies in the clinic
One nurse participates in each day-long away trip

questions that promote learning, inspire the students to learn independently, allow autonomy that is appropriate to the student's level of experience and competence, and provide feedback to students in a timely manner.⁴⁰

Use of Technology. Technology may be helpful during a pharmacy service trip but must be used in the context of the medical resources available in the country. If the community does not have many resources, then the use of technology should be minimized. The use of personal

technology (cameras, smart phones, etc.) should be limited during a service trip. Patients in other countries should generally be given the same personal protections as those given to patients in the United States. Thus, students must be reminded of the restrictions on the use of patient photographs.⁴¹

CONSIDERATIONS FOR HOST COUNTRY/COMMUNITY

Liaison

Many pharmacy service trips are to areas where no or very minimal medical services exist. A key component for the success of such trips is to identify a local liaison(s) to coordinate the health service, cultural, and social aspects of the experience. The liaison can be a member of the community or a representative of a local social service organization, a nongovernmental organization that operates in the area, or a local college or university. Usually, the liaison is a trusted and respected member of the community who is proficient in English and familiar with the health care system of the country and health care practices of the community. The liaison should be oriented to the logistical and health aspects of the experience so that he/she can coordinate with the local and surrounding communities. The liaison should also be provided formalized education and training by the coordinators of the pharmacy service trip on all aspects of the experience to help in sustaining the efforts. In regard to health services, the liaison should be working closely with the local and surrounding communities to identify the unique health needs, health and healing practices, and barriers that need to be addressed (eg, lack of an interpreter, local beliefs in regard to Western medicine, traditional medicine practices, etc.), sharing those with the medical team and providing recommendations on how they can be addressed. It is necessary to ensure that the liaison accurately represents genuine community needs rather than only those of community or business leaders. The liaison should also identify a viable location in close proximity, if one is not available, for where the clinic will be run based on the needs of the team. The liaison can work closely with the team in the administration of the clinic. In addition, the liaison can serve as a key member for sustainability of the experience and outcomes from the services provided by educating other members of the local and surrounding communities and identifying other liaisons to maintain the efforts so that they also become catalysts for change. Such efforts can be documented by interviewing members of the local and surrounding communities and assessing the impact of the experience and the efforts of the liaisons. The documentation will be critical for the home country/institution to make recommended changes to sustain the team's efforts.

In regard to cultural issues, the liaison should be familiar with the cultural norms of the community (eg, time orientation, family role, language and communication, formality, etc.). The cultural norms for the visiting team should also be shared with the liaison to educate the local and surrounding community and to ensure that conflict does not arise because of a difference in expectations and/or cultural practices.

As for the social aspects, those are very important for the success of the experience and building a sustainable relationship with the community. The liaison can help by coordinating the placement of the students with local families if such placements are permitted by the school or college of pharmacy. They can also arrange for social activities with the local and surrounding communities for any planned festivities, visits to local or surrounding attractions (eg, museums, monuments, hikes, scavenger hunt, etc), sport activities, and local travel.

Ethical concerns may arise and pharmacy service trip coordinators should evaluate potential local partners carefully. Is the main focus of their activity health care? Or are they primarily designed to provide "voluntourists" with copious leisure activities, while clinical activities are of secondary concern? Does the potential partner or liaison have policies and procedures in place to maintain patient safety and quality care? The trip coordinators and the liaison should also agree on logistical concerns such as transportation, meals, housing, and leisure activities.

Host Country Logistical Issues

Often, service trips evolve from personal connections that have been established with a colleague or local leader in the host country, which then facilitates arrangements for housing and other such logistical issues. However, when no personal connections exist with the host country, a local liaison can assist with such preparations. It is important to know what kind of leverage and local relationships the liaison has to secure the resources which will be necessary before, during, and after the team is on the ground locally. Ideally, the team will be plugging into an existing local health service so that they can simply enable or amplify an existing effort. Communication with the liaison should be established at least one year prior to departure. To increase the likelihood of participant growth and understanding of the local people, it is important to seek immersion and solidarity with the people of that specific country. This can also make identifying logistical issues easier.

Ethical concerns surrounding logistical issues should also be considered. Buying large amounts of goods locally or having a large group in a community with few resources may disrupt the local economy and is not

sustainable. The liaison and faculty coordinators should do their best to minimize such negative effects.

Food. Working with the local community to provide food that is found in the basic local diet is often the most efficient option. It is helpful to explore this subject with the liaison during exploratory visits in advance of team travel. Because many of the communities are short on resources, the responsible practice should be to send essentials, bought in the United States with the team. For example, sending rice, beans, bread, cooking oil, eggs, fruits, vegetables, utensils, plates, and cups will provide the group with their basic needs. Other foods, such as meat, are best bought locally, after the team arrives. The cost of food may vary tremendously depending on the destination. To allow the group to focus on the health care services they are providing, it is advisable to hire community members to assist with cooking. The liaison or community leader may be helpful in this regard. It is important for the liaison or a member of the team to spend time teaching those preparing food about handling water and sanitary food preparation. Team members should inform the cooks if they have any dietary restrictions or allergies and be proactive regarding the ingredients in each meal. Team members with special dietary needs or restrictions should be encouraged to bring their own snacks, protein powder, or granola bars.

The team will need to have an adequate supply of water and thus should identify the most cost-effective strategy for purchasing bottled water or obtain the supplies necessary to set up an adequate water filtration system. Some programs collaborate with their university's chemistry department to send teams to set up water filtration systems. Shipping cases of water is impractical, so bringing cash in the local currency to purchase water should be considered.

Transportation. Transporting participants to and from the country as well as around the country can be difficult at times. For airline travel, when groups are large, it is helpful to have as many people arrive on the same day and same flight as possible to minimize trips to the airport and the chance that someone or something gets left behind. A travel log should be kept by one person of all participants' travel itineraries and the participants should update the person if there are any changes. This travel log can also serve as a roster, providing those on the ground with a checklist to make sure everyone has arrived and, if someone did not, the absence can be verified with airport staff. Participants should be provided with contact information for individuals in the host country to use if they miss a flight or if there is a schedule change. Providing students with helpful travel tips may also be beneficial.

For ground transportation, arrangements may need to be made for buses or other vehicles to bring team members to their final destination. In some countries, this journey may be difficult because of unpaved roads, and some of the journey may be on foot. Thus, it is essential that the liaison or the coordinator identify a trusted transport company to secure reliable group transportation in closed vehicles and can also provide support if foot travel is necessary. It is important to remember that many local transportation companies will require either advance payment or cash in local currency. Team members should be provided with a contact name, email address, and telephone number for the local transportation provider, even if the local liaison is making the transportation arrangements.

Safety. The personal security of team members is of utmost importance. This has been discussed to some extent above and extensively in the literature.^{10,20-23} It is essential to provide participants with a code of conduct and policies. This should include informing them of cultural differences that may result in a local inhabitant negatively interpreting a team member's words or actions, thereby causing a conflict (eg, personal space, hand gestures, clothing preferences such as wearing shorts or sleeveless tops). Team members should also be warned about not traveling on foot after dark or traveling alone, and the dangers and consequences of alcohol and drug use. Participants should acknowledge compliance with the school or college's expectations by signing a code of conduct form, an alcohol and drug policy statement, and an assumption of risk and release waiver. The above information should be provided to the liaison as well. The liaison can then inform the community that a group of foreign health professionals and students is coming, what type of services they will be performing, and the code of conduct they will be following.

Communication. Electronic forms of communication are very difficult in many countries and rural locations. Cellphone reception is often not reliable or non-existent. However, it is important for the liaison in the country, family members at home, and those participating in the mission to be able to communicate with one another in case of an emergency. Prior to the arrival of team members, the liaison may create a list of all telephone landlines that would be accessible to them in the areas to which the group will be traveling. Also, consider adding to this list cellphone numbers of people in the community in case someone from outside the area needs to reach a group member for emergency purposes. If feasible, consider giving one member in the group a cellphone or satellite phone that may be used in the country in case of emergency or to coordinate logistics. The above options (ie,

cellphone, satellite phone) may not be possible in some countries or rural areas, but efforts to establish a reliable form of communication should be made with the group and emergency contact personnel. It is helpful to provide team members with emergency contact cards containing all important phone numbers and addresses related to the program. Participants should be encouraged to share this information with family members so that any emergency information from home may reach them. All participants should provide the program with emergency contacts and sign permission for those individuals to be contacted if necessary.

Support Structure. Providing support for team members aids in having successful group dynamics. The liaison provides support for the team's relations with the community and the community's relations with the team. They are the go-between persons who can make sure the team is fitting in appropriately within the community and not disrupting life in a negative way. Students will find pharmaceutical knowledge support from the professionals working closely with them. If the program is interdisciplinary, the students and professionals may bond with members of their team across disciplines. This bonding may be facilitated/enhanced by having meetings or retreats prior to the trip in which team members participate in group activities or group reflections. Group members can also provide support if a team member is exhibiting noticeable signs of depression or difficulty coping with life in a foreign country. In extreme cases, the medical director or the coordinator may encourage that individual to return home.

Culture shock may be minimized by having team members learn the realities of living in the host country before leaving for the trip, taking time to learn some of the language, and acknowledging that it is normal to feel uncomfortable in a foreign land.⁴² Once the team arrives in the country, team leaders can assist individuals who have trouble adjusting by making sure they are taking care of themselves physically and mentally, not secluding themselves, and maintaining contact with family and friends but avoiding idealizing life at home.⁴²

Accommodations. Seeking and reserving accommodations in a foreign country can be time-consuming and expensive. Team members may stay in the community they are working in or commute from an outside location on a daily basis. If possible, for time-saving purposes and for living in solidarity with the people, it is best to stay in the town or village where services are being provided. Depending on the location and the institution's preferences, a hotel or hostel may be an option but could be expensive. It is important to find out if the lodging will have dormitory style sleeping quarters, air conditioning,

communal or individual shower and toilet facilities, laundry facilities, and Internet or telephone access, and if the facility requires payment prior to the trip to reserve lodging. Many international hotels gladly accept or even prefer payment by credit card. On the other hand, some global university partners who rent dormitory space to service teams require wire transfer of funds in advance or require cash in local currency on arrival. The local liaison may be a valuable resource in identifying the best options to accommodate the team.

If the school or college supports it, staying with local families or as a group in a local building will help lower costs. If the participants are living with local families, it may be helpful to set up guidelines when assigning accommodations. This may include attempting to place two students in the same home, matching a student who speaks the local language with one who does not; arranging locations that will require the least amount of foot travel for team members who may not be able to walk long distances; providing cots if families do not have extra beds; and having the liaison or community members recommend the best and safest homes for the participants to stay in. Participants may need to bring their own bed linens, pillows, towels, washcloths, soap, etc., depending on community resources. Staying in local homes with families may pose safety risks for participants; therefore, the institution and trip organizers should use caution and discretion in pursuing this option. Living with or near the people for whom participants are providing medical care allows for a rich immersive cultural experience and increased bonding with the community. However, it is important to educate the students and professionals to neither become an economic burden on the family by accepting food or using excessive amounts of electricity or water, nor setting unreasonable expectations by giving lavish gifts to the host family. Alsharif and colleagues addressed many of the host country logistical issues in even more detail.¹⁰

PROGRAM EVALUATION

A literature review of medical missions to low- and middle-income countries noted there is considerable scope for improvement in mission planning, monitoring, and evaluation.¹³ Relatively little global or national policy exists to govern mission work. In a second literature review, Sykes noted that short-term mission trips are rarely evaluated, making it difficult to judge the evidence of their activities and outcomes.¹⁴

Green and colleagues interviewed 72 Guatemalan health care workers, health officials, and patients to evaluate their perception of short-term medical volunteer work.⁴³ Interviewed participants felt that mission groups

could potentially improve patient access to health care but that groups often did not have an effective method to choose the patients they treated, could create dependencies upon mission groups in local communities, did not always coordinate with local health agencies, and poorly understood and often did not respect indigenous health capabilities.

Thus, evaluating a pharmacy service trip requires faculty coordinators to consider both what to evaluate and how to perform an evaluation. For pharmacy service trips that carry academic credit, faculty members generally use assignments, oral presentations, quizzes, and other assessments to evaluate student performance on the trip.⁸ Students may be assessed to determine if they met course objectives related to attitudes and values, communication and patient care skills, knowledge base, pharmacy management, and public health.⁸ Others have chosen to evaluate team members' satisfaction with the pharmacy services provided or how the experience affected students professionally and personally.^{6,8,44-48}

These evaluations typically show that students were able to participate successfully on the pharmacy service team, had a positive personal experience, and that non-pharmacy team members were satisfied with the pharmacy services provided by the pharmacy faculty and students. However, other literature suggests that pharmacy faculty members should widen the scope of how they evaluate the success of service trips.^{16,48} For example, the impact of pharmacy service trips on local communities is rarely evaluated, nor is the quality of the health care services provided. Perhaps more crucially, the perspectives and experiences of those who were intended to benefit from the pharmacy service trips, ie, the patients, are not often considered. In addition to the evaluation topics and methods noted above, faculty coordinators should determine if the impact of the pharmacy service trip was sustained beyond the trip.⁴⁷ Further, patient safety, quality control, and similar measures should be

assessed. Maki and colleagues have identified six major factors and 30 minor factors by which the quality of care may be assessed (Table 5).⁴⁸

The literature discussed above provides a comprehensive guide for *what* pharmacy faculty members should evaluate regarding pharmacy service trips but does not offer much advice on *how* faculty should perform those assessments. Because pharmacy service trips are often led by clinical faculty members experienced in assessing student learning, surveys using quantitative measures (eg, 5-point Likert scale) are likely to be useful for evaluating how well a student met a learning objective. Evaluations of the quality of care, patient perceptions, and similar measures, however, can be done using qualitative research methods with which clinical faculty members may be less familiar. As faculty design pharmacy service trips, it may be worthwhile to collaborate with the social scientist faculty members who may be more familiar with how to use focus groups, semi-structured interviews, and similar qualitative methods.⁴⁹ In untrained hands, qualitative methods may not always provide an accurate evaluation of the pharmacy service trips. Learning how to ask questions and interpret qualitative data is a learnable skill, but may not be one with which all clinical faculty members are familiar.

SUMMARY

When planning a pharmacy service trip, many factors must be deliberated. It is important that faculty members and their schools and colleges consider what the principles guiding the trip are, what ethical concerns may arise, whether to partner or to lead, how to select and orient qualified students, where to garner the resources to appropriately run a clinic and pharmacy, how to identify a local liaison, how to work with that liaison to plan the logistical concerns of the trip, and how to evaluate the program's impact. It is important to remember when making these decisions that the health

Table 5. Quality of Care Factors for Assessing PST⁴⁷

Cost	The total financial expenditure of the mission, including per patient cost, the factors that influence it and the accuracy of determining cost.
Efficiency	Evaluating measureable outcomes such as number of patients treated and complication rates relative to time and resources consumed.
Impact	Measurement of the quality and effectiveness of the collective interventions as perceived by patients and providers.
Preparedness	The ability to function as an effective team within the context of the host country setting.
Education	The resources directed to providing responsible education, mentorship and training to recipients and local health workers.
Sustainability	A measure of the long term focus of the mission and how it fosters independence and builds local capacities.

and well-being of the patients and host country is of the utmost importance. The considerations set forth in this article should aid in guiding faculty members and schools and colleges of pharmacy in creating their own successful and ethically conscious pharmacy service trips.

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