

SPECIAL ARTICLES

An International Capstone Experience for Pharmacy Students

Dick R. Gourley, PharmD, Varun A. Vaidya, PhD,* Meghan A. Hufstader, PhD,*
Max D. Ray, PharmD, MS,* and Marie A. Chisholm-Burns, PharmD, MPH

College of Pharmacy, University of Tennessee Health Science Center, Memphis

Submitted June 29, 2012; accepted August 27, 2012; published April 12, 2013.

This report describes the experiences of the University of Tennessee College of Pharmacy over 20 years with an international capstone educational experience for students. Although the university provides reciprocal opportunities to international students, this report focuses on the experiences of the college's pharmacy students who have participated in the program. This capstone course is offered as an elective course in the advanced pharmacy practice experience (APPE) component of the college's experiential program. Goals of the program and a brief description of its organizational structure are provided. Results of a structured student satisfaction survey and a survey covering the most recent 3 years of the program are presented. This program has greatly broadened participants' cultural horizons and expanded their global view and understanding of the contributions of pharmacy to health care.

Keywords: globalized pharmacy education, international experience, international pharmacy practice, curricular enrichment

An international exchange program was established by the University of Tennessee College of Pharmacy (UT COP) in 1991, with 8 of its students participating in a 1-month structured practice experience in 1 of 4 foreign countries. The goals established for the program were

- (1) to provide the opportunity to participate in a healthcare system that is different in many key respects from the US system;
- (2) to explore the cultural differences between the United States and the country where the practice experience is conducted;
- (3) to identify similarities in healthcare issues between the country visited and those in the United States;
- (4) to identify key issues or challenges faced by health care in the student's host country and to understand how those issues are addressed in that country;
- (5) to promote an openness to new solutions to healthcare issues in the United States, based on the experiences of other countries; and
- (6) to impress on students that the goal of improving patient care (a goal shared by pharmacists

and other healthcare providers around the globe) can be approached in different ways, depending on the culture, resources, and educational system of a particular country.

Over the past 20 years the program has grown significantly. As of 2012, thirty-four students per year participate in the program, with practice experience sites available at 18 locations in 13 countries. Also, the college hosts 16 to 24 exchange students from other countries each year.

Throughout this 20-year period, the international practice experience has been considered part of the fourth-year advanced pharmacy practice experiential program as provided for in various iterations of the accreditation standards of the Accreditation Council for Pharmacy Education (ACPE).

PROGRAM DESCRIPTION

The college's international exchange program is structured to accommodate 34 fourth-year students each year. These students, who are selected on a competitive basis, are assigned in groups of 2 to 4 to each participating international site. Students are informed about the college's international program at the time they apply for admission (they may have even learned about the program through the college's Web site prior to application). Those who are interested in the program apply for it in their third year.

Three factors are considered in selecting students for the international program: grade point average, participation

Corresponding Author: Max D. Ray, PharmD, MS. Tel: 1-901-487-4218. E-mail: maxdray@aol.com

*Affiliation at time of study. Dr. Vaidya's current affiliation is with the College of Pharmacy, University of Toledo, Ohio. Dr. Hufstader's current affiliation is with the Department of Health and Human Services, Washington, DC. Dr. Ray is currently retired and resides in Cordova, Tennessee.

in student organizations and other professional activities, and scores on a written essay. A cumulative score for each applicant is calculated, based on these 3 criteria, and the final scores determine which students are selected to fill the available number of positions. An alternate list is generated for use in case of cancellations.

The required essay must include the following:

- (1) the name of the country (from among the list of participating international sites) to which the student would like to be assigned;
- (2) the student's learning objectives (which must be related to the goals of the program, as stated above);
- (3) a statement of how the student envisions that the experience would apply to his/her future career plans;
- (4) a description of the healthcare system in the country the student selects (as determined through the student's independent preliminary research); and
- (5) a description of pharmacy practice in the selected country (again, based on the student's preliminary research).

The essays are evaluated by an expert reviewer (a professor of English) and only those students whose essays receive a predetermined minimum score are eligible for consideration. In addition to the essay, students may receive points based on participation in extracurricular activities.

Following completion of the international APPE, students are required to prepare a manuscript on all aspects of pharmacy practice in the country they visited, as well as a "survival guide" for future students. Students are required to provide a written evaluation of the practice experience and the preceptors, and evaluation of the student is solicited from preceptors in the host country.

Funding for the program is provided entirely through 2 college endowments—no funds from the college's operating budget are used for the program. The endowments, derived from both private and corporate donations, are used to partially subsidize student travel; students are responsible for part of their expenses. Student loan funds are also available to assist students with their portion of the travel costs.

The international program is administered through the dean's office, with 1 senior administrative assistant with strong communications and management skills primarily responsible for managing/administering the program.

As of 2012, the college had 17 affiliation agreements with international sites. These are listed in Table 1 along with past international affiliations. In each case, the

Table 1. The University of Tennessee Health Science Center College of Pharmacy's Affiliation Agreements With International Sites

Affiliations as of 2012

The University of Hiroshima, Hiroshima, Japan
Hospital de la Santa Creu i Sant Paul, Barcelona, Spain
Monash Medical Center, Clayton, Australia
Adelaide and Meath Hospital, Dublin, Ireland
University of Auckland, Auckland, New Zealand
Khon Kaen University, Khon Kaen, Thailand
Chiang Mai University, Chiang Mai, Thailand
Luleå University of Technology, Luleå, Sweden
Lewisham Healthcare NHS Trust, London, United Kingdom
Royal Liverpool and Broadgreen University Hospitals, Liverpool, United Kingdom
Hope Hospital, Manchester, United Kingdom
Faculté de Pharmacie de Nancy, France
Hôpital Neuro-cardiologique, Bron, France
Hospices Civils de Lyon, France
Maharakham University, Maharakham, Thailand
Marmara University Faculty of Pharmacy, Istanbul, Turkey
GLOBALMED, Budapest, Hungary

Examples of past affiliations

Royal Danish School of Pharmacy, Copenhagen, Denmark
University of Utrich, The Netherlands
Northwest Thames Health Authority, London, United Kingdom
University of Uppsala, Uppsala, Sweden
Otago University, Dunedin, New Zealand
Addenbrooke Hospital, Cambridge, United Kingdom
Debrecen University, Debrecen, Hungary
Hungarian Private Pharmacists Association, Budapest, Hungary

affiliation agreement provides for faculty and student exchange programs as well as opportunities for research and other joint programs. Student housing is arranged by the host site, although in most cases housing costs are passed through to the student. The University of Tennessee College of Pharmacy similarly arranges for housing for international exchange students, who are also responsible for their own rent. In cases where the international host provides rent-free housing to our students, the college provides free housing to exchange students from that site.

Considerable effort is required to establish and maintain international affiliation agreements on the scope represented by this report. Because many affiliations are based on relationships with single individuals, the relationship can be disrupted when a key individual retires or relocates. In such cases, new affiliations must be sought to

maintain the number of international practice experiences the college needs to meet student demand. The economic climate during the past few years also has presented challenges to maintaining this program, although the college has been able to meet these challenges thus far.

New affiliations are developed primarily through personal contacts that the dean and other faculty members have with international colleagues. These arise through participation in the Fédération Internationale Pharmaceutique, becoming acquainted with international colleagues who attend meetings in the United States, and through international speaking engagements and contractual service arrangements.

PROGRAM EVALUATION

A study was undertaken in 2007 to evaluate the international APPE elective course through a survey of college alumni who had participated in the program. The survey instrument was designed to measure the impact of the program on participants' global and cultural perspectives, the knowledge and skills they gained, and the impact on their professional careers. The goal was to survey 100% of all participants in the program from its inception in 1991 through 2007. The total number of participants during that period was 255. Of these, contact information was available for only 206. In 2007, a survey instrument was sent to these 206 alumni, and responses were received from 132 (64% response rate). The return rate was greater than 30% for all years except 1992 and 2006, where return rates were 19% and 10%, respectively. A follow-up survey instrument was sent to nonresponders in 2008, resulting in an additional 20 responses (overall response rate of 73.3%).

Ninety-five percent of respondents either agreed or strongly agreed that their international practice experience made them a better pharmacist. In a similar vein, 89.2% of respondents agreed or strongly agreed that the experience had a positive effect on their current pharmacy practice. In terms of skills gained, 90.8% either agreed or strongly agreed that the international pharmacy practice experience enabled them to gain skills they would not have otherwise gained. Almost all respondents (99.5%) agreed or strongly agreed that they benefited greatly from their experience with a different pharmacy system. A majority of respondents (72%) agreed or strongly agreed that this program made them more sensitive to the diverse needs of patients and pharmacy practitioners.

In response to the statement, "I would encourage all pharmacy students to go on an international pharmacy practice experience," 98.5% agreed or strongly agreed.

A strong majority (97.7%) agreed that this international experience met their expectations.

Several areas for improvement were recommended by respondents, as summarized in Table 2. Since the time of this study (in 2008), the college has undertaken measures to address these recommendations.

FOLLOW-UP ASSESSMENT OF QUALITY

To validate the findings of the 2008 study, in 2012 the college conducted telephone interviews with 12 graduates from 2009 through 2011 who participated in the international APPE (interview questions provided in Appendix 1). Although the results from these interviews were anecdotal in nature, they corroborated the positive findings of the 2008 study regarding the value of this program.

The 12 students had completed their international APPE in 1 of 6 countries. Specific activities varied somewhat from site to site, but most of them included visits to hospitals (and in some cases included rounds with medical teams) and community pharmacies, and meetings with public health officials. Each had opportunities to interact with pharmacy students in the host country, and in several cases they also had interactions with pharmacy residents at those sites.

All those interviewed indicated that the international experience greatly broadened their sense of kinship with pharmacists in other countries, their understanding of health care economics and payment systems, and their cultural awareness and sensitivity. They all indicated that they felt the experience improved their abilities as a pharmacist, particularly insofar as it helped them understand how pharmacists in other countries approach problems also faced by pharmacists in the United States (examples cited were drug shortages, rationing issues,

Table 2. Pharmacy Alumni Recommendations for Improvements to an International Pharmacy Practice Experience Program (N = 152)

Response	Percent
Students need more language preparation prior to the international practice experience.	18.5
The application process should be easier for students.	5.0
The application process should be more competitive to ensure the quality of students who are selected.	8.5
Arrangements for students during the rotation need to be better organized.	15.1
Goals of the international practice experience should be clarified.	21.8

compounding/product formulation issues, patient counseling and education, and interaction with physicians and other interprofessional team members). They all felt the experience gave them a deeper sense of professional identity and a broader “worldview” of health care and where pharmacy fits in that landscape. Every interviewee indicated unequivocally that they would recommend the program to current and future students.

One (perhaps unexpected) benefit of the program that these 12 interviewees commented on was the incentive to be able to compete effectively for a slot in the international program. They felt motivated to become involved in professional activities beginning in their first academic year, to perform well academically, and to perhaps think more deeply about cultural competence throughout pharmacy school.

Those interviewed had few comments regarding areas where improvements were needed. One interviewee indicated that she had experienced some problems with the language barrier encountered, and 2 others indicated that there had been some miscommunications regarding housing arrangements. But in general, it appeared that the problems identified in the 2008 study had been greatly ameliorated.

CONCLUSIONS

The goals of the international APPE program at the University of Tennessee’s College of Pharmacy established in 1991 have been met during the 20 years that the program has been offered. The college’s experience has illustrated that there is strong interest among pharmacy students in broadening their professional vision and competence through structured international experiences. Those who have participated in the program attest to the impact the program has had on both their professional and personal lives through increased cultural awareness, heightened understanding of the global issues and challenges faced by health care in general and pharmacy in particular, and a deeper appreciation for how pharmacists around the globe fulfill their professional purpose. These findings may be useful to other colleges and schools of pharmacy that may be considering establishment of an international exchange program for their students.

REFERENCES

1. ACPE Standards 2007, Accreditation Council for Pharmacy Education, Chicago, IL. www.acpe-accredit.org/pdf/FinalS2007Guidelines2.0.pdf. Accessed June 21, 2012.

Appendix 1. Questions Asked in a Telephone Survey of Pharmacy Graduates Who Had Completed an International Advanced Pharmacy Practice Experience

Which country did you visit?

What activities did your rotation include?

Do you feel the experience will have lasting value to you in your practice as a pharmacist? If so, please comment further.

Do you feel the experience broadened your thinking about health care policy and economic issues? If so, please comment further.

Do you feel the experience increased your cultural awareness and sensitivity?

Would you recommend the program to others?

What recommendations for improvements in the program do you have?
