



Short communication

Development of a psychiatric pharmacy elective track

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Abstract

Introduction: Development of expertise in new pharmacy graduates is the gradual transition from novice to expert. Information on the development of specialty knowledge at the student level in pharmacy curricula has not been published extensively.

Methods: This paper reports an overview of the development of a psychiatric pharmacy elective track at the University of Oklahoma College of Pharmacy to help professional pharmacy students gain expertise in a selected area of interest.

Results: An elective track in psychiatric pharmacy with didactic and advanced pharmacy practice experiences is described. Curricular development is outlined and includes lessons learned. Advanced pharmacy practice experiences, both patient-based and research-focused, are discussed. Personal investment in the process by interested students and faculty, in addition to the resources needed to foster the process toward expertise, are highlighted.

Conclusions: Professional development is an integral part of the advancement from novice to expert. Elective tracks with focused areas of study may facilitate this development.

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Introduction

A task force was created by the American Pharmacists Association (APhA) in January 1973 to address health care changes related to the profession of pharmacy and at that time specialization in pharmacy practice was of particular interest. Acting upon the recommendations of this task force, the Board of Pharmacy Specialties (BPS) was formed in 1976 as an independent agency of the APhA. To date, the Board has recognized six specialty practice areas: ambulatory care pharmacy, nuclear pharmacy, nutrition support pharmacy, oncology pharmacy, pharmacotherapy, and psychiatric pharmacy.¹

Many colleges and schools of pharmacy offer postgraduate training and residencies to facilitate professional growth, including specialization. Although preparation for entry into the professional Doctor of Pharmacy program has been researched,^{2,3} there are only a limited number of reports related to systematic specialty training in the professional program.^{4,5} This paper describes the development of a psychiatric pharmacy–focused elective track for professional students at the University of Oklahoma College of Pharmacy.

Specialty-focused concept

With the increased use of pharmacists as clinical service providers, the need for specialization in pharmacy has been increasingly recognized by governmental agencies and residency training programs, as well as in clinical settings.^{6,7} In many areas of the country, certification and advanced training are required for entry-level direct patient care practice and/or career advancement.^{8,9}

Information from the World Health Organization estimates that mental illness may be found in at least 25% of

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families, affecting one or more members.¹⁰ In the United States (US) the prevalence of substance use disorders was slightly more than 9%¹¹ for a 12-month period (2001–2002). Results from the 2010 National Survey on Drug Use and Health, representing information from approximately 67,500 persons (ages 12 years and older), found that approximately 9% of the survey population reported using an illicit drug the month before the survey and approximately 52% reported current alcohol use.¹²

Because pharmacotherapy is commonly used to address general medical conditions and substance-related comorbidities, pharmacists are in an excellent position to contribute meaningfully to the management of this health care burden via a variety of interventions that range from screening to management of medication adherence, medication regimen reviews, formulary management, and protocol development.^{11,13–17} On the basis of this knowledge, the University of Oklahoma College of Pharmacy (OUCOP) developed an elective track in psychiatric pharmacy as part of the professional pharmacy curriculum.

The availability of psychiatric pharmacy education in college and schools of pharmacy curricula was surveyed in 2007. At that time, a survey instrument was mailed to the 91 colleges and schools of pharmacy in the US and a 54% response rate (49/91) was reported. Twenty-six colleges and schools (53%) considered psychiatric pharmacy a curriculum content focus. Approximately one-fourth of the institutions offered elective didactic courses in this area. Substance use disorders were not taught in clinical therapeutics courses in approximately 20% of the schools. If this topic was taught, the content coverage averaged 3 hours.¹⁸ As of January 2012, there were 119 institutions with an additional nine colleges or schools in precandidate development.¹⁹ Because the process of curricular design and/or review occurs in many institutions, this paper provides an outline for other colleges or schools interested in the development of a similar program.

The psychiatric pharmacy elective track was designed with both program and student outcomes. The program was conceptualized to provide unique offerings to attract potential students and strengthen the image of pharmacy within the community as providers of more in-depth knowledge in a specific area. The student goals were designed to stimulate interest in postgraduate education and expose students to expertise in a specialty area. Student-authored scholarship was an additional outcome for the elective track.

Track development

Development of the track program required both a holistic view of the program and a reductionist focus on each of the didactic components. Criteria for the elective track were developed and the proposal for the concept was presented to the Curriculum Committee. After committee review, the elective track proposal was presented to the faculty, where it was unanimously accepted and the criteria

were further refined. The OUCOP has four elective tracks (psychiatric pharmacy, pediatric pharmacotherapy, nuclear pharmacy, and leadership development). Initially, individual subject areas were identified and the first elective (psychoactive substances covering substances of abuse) was developed. A timeline for additional electives was established.

The student seeking acceptance into an elective track must complete the application packet (application form, curriculum vitae, two professional letters of recommendation) and meet the following criteria:

1. Have a minimum professional and overall grade point average (GPA) and be in good academic standing (Note: Students in good academic standing, but with a GPA less than the minimum may also be considered.);
2. Submit a letter of intent addressing how this training will facilitate career goals;
3. Interview with an ad hoc committee of faculty members; and
4. Have completed at least the first year (P-1) of the professional curriculum.

For the psychiatric pharmacy elective track, primary and support faculty were identified. Primary faculty hold board certification in psychiatric pharmacy and coordinate the courses and the track. Support faculty with targeted expertise were identified for additional track support. Areas needed for track support included statistics and database management. Clinical sites provided patient contact experiences. Additional exposure through contract consulting²⁰ was identified to broaden student exposure to pharmaceutical care opportunities.

Educational outcomes included development of knowledge and skills designed to assist student collaboration with other health care professionals to optimize medication therapy management for patients with psychiatric and neurologic disorders. The global educational learning objectives established for the track included:

1. Explain the pharmacology of antidepressants and antipsychotic agents,
2. Explain the neurobiological principles of substance use and abuse,
3. Critically review and evaluate the literature as it relates to psychiatric pharmacy,
4. Explain the findings and implications of landmark trials for psychiatric medication,
5. Give examples of psychiatric illnesses and/or conditions and drug use found in contemporary or popular culture, and
6. Explain the implications of traumatic brain injury in the health care system.

The student skill set was designed to augment psychiatric patient contact and included the following:

1. Make recommendations to the pharmacotherapy plan,
2. Identify outcomes of successful plans,

3. Identify common reasons for treatment plan failure(s), and
4. Identify potential drug-related problems.

Academic requirements

Academic requirements for the psychiatric pharmacy elective track included nine hours of focused course work from a list of psychiatric pharmacy program-approved electives and eight hours of advanced pharmacy practice experience (APPE). The initial didactic components were each three-hour elective courses that were offered online only. Development of the psychoactive substances course was detailed previously.²¹ Course goals included active engagement of the pharmacy student in identification of the subtle nuances of substance misuse and abuse and the role of pharmacy professionals in adapting resources available for the treatment of substance misuse/abuse. The second elective focused on persons diagnosed with schizophrenia. For this course, the final project was a publication-quality paper. Traumatic brain injury (TBI) was the targeted area for the third elective. It was selected to increase awareness²² and help prepare future practitioners for an emerging area for both community- and institution-based practices. The final project of the TBI course was an in-depth patient case that used a subjective-objective-assessment-plan (SOAP) note format with additional information on the cost of short- and long-term care. Each course included a midterm, which also was administered online.

The courses were formatted into weekly learning modules with specific learning objectives for each week. Additional activities involved a combination of foundation readings from a variety of peer-reviewed journals and/or required texts, movies related to the area of study, and websites with additional information and/or simulations. Each course required students to respond via an online forum to a weekly discussion topic based on the readings and to post a discussion of the focus area or post a section of the manuscript or case study. Each student was required to provide pertinent feedback to a minimum of two peers. Support for the peer-to-peer discussion was provided by inclusion of findings from the primary literature. A separate journal article was required for the initial and response discussions (three references each week per student).

A rubric was developed to evaluate student mastery of the information and the ability to respond to peers. Three content areas were identified: relevance to the topic, evidence of academic performance, and collaboration with peers. The level of mastery was evaluated on the student's ability to demonstrate these skills. A point allocation was assigned to each area ranging from 0 (inadequate performance) to 3 (proficient level). Grade point equivalency was based on a maximum of 9 (proficient level of 3 for all three areas) to 0 points.

APPE

The psychiatric pharmacy–required rotations were focused on patient contact rotation and research. The first rotation experience was research focused. The student was responsible for managing the project timeline and completing the project within the time frame of the rotation.

The patient contact rotation was with an integrated multidisciplinary program of assertive community treatment (IMPACT) team. Program participants resided in the community. Students rounded with team members to gain first-hand knowledge of barriers to care for the mentally ill, such as access to care, mental health parity, and medication and treatment costs. Student activities included presentations to the team, presenting individual patient cases using the SOAP note format, and specific program-related projects. To date, both rotations have generated student-authored scholarship.

Common challenges

Doctor of Pharmacy programs that are interested in developing elective tracks may face common challenges. These include accreditation requirements, available unallocated didactic education requirements, and clinical practice sites that are able to support programming. In addition, development of student scholarship is a time-consuming process that may require resources from faculty members outside the elective track (e.g., technology and research support) who are likely to have a limited amount of time available to provide support.

Adding an elective track to a professional program may be one of the larger challenges facing already over-burdened faculty. One way to incorporate the increased requirements may be for faculty to critically evaluate their core duties associated with education, research, and service, and integrate these into elective tracks. At this time, one full-time faculty member administers the psychiatric pharmacy elective track. Faculty responsibilities include coordinating and overseeing all aspects of the online electives, developing individual student elective track educational plans, and providing both introductory pharmacy practice experience (IPPEs) and APPEs.

Lessons learned

Didactic online delivery was selected for greater student and faculty flexibility. Because of one-on-one interaction and increased autonomy, pharmacy students reported that they felt they learned more in this format compared with traditional course delivery.²¹ At this institution, online course resources were readily available and required little, if any, additional expense. An online course management system is essential and students must have access to online resources, such as library resources. Access to technical support was needed as well. The psychoactive substances

course was the first 100% online class offered at our institution. All resources were available to the professional program students, although the immediacy of support when technology issues arose was not fully anticipated by faculty and academic information technology (IT) support. This program included an instructional design specialist (IDS) faculty member with a doctoral degree focused on education—particularly online learning.

Development of the initial online course required more than 100 hours to complete. This included the review of a number of prospective texts; identification of other resources (e.g., websites, media); selection of peer-reviewed literature for foundation knowledge; and curricular development. Planning for this time requirement and remaining flexible are strongly encouraged for anyone considering development of online courses. A brief overview of the online courses and structure and an estimate of faculty time are included (Table 1).

As with any online course, it is important to anticipate technology glitches. Technology issues experienced during the first 10 days of the psychoactive substances course limited student access into the classroom management system, which served to frustrate all involved. Once this initial enrollment coding error was resolved, few technology issues interrupted the learning environment in this or subsequent electives. It is important to note that having a close working relationship with the IT department can temper many of the frustrations that occur when technological challenges arise.

Academic programs are encouraged to elicit student feedback. At the OUCOP, students provided insights and recommendations for course improvement. Examples of this included the students' request for short-answer instead of multiple-choice format assessments and the addition of a midterm quiz plus a final quiz. This program provided an opportunity for individual student feedback for each activ-

Table 1
Psychiatric pharmacy elective track development

Elective	Development time	Course structure	Weekly faculty maintenance time
Psychoactive substances	Identification of initial and secondary textbooks. Development of weekly learning modules with learning objectives, discussion topics, and quizzes. 100+ hours (initial development)	Weekly learning modules Weekly discussion postings with student-initiated posting and response postings to a minimum of 2 peers Weekly quizzes with short-answer/discussion questions Cumulative midterm quiz Cumulative final	8-10 hours: reading discussion postings, providing individual feedback, checking references for applicability, and scoring rubric. Grading quizzes
Schizophrenia and pharmacotherapy options	40 hours: identification of first-person accounts and foundation readings, learning objectives, discussion topics, and midterm/final quizzes	Foundation readings from a variety of peer-reviewed journals and websites with simulations of psychotic experiences and affective disturbances. Each week the students were to respond to a discussion topic based on the readings, provide pertinent feedback to peers, and post a component of their manuscript. Several weeks were designated as writing weeks to allow adequate time for research. Development of the manuscript was structured to be completed by the end of the semester and ready for submission.	10-12 hours: reading discussion postings, providing individual feedback, checking references for applicability, scoring rubric, and mentoring for manuscript development. This process requires more than one semester if the manuscript is accepted.
Traumatic brain injury	40 hours: identification of first-person accounts and foundation readings, learning objectives, discussion topics, midterm quiz, and development of case study focusing on a specific type of traumatic brain injury	Foundation readings from a variety of peer-reviewed journals and websites with simulations of traumatic brain injury from concussive forces or sports-related trauma. Midterm quiz Each week the students were to respond to a discussion topic based on the readings, provide pertinent feedback to peers, and post a component of their case study addressing a specific type of traumatic brain injury. Students were to incorporate pharmacotherapy, comorbidities, quality of life, and cost of treatment (both short and long term).	10-12 hours: reading discussion postings, providing individual feedback, checking references for applicability, scoring rubric, and mentoring for case presentation development.

ity. In the online environment, students had the opportunity to ask specific topic-related questions or provide anonymous feedback. All comments received were positive and provided guidance for improvements.

Under this structure, educational objectives were met through classroom activities and assessments. Student performance of these items was satisfactory.

The psychiatric pharmacy elective track is in its second year. Because of the newness of the elective track and the small number of students who have completed the track, a description of specific student demographics would likely diminish the anonymity of the survey and therefore is not presented here. Using the standard course evaluation tools of the institution, students provided course satisfaction rankings of 4.0 (scale responses 1–4, lowest to highest) for “provided consistent and appropriate supervision of my activities and actions” and “provided feedback and asked questions that stimulated my thinking and memory” for the online courses. On the basis of feedback from the students who completed the track, student satisfaction with the elective program was high.

IPPE

The need for an IPPE was identified at the end of the first year and was added in the second year. Students requested more information related to the activities associated with a psychiatric pharmacist and to have more elective track pharmacy practice experiences. The opportunity to observe a treatment team case conference is available 12 times during the semester. At this time, one to two students attend weekly for a one-hour orientation to the service and a one-hour case conference. Implementation of this portion of the program required a great deal of work; however, it was very rewarding for faculty and students.

Future considerations in psychiatric pharmacy elective track development

Limited information was found on specialty areas of study for pharmacy students. Medicine and nursing provide specialty training for their disciplines, including psychiatry. Rushworth and Happell reviewed the literature related to psychiatric nursing and found that this specialty area did not represent “a highly desirable future career choice.” These students preferred establishing a strong foundation in medical-surgical skills before psychiatric nursing.²³ Specialization in psychiatry for medical residents may be experiencing revisions to incorporate genomics and neuroimaging.²⁴ Pharmacists with more in-depth psychiatric pharmacy experience may be well-positioned to collaborate as drug information resources.

Formal evaluations of the global psychiatric pharmacy elective track learning objectives and a postgraduate satisfaction survey are under consideration. The OUCOP is currently involved in the development of an integrated test-

ing measure with global objectives for each professional year. As this assessment tool is developed and incorporated into the curriculum, a similar instrument will be considered for the psychiatric pharmacy elective track.

Conclusion

Professional development is an integral part of the advancement process from novice to expert. This process may be viewed as a series of developmental steps. Each step provides the learner an opportunity to increase knowledge and competencies. The psychiatric pharmacy elective track provides a basis for foundational learning through the electives where students gain knowledge in structured and flexible atmosphere. More foundation learning and information is provided with introductory learning experiences, culminating with the application of didactic information into a practice-based setting. In addition to the process of development of learning for students, information for interested faculty and institutions is provided. This includes challenges, lessons learned, and time requirements for the current program.

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