REVIEW

Current Practices in Hosting Non-US Pharmacy Students at US Pharmacy Schools in Experiential Clerkships

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Objective: To provide specific considerations for hosting non-U.S. pharmacy students at U.S.-based colleges/schools of pharmacy (C/SOP) for experiential clerkships and training.

Findings: A literature review (2000-2016) in PubMed, Google Scholar and IPA databases was conducted using specific keywords. Recommendations and future directions for development of experiential rotations for non-U.S. students in U.S. experiential rotations are presented for both the home and host country. Summary articles and best practices across the disciplines, as well as expert opinion, were found across U.S. models for hosting non-U.S. students in advanced practice rotations in the medical disciplines. Consistent themes regarding legal agreements, acculturation, standardized calendars and social and safety considerations were considered for inclusion in the final document.

Conclusion: Development of a successful experiential rotation/training for non-U.S. students requires consideration for well-developed objectives, qualified preceptors, multitude of legal and cultural considerations and recommendations for longevity and sustainability.

Keywords: international, non-US students, pharmacy student, rotations, exchange, global experiential education

INTRODUCTION

In two preceding articles, members of the American Association of Colleges of Pharmacy (AACP) Global Pharmacy Education Special Interest Group (GPE-SIG) discussed current practices in Global/International Advanced Pharmacy Practice Experiences (G/I APPEs). Alsharif and colleagues and Dornblaser and colleagues discussed logistical and educational considerations of sending U.S. students on G/I APPEs, including the importance of addressing the same considerations for non-U.S. pharmacy students coming to U.S.-based institutions.^{1,2} While there are no statistics available on the number of international students coming to the U.S. for short stays (eg, 4-6 weeks) or extended stays (eg, one semester or more), this paper will focus on considerations for short

stays for training or educational opportunities, referred to as rotations or clerkships. However, many of the students may also apply to longer stays, including foreign pharmacy graduates seeking residency/fellowship or international students seeking a Pharm.D. degree. Over the last several years, there has been a growing number of presentations on global outreach in general and on hosting non-U.S. students at past AACP annual meetings. This paper will review key aspects in hosting non-U.S. students for the home and host institutions and will include specific recommendations based on a review of the literature and the collective experience of several pharmacy educators involved in G/I outreach and hosting non-U.S. students and educators.

METHODS

Development of this paper was accomplished using different methodologies. A preliminary outline was developed with input from all authors to identify keywords,

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major sections and subsections. An extensive literature review was conducted using PubMed, Google Scholar and IPA databases. The search was expanded to include the fields of nursing, medicine, public health, physical therapy and veterinary medicine using the following keywords or terms: global rotations, global experiences, experiential rotations, 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, non-U.S. students, and related topics (eg, visas, passports). The search was limited to publications between 2000 and 2016. Also, governmental and other official websites (eg, U.S. Department, visas, passports) were reviewed and referenced for pertinent information. Websites were considered reliable based on the timeliness, depth and accuracy of their content and were validated by the co-authors who are content experts. In addition, educational documents such as syllabi and memoranda of understanding (MoU) from several pharmacy programs were also reviewed.

Home Institution Requirements

Student Selection Criteria. Selection criteria for U.S. students attending global/international rotations are expounded upon in Dornblaser and colleagues' article on preceptor and student considerations.² While selection criteria are generally similar, additional considerations are necessary for a non-U.S. student entering the United States. Currently, international clearinghouses for bilateral student exchanges exist within pharmacy organizations. Among these are the International Pharmaceutical Sciences' Federation³ and Christian Pharmacists Fellowship International.⁴ Participating in a consortium of universities and countries for processing and screening applicants provides the advantage of a standardized approach and shared resources. Institution-to-institution exchanges typically have more tailored selection criteria.

Generally, the selection criteria are regulated by the home (sending) institution in agreement with the host institution and vary from country to country and institution to institution. Among the criteria to consider is adaptability to the United States, familiarity with the U.S. health system, knowledge (clinical or research) as it pertains to the rotation-specific goals and integration of the experience into long-term career goals. Many of these criteria may be reviewed in a formal statement of interest or during an interview process.

Students engaging in the exchange should understand that the experience is for a pre-specified duration, as defined by the limits of the visa granted to them. Students should also exhibit both personal and professional

attributes that will ensure a positive educational outcome for the experience. Maturity, adaptability, emotional stability and cultural sensitivity related to the American culture are key from a personal perspective. Professionally, students should have demonstrated good academic standing and achievements, a responsible attitude and good communication skills. For many students, a U.S.- based experiential rotation may be their first, and only, experience in the U.S. Additionally, financial feasibility is an important consideration with interested applicants.

The assessment of English language proficiency (ELP) of non-native English speaking students varies from no testing at all, to extensive testing using a combination of methods. Factors influencing the requirement of ELP testing may be related to the length of the educational program, or the goals of the learners and/or the clerkship. Longer stays, such as full-time educational programs or residencies provide the greatest examples of ELP testing, as do programs offering shorter visits, such as elective clinical rotations or exchanges.⁵⁻⁸ The rationale cited for requiring ELP testing is that English proficiency provides not only a more positive experience overall, but also allows for successful integration of visiting students into the U.S. health care setting, and to better meet learning objectives.^{9,10}

Methods to assess ELP include both standardized and non-standardized methods. The Test of English as a Foreign Language (TOEFL) is most commonly used in U.S. programs. While many health care education articles cite usage of the computer-based TOEFL, it is important to note that the TOEFL is now only offered via its updated internet-based test (iBT) or paper-based test, for those test-takers without internet access.¹⁰ Minimum required scores may also vary according to the needs of the program. For example, one nursing exchange program notes that their required score for the former computer-based test was lower than scores required for college entrance.¹¹ As a reference point for the iBT, the University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences currently requires a minimum composite iBT score of 89 and preferred reading, writing, listening and speaking sub-section scores for applicants to their full-time international trained PharmD program.^{12,13}

Health care education programs have used the TOEFL alone for testing ELP, or in combination with other methods, such as a live (in person, telephone or web-based conferencing) interviews.^{10,13} Many students outside the U.S. may have taken the International English Language Testing System (IELTS) test, another well-recognized standardized exam.¹⁴ Comparisons of the TOEFL iBT and IELTS scores are provided in Table 1. For example, a TOEFL iBT composite score of 89 is approximately equal

Table 1. English: Language Proficiency Exams Comparison Table¹⁶

IELTS English Level Description	TOEFL IBT Score	IELTS Score
Extremely Limited	<31	<4.0
Limited	32-34	4.5
Modest	35-59	5.0-5.5
Competent	60-93	6.0-6.5
Good	94-109	7.0-7.5
Very Good - Expert	110-120	7.5-9.0

to an IELTS composite score of 6.5. While the testing for ELP varies among programs, the methods of assessment are varied allowing for testing to meet differing needs and expectations. Scoring of the different types of tests vary, so the reader is encouraged to seek online equivalency charts when comparing methods.¹² The American Council on the Teaching of Foreign Languages (ACTFL) has been used as a pharmacy school entrance exam for some PharmD programs and as a supplement to other testing measures.¹⁵ While it could be used to assess students coming to the U.S. for clinical rotations, it requires greater resources in the form of an ACTFL-trained interviewer and a live (in person or telephone) interview of at least 30 minutes. Its use has not been commonly reported in the health care education setting.¹³

Non-standardized methods of testing are also commonly used to assess ELP, including live interviews by telephone or web-based conferencing. Interviews may be used as a sole method of assessment, in place of a TOEFL or in combination with standardized exams.^{8,10,13} Host schools may also choose to forego ELP testing for those students visiting the U.S. from schools where the language of instruction is English.^{10,13} In such cases, it is common for the U.S. school to require an official transcript or formal letter from the home institution, such as from the dean or registrar, stating the language of instruction is English.¹³

Pre-Departure Orientation. A key aspect to any successful student exchange is the pre-departure orientation. Students should be required to attend a mandatory orientation process to address the educational, cultural and personal aspects of the experience.¹⁷ Specific attention should be paid to legal requirements for entering the U.S. and acting within the limitations of the entry visa. Addressing the importance of adherence to U.S. laws and customs is the framework for many online pre-entry orientations to the U.S. Orientation activities should include an explicit and detailed communication of rotation expectations.

As further details on the agreement are discussed and put in writing, research into the visiting institutions will assist in determining how much orientation will be needed for the students as they rotate through the U.S. health care

system. To minimize surprises, a preparation sheet or packet with web links, detailing the unique aspects of the host institution, could benefit visiting students. This could also be used to identify specific immunization requirements. In general, the information shared should be tailored to the visitor's experience of the U.S. and the health care system.

Importantly, an information packet detailing the unique aspects of the visiting student's country is also helpful for the hosts. The Institute of International Education and Education USA (<https://educationusa.state.gov>) provides fact sheets which include topics such as economics, culture, religion, safety, education, beliefs, health issues, and sample pre-departure orientations for international students attending experiences in the United States.¹⁸ Site-specific orientation topics include city orientation, key aspects of host institution, expectations, safety tips, professional behavior, cultural issues including identifying and managing culture shock, and dress code. The host institution should be consulted about all the above aspects as they relate to the U.S. in general but also in the state and city in which the student will reside.

Various orientation programs for international students are offered at both the university and college level. Successful orientation activities may be faculty led, student led or through a formalized program with the office of international students. Programs offered via the university provide the student opportunities to be introduced to student life as well as network with other international students. A college- and rotation-specific orientation should follow the general pre-departure orientation.

Financial. Reciprocity of exchanges with cost structures providing for faculty precepting in-kind reduces the financial burden on the international student and the home institution. U.S.-based experiences can often be cost prohibitive, thus limiting the number of students who may participate. Arif and colleagues conducted a survey among U.S. institutions hosting international students in which they identified several barriers with financial barriers cited most often (75%).¹⁹ Several means to circumvent the cost include local fundraising as well as host institution fundraising/sponsorship. Formal Memorandum

of Understanding's (MoU) often include a section on expected responsibilities, both in terms of educational objectives as well as financial cost sharing where applicable. Financial considerations should be noted when deciding upon housing, transportation, reciprocity of fees and even a food budget. Financial limitations, or even a more liberal financial allowance, should not be the driving force when deciding on the core elements any successful exchange can offer.

Health Issues. Alsharif and colleagues described in detail the health issues, including the need to designate an individual as an emergency contact person at both the home and host institution.¹ A health screen to ensure the student is capable of completing the rotation as well as a record of all additional immunizations, as required for educational and health care facilities, should be completed months in advance of the anticipated travel. Necessary prescription medications should be acquired prior to travel and comfort items should be packed and appropriately labeled. Personal prescription medication must be labeled and accompanied by the physician prescription even for those acquired in countries where prescriptions are not necessary. Such documentation or a letter from the provider may be required at the point of entry into the U.S. and should be available in the student's carry-on luggage.

Emergency Issues. As part of the orientation, students should be provided with specific information on how to obtain help in an emergency situation. A contact person in the home and host institutions should be identified with contact information. Standard emergency procedures in the host country should also be explained. Orientation to emergency services, such as calling 911 and locations of the nearest hospital or police station should be part of the orientation process. Many U.S. institutions have emergency notifications via text messaging and email alert systems.

Recommendations. Students traveling to the U.S. for research or educational experiences should be adequately prepared by the home institution prior to departure. Considerations for student preparedness include orientation to U.S. laws, visa requirements and culture. Students should be oriented to the learning objectives of the experience and should understand their roles and responsibilities as they pertain to the health care environment and the college/university environment. This requires appropriate orientation to the city, college, university and health institutions that the student will interact with during the rotations. In order for successful interactions to take place, host institutions should consider assessment of English language skills using one of the many options available. Lastly, practical issues such as financing, health care records, and points of emergency contact should be reviewed and finalized prior to departure.

Host (U.S.-Based) Institution Requirements

Memorandum of Understanding (MoU). Details of establishing an MoU are described by Alsharif and colleagues.¹ An MoU signing is typical at the university level and should be vetted by legal counsel. Usually, the MoU is written in general terms to cover the broad areas of collaboration. Signing of the MoU will need to follow the specific host institution guidelines. If one does not exist, consider involving the dean of the school and president/chancellor of the institution or his/her designate from academic affairs at a minimum (a sample process is provided in Appendix 1).

The affiliation agreement typically includes expectations around the partnership between two parties. It serves as a reference should a situation arise with the visiting student and provides documentation on what the parties are agreeing to do in addition to their individual responsibilities for the duration of the experience. Such documentation covers the following: who is responsible for housing; student insurance: health and malpractice; liability in case of injury; general communication details; immunization expectations; duration of the agreement; terms for terminating the agreement and what to do if one of the parties defaults on the agreement. It is imperative to involve key faculty and staff to ensure communication and institutional buy-in to the program. Communicating the process details to a broader spectrum of school administrators, faculty and students is also essential to allow broader input.

Administrative Support Structure. Generally, to host international students, sufficient administrative support is required to ensure a successful exchange. A lead administrator who communicates the vision and builds and maintains the necessary alliances with international colleagues and local stakeholders is critical. This individual also oversees the execution of the program and abides by any legal stipulations for the university or state in which he or she resides. Additionally, an academic coordinator or program manager dedicated to keep track of the communications and the paperwork is very helpful to the smooth running of the program. The number of full-time equivalents also depends on whether there is a centralized process for all international students at the school, if it is handled at the campus level, or if it is handled in the individual department housing the academic program. The type of employee and the qualifications/expertise he or she brings to the position is dependent on the size of the program, documentation, communication, assessment, and planning needs of the institution. Programs are encouraged to seek counsel from institutions with similar purpose, structure and size to determine what works.

Scope of Practice and Boards of Pharmacy. Prior to embarking on any exchange to host international students, the state board of pharmacy website must be reviewed. The majority of boards of pharmacy do not allow clinical practice without a formal intern license. Intern licenses are often issued based upon degree evaluation for foreign pharmacy graduates or participation in an ACPE-accredited school or college of pharmacy. Activities of pharmacy interns are carefully regulated and require direct pharmacist supervision. Opportunities for intern-exemption exist if the international student is deemed a “pharmacy assistant” or if citing participation in the clinical setting is highly controlled. If the student is invited as a “clinical observer,” then the terminology implies that the student will not be providing direct patient care. Like all other interns and students, all activities occur directly under the supervision of a clinical preceptor. If the intent of the exchange is training in research or instruction and does not involve patient care activities, then the activities of the student fall solely under the auspices of the MoU and limitations of the issued visa.

Visas. There are various types of visa offered by the U.S. Department of State for short- and long-term exchange students (Table 2). For the purpose of this paper, students attending an exchange of three months or less will be applying for a “Nonimmigrant Visa.” Under this category, students may obtain a B1 or B2 visa. The B1 visa (business visa) allows individuals to participate in scientific or educational conferences, attend as a non-paid speaker or non-paid researcher, or participate in a training program that is not designed to provide employment. The terminology is broad enough for the student to participate in a host of activities that can successfully be completed

during a short stay. In contrast, the B-2 visa (tourism and visit visa) does not allow for the training model outlined in the B-1 visa and is not recommended for training or research based visits. Formal study and employment are not permitted under the B-1 or B-2 visa. Therefore, wording in the letter of invitation must include that the student will not be receiving credit from the host institution toward their degree requirements, as this would require a J-1 visa.²⁰

If credit is earned toward a degree, the J-1 visa allows students whose stay is being paid by the U.S. government, the home government, an international organization that the U.S. is a member institute or any funding that is not from a personal source. This allows students to enroll in degree and non-degree programs. Students may also engage in part-time employment while under this visa, such as university-funded research. It also covers the necessary requirements for paid or unpaid internships at host U.S. institutions. Most MoUs cover the necessary wording to have a student be sponsored under a J-1 visa. The application process for visas is generally lengthy and the J-1 visa is more lengthy than the B-1 visa and for most countries requires several months prior to the date of the exchange to be approved. The H-3 visa makes special reference to advanced training but excludes medical training specifically. The F-1 visa is obtained for those non-U.S. students enrolled full-time in a U.S.-based program. H-1 visas are intended for employment of foreign workers in specialized fields and should not be used for study or training exchanges. Visa information is better understood by meeting with the immigration or international student’s officer for the campus. Visas can take a significant amount of time to attain and may be for only a limited time once

Table 2. Visa Types Available for Visiting International Students²⁰

Visa Type	Examples of Use
B1	Business visitor; attend scientific, educational, professional convention or conference; negotiate a contract, unpaid research, participate in a training program not intended for employment
B2	Tourism, vacation, visit, medical treatment, enrollment in a short recreational course of study (not toward a degree), amateur performances
F1	Distance learning which requires a period of time on the institution’s U.S. campus
J1	Short-term scholar, professor and research scholar, must be enrolled in a full-time course of study, student participation in academic training with or without wage
H1	Enrollment in a full-time course of study leading to a degree
H3	To receive training, other than graduate medical or academic, that is not available in the trainee’s home country or practical training programs in the education of children with mental, physical, or emotional disabilities

granted, so careful attention must be paid to starting the process early (up to six months prior to the visit) and being sure the visa is valid for the entire length of the experience.

Logistics. Housing. The host institution should determine if it will be responsible for securing housing for the student or not. This must be determined a priori, discussed with the visiting coordinator and included in the MoU. If housing will be provided by the host institution, a list or link to the needed information (forms, fees, dormitory immunization requirements, etc.) should be provided ahead of time to assist the student with plans well before travelling. Even if housing is not provided by the host, it is important to provide visiting students with safe housing options in the immediate university area that facilitates easy transportation to the training site. Housing suggestions, such as extended-stay hotel options or student-based housing notice websites, may be provided. Housing may also be an opportunity for exchange of services between sites instead of exchange of monies.

Transportation. Ideally, the student housing will be located close enough to the practice setting that allows for easy transportation to and from the site. Though not all cities have convenient transportation networks such as a subway or bus system, there are several fee-based transportation options that are easily navigable from a cellphone. Apps such as Uber, Lyft and other ridesharing apps have revolutionized how individuals navigate new areas. There are also several carpool apps available such as Mashable. Many international students may initially be hesitant in using this mode of transportation, therefore a full orientation on safety issues should occur first. Transportation may also be another opportunity for exchange of services between sites instead of exchange of monies. In locations with few public transportation options, beyond the options above and with the help of a coordinator, U.S. students, faculty, or staff who are working with the international student(s) on a given day may be willing/able to pick them up and transport them to the shared site.

Safety. Student safety is a critical issue that should be addressed prior to the experience and communication is key. A list of the common crimes in the area should be shared with the student, and where available, a map of areas to be avoided. If a representative from campus is available to discuss general university living with the student, he or she is more likely to be aware of the general challenges that have faced students in the past and will therefore be in a good position to advise the visiting student. At schools where such a contact is not available, the administrator is encouraged to speak to a campus police representative for advice on what to share with the visiting students. Emergency contact information of key individuals both at

the home and host institution should be part of the orientation process. Students should have cellphones available for use upon their arrival with identified faculty or students to assist in the early transition period. Offering non-U.S. students a simple, pay-per-minute cellphone will assist in easing their transition into the United States.

Formalized schedule. After the rotation has begun, a formalized schedule is helpful for the visiting student and creates a roadmap for what to expect for the duration of the experience. A sample schedule is shown in Appendix 2. The schedule should be completed in collaboration with the main preceptor(s) for the experience so that the student can ask questions should his or her designated contact for the day not show up. This document also serves as a communication tool for all the key players in the training process.

Communication. Given the potential differences in cultural expectations and communication preferences, it is critical that the mode of communication with the student is explained ahead of time. Meeting with the rotation preceptor to discuss expectations is also helpful for specifics of the rotation experience. For example, the following is a sample list of questions the visiting student should have an understanding of before the rotation experience: What is the appropriate chain of command (in the pharmacy, lab or rounds)?; What is the role of technicians in the U.S.?; When a problem or conflict situation arises, what should be done and who is the first to be called?; What is the preferred mode of communication for the (preceptor, administrator and other key contacts and support staff during the experience)?; When is the best time to use email, phone, texting, pager?; and What is the best way to reach the visiting student or educator?

Cultural Competence and Immersion. Students coming to the U.S. should undergo training regarding cultural differences either prior to arriving or shortly upon arrival. Topics to cover may include not only issues related to the local area, language, and differences in the general U.S. health care system, but also regarding caring for patients in the U.S.²¹ Visiting students should be aware of the diversity of patients in the U.S. from a variety of factors, such as diversity of racial/ethnic groups and religions. Understanding that there may be great variability in common clinical conditions of varying racial/ethnic groups seen in the U.S., as well as how U.S. patients view health care, may impact the visiting students' understanding of the delivery of care practiced or witnessed on their visit to the U.S.^{22,23}

Institutions hosting international students should also be mindful of the cultural adjustment phase of the visiting students. The "U Curve of Cultural Adjustment" is frequently cited when describing the adjustment of

visitors to a new country.²⁴ For example, the “honeymoon” stage of immersion in a new culture may occur within the first few months of the visit, followed by hostility or cultural shock at three to nine months, and on to acceptance. While the phases and timing may vary, it is important to be aware of this situation and how it may impact the visit.

A recent article by Oh and colleagues noted that the local information needs of international students vary over time.²⁵ For those students new to the U.S., information most helpful was related to survival, such as location of the international student office, bank and mobile phone/electronics stores. The longer international students were in the U.S., needs changed to those toward recreation. In addition, a decreased sense of inclusion can be an impediment to student learning.^{26,27} Consideration of these needs should be considered when hosting international students.

Cultural sensitivity and preparedness of U.S. preceptors will not guarantee a positive experience for visiting students but may be critical in responding to perceived negative experiences. This may also help prevent misunderstandings in the educational experience of visiting students. An understanding of the visiting student’s culture may help preceptors lead discussions that explore the norms of the U.S.-based site and help visiting students move toward the acceptance stage of cultural adjustment.

Cultural immersion activities organized by the host site are an excellent mechanism to maximize the U.S. rotation experience. Examples of successful immersion activities are student organization social gathering, home visits, local cultural excursions, local conferences and meetings. These cultural exposure activities should be granted a level of importance in the schedule. Pre-structured activities also should not overcloud responsible and self-directed exploration by the student.

Site Details. A detailed description of the site (or sites) in which the student is expected to complete his or her experiences should be shared. Additional information should include pertinent policies and procedures for visiting students, forms to be signed and any formal mandatory orientation. Activities the student will participate in, grading categories and the corresponding evaluation criteria for the experience should be shared upfront. If the student will be learning alongside a U.S. student, it is important to explain how the experience will go and if there will be slight differences in activities and why. Ideally, a learning management system with capabilities to post relevant documents (such as syllabi, evaluation tools, list of activities and policies and procedures) ahead of time, with specific instructions, so the student can take the time to browse and note areas for clarification is desirable.

Preceptor Training and Qualifications. As outlined by Dornblaser and colleagues, preceptors involved in training international students should possess all necessary qualifications to precept PharmD students.² In addition, the preceptor should undergo cultural competence training in general as well as specific to the area of the world from which the student is coming. Ongoing training should be done at the beginning of each new exchange cycle.

Recommendations

A comprehensive approach to rotation experience development with key stakeholders should occur well in advance of the experience. Though many of the logistical requirements are the same whether a U.S. student is visiting abroad or an international student is visiting the U.S., there are particulars to the international student situation that should be addressed. Among items to pay attention to are visa requirements, ELS and familiarity with the U.S. healthcare system. Cultural immersion occurring along a continuum of expectations should be considered while developing a schedule as well as developing cultural immersion experiences.

DISCUSSION

Global competencies in health care education are being explored among multiple healthcare institutions.²⁸ These may range from those related to public health or global health, or may be related to the observation or practice of pharmacist-provided patient-centered care.²⁹ Thus, the goal may be as simple as observation, to gaining specific skills or receiving certifications. The learning objectives have to align with the goal of the experience and must be clearly listed in the syllabus. Specific learning outcomes could be related to patient care, health care system, communication skills and personal development and growth. Ultimately, the activities must meet both the learning outcomes and learning objectives.

While some flexibility may exist for short stays because the experience is mainly observational, the home institution should clearly indicate the objectives and learning outcomes which should be met and possibly provide ideas for performance activities on how they can be met in coordination with the host institution/site. Longer stays may have formalized longitudinal objectives and learning outcomes. Thus, the objectives should be agreed upon much earlier in the process of coordinating for such experiences and based on policies and procedures established at the host institution. Such agreements are broadly addressed in a MoU or delineated in greater detail in standard clinical, research, and management training agreements between the home institution and the training site. Site-specific

objectives should follow the format of the suggested host experiential syllabus.

Non-U.S. pharmacy students should be held to the same academic rigor as U.S. pharmacy students. However, the types of learning objectives may differ between the two student groups given limitations in their scope of practice. An assessment tool should also be established to assess the experience from the perspective of the student, the host institution and preceptor. Suggested learning outcomes, objectives and performance activities for G/I APPE's are discussed in detail by Dornblaser and colleagues.² Additional guidance for sending institutions may provide outcomes based on the International Pharmaceutical Federation's (FIP) recently developed Global Competency Framework, which was designed to support the educational development of practitioners worldwide.³⁰ Another valuable resource is the document published by Gleason and colleagues which provide examples of alignment between the FIP Global Competency Framework and selected Center for the Advancement of Pharmacy Education (CAPE) 2013 Outcomes.²⁹ Table 2 in the same document provide also assessment activities and example assessment rubrics.²⁹

The home and host institution should be encouraged to draft a Memorandum of Understanding prior to an exchange experience. The respective institutions' goals should be considered in the MoU to ensure that the experience can meet the learning objectives. Learning objectives must be agreed upon by both home and host institution prior to travel and should be achievable within the scope of practice afforded to the visiting student. Assessment of the visiting student's performance should be discussed prior to his or her arrival and the use of established assessment tools is encouraged.

Special Considerations

Practice Model Considerations. Depending on the practice model at the home institution, the specific goals of the syllabus may need to be modified depending on whether the student comes from a more, or less, regulated country. Much of the developing world has more liberal policies toward medication distribution and management. A U.S.-based experience may be used to expose the student to opportunities for pharmacists to maximize pharmacovigilance and open discussions regarding the regulatory process and structure. If a student comes from a more regulated country, like the U.S., the rotation should offer opportunities on discussions for exchange of ideas on how pharmacists maximize and expand on their professional contributions in the existing health care model. It also provides opportunities for both the host institution and the international

exchange student to share what models have been and have not been successful.

Opportunities for mixed model approaches also exist. The primary goal of an exchange is a reciprocal, bilateral exchange of ideas and practice methods. Mixing students from different areas of the world and different practice models may create an additional layer of complexity, but the benefit of diversity of viewpoints may assist in overcoming this.

Goals Beyond the Exchange

An important goal of hosting international students should be to create a sustainable model of reciprocal goals that are fulfilled in a continuous, measured model.¹⁷ The model of sustainability among international exchanges is of two forms: multi-institutional collaboratives formed under a larger national umbrella or individual university-university exchanges with renewable contracts at set intervals. Each model has a unique set of benefits and requires a committed staff at member institutions to maintain.

Exchanges that occur under large organizational umbrellas can be exemplified by two large initiatives: IPSF and the U.S.-Thai Consortium. International Pharmaceutical Students' Federation (IPSF) was founded in 1949 and is one of the world's oldest international student volunteer organizations.^{30, 31} Though not dedicated specifically to international exchanges, it has developed a large arm of its organization to facilitate exchanges among member universities. The goals of the exchanges fall under the aims of the larger organization with specific objectives centered around global health, encouraging development of local pharmacy organizations and scientific and research reciprocity, among others.³² In the model of IPSF, the autonomy of the participating institutions and organizations is maintained. In the IPSF model, the umbrella organization serves as a clearinghouse for exchanges. In this model, the exchange among countries remains immune from changes at a local and university levels, which might interrupt an exchange between two individual institutions. Interested students are provided a greater variety of choices but this lacks the definitive structure offered via formal MoUs established between host and home institutions.

Another model, which allows country-specific needs to be met by a host of committed U.S. parties, is the U.S.-Thai Consortium. Established in 1994, this ambitious model committed to the development of pharmacy practice in Thailand, started with commitment from nine U.S. schools of pharmacy and eight Thai schools of pharmacy and has expanded considerably since then. The objectives of the consortium extend beyond mutual exchange

opportunities. Member institutions ensure that Thailand's pharmacy development evolves and remains in step with challenges faced in the U.S., such as the evolving role of pharmacists in inter-professional health care teams. By the development of a consortium of universities, burden sharing is distributed and opportunities for member institutions to take evolving leading roles may be rotated. Another benefit is that the objectives of the exchange remain continuous and are re-evaluated with the multifaceted input from member parties. It also creates a forum among U.S. host institutions to share experiences and provide feedback on how to optimize the experiences of Thai students, residents and faculty during their visits in the U.S. These models offer opportunities for longevity that may not be as convenient for an individual institution-to-institution exchange.

Another key element to sustainability for any program is a dedicated staff. Organizing each individual exchange on a university-university level is executed well if it has representatives from both the university and S/COP level. Also, offices of international exchange are available at most universities in the U.S. They serve to coordinate activities for all visiting international students. Another avenue would be to consider incorporating these activities in an inter-professional forum where multiple colleges of medicine, allied health and others offer programs for international students.

Finally, longevity of any program lies in the occurrence of rewarding experiences by participating students. The elements of the evaluative process are mentioned in articles by Alsharif and colleagues and Dornblaser and colleagues.^{1,2} It is important to discuss the outcomes on the evaluation with members of both the host and home institution and make modifications where necessary. A well-structured program with identified reciprocal benefit identified early imparts educational benefit to the students.³⁵ Many short-term exchanges may open the way for long-term collaboratives in post-graduate training, residencies and research opportunities. The intangible benefit of the reciprocal impact on health care attitudes among pharmacists allows the opportunity to create additional forums for global ideal sharing. The objectives of the exchange should be reviewed annually with continuing discussions on opportunities for expansion that benefit both the home and host institutions.

CONCLUSION

U.S.-based institutions have provided training opportunities for international pharmacy students for several decades. Opportunities for international students to participate in U.S.-based experiences increase as S/COP continue to grow and incorporate global missions in their vision statements and as more home institutions and

non-U.S. pharmacy students are interested in the U.S. pharmacy practice model. These recommendations are general and serve as a basis for specific learning experience for most S/COP.

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Appendix 1: Sample Step-by-Step Office Process for International Students Coming on Advanced Practice Experiential Rotations

Step 1: A request will be made electronically to the Assistant Dean for Experiential Learning University via faculty, preceptor or student of the school.

Step 2: The Assistant Dean for Experiential Learning meets with the international site/school coordinator to learn details about the site, course and preceptor. Arranges a meeting by phone or through Skype or in person where feasible as soon as reasonably possible. When the parties discuss and the terms of the rotation have been agreed upon, the assistant dean meets with the representative for global partnerships to alert them of interest.

Step 3: Office manager will send the standard affiliation agreement and MOU, if there is not one in place, which has to be signed separate from the agreement. Four people have to sign the MOU: Dean, vice president for economic development, assistant dean of college or preceptor sponsoring the student.

Step 4: Student return forms to preceptors.

Step 5: Academic coordinator will send students a packet of information, which includes the following: incidental contact form, copy of passport, bank statements, J1 or B visa application (academic coordinator will pre-fill the visa application), visiting scientist agreement and visiting scholar agreement.

Step 6: The preceptor that sponsors that international student(s) is responsible for obtaining signatures for the various forms. After all signatures are obtained the preceptor will submit the paperwork to the academic coordinator.

Step 7: Academic coordinator will walk the student(s) paperwork to the International Student Advisement Office.

Step 8: Academic coordinator will provide the student(s) with specific site requirements, additional information regarding the rotations and a list of housing options.

Step 9: Academic coordinator will send the program management specialist a list of students that participate in rotations in the U.S. for evaluation purposes. Academic coordinator will liaise with the campus global office.

Appendix 2. Sample Schedule Rotation Schedule

Monday	Tuesday	Wednesday	Thursday	Friday
Week 1				
6/1 Seminar-orientation ***Pre-round daily on your assigned patients no later than 7 am	6/2 9 am rounds 12:30 pm Grand Rounds 1:30 pm Orientation	6/3 8 am morning report 9 am rounds Patient discussion Work on drug information exercise in pm Pharmaceutical Care Plan Database #1 due	6/4 8 am morning report 9 am rounds Kinetics discussion	6/5 8 am morning report 9 am rounds Drug information exercise due Pharmaceutical Care Plan Database #2 due
Week 2				
6/8 8 am morning report 9 am rounds	6/9 8 am morning report 9 am rounds Grand Rounds Toxicology	6/10 8 am morning report 9 am rounds Cirrhosis	6/11 8 am morning report 9 am rounds Migraine & CAP	6/12 8 am morning report 9 am rounds Afib
Week 3				
6/15 Kinetics note due Alcohol Withdrawal	6/16 8 am morning report 9 am rounds Grand Rounds Midpoint Evaluation	6/17 8 am morning report 9 am rounds 1 st Pharmaceutical care plan due	6/18 8 am morning report 9 am rounds Delirium	6/19 8 am morning report 9 am rounds Stroke
Week 4				
6/22 8 am morning report 9 am rounds Management meetings	6/23 8 am morning report 9 am rounds Grand Rounds Acid/Base	6/24 8 am morning report 9 am rounds Sepsis	6/25 8 am morning report 9 am rounds Diabetic Ketoacidosis	6/26 8 am morning report 9 am rounds 2 nd Care plan presentation
Week 5				
6/29 Project Time	6/30 8 am morning report 9 am rounds Final Evaluation			