

CME/CE ARTICLE

The Emerging Role of Psychiatric Pharmacists

Lawrence J. Cohen, PharmD, BCPP, FASHP, FCCP, FASCP

Abstract

The concept of pharmaceutical care has greatly expanded the role of the pharmacist, from that of strictly a drug dispenser to a more integrated member of a patient's healthcare team. In order for pharmaceutical care practice to succeed, the pharmacist must assume a more proactive role, using his or her knowledge of drug therapy and behavioral medicine to assume more responsibility in achieving improvement in patient health outcomes. The pharmacist must also develop open, professional relationships with patients, their families/caregivers, and other members of the healthcare team. Pharmaceutical care comprises 4 components: education, medical-legal issues, drug therapy knowledge, and communication. Through these efforts, and because pharmacists offer greater access to patients and a broader view of patient outcomes, pharmaceutical care affords the opportunity for these professionals to become patient advocates and prevent line-item decision making. Special considerations exist for psychiatric pharmacists practicing pharmaceutical care, especially in documentation and formulary decisions. Psychiatric pharmacists can ensure that patients have access to the safest, most efficacious (and cost-effective) drugs by considering more than just acquisition costs.

(*Am J Manag Care* 1999;5(suppl):S621-S629)

The concept of pharmaceutical care has emerged over the past decade as a philosophy of practice.¹ This paradigm shift has occurred with the help of published *Principles of Practice for Pharmaceutical Care* by the American Pharmaceutical Association (APhA).

According to APhA, pharmaceutical care is defined as "a patient-centered, outcomes-oriented pharmacy practice that requires the pharmacist to work in concert with the patient and the patient's other healthcare providers to promote health, to prevent disease, and to assess, monitor, initiate, and modify medication use to assure that drug therapy regimens are safe and effective. The goal of pharmaceutical care is to optimize the patient's health-related quality of life and achieve positive clinical outcomes, within realistic economic expenditures."²

Clearly, the pharmacist assumes significantly more roles at various levels as a practitioner of pharmaceutical care compared with the traditional roles of dosage formulation and delivery. Pharmacists may also act as "drug police" when, in an effort to meet the bottom line, they are given the charge of minimizing drug use for budgetary purposes, even among drugs that have a beneficial effect. They may also act as drug police when responding to managed care organizations' or state governments' requirements for adherence to a for-

mulary. These requirements can make prior approval and medical necessity almost impossible obstacles to obtaining medication. Some argue that pharmacists have assumed this role of pharmaceutical care practitioner for much of this century and that formally implementing pharmaceutical care practices can be done through incremental improvements in clinical and interpersonal skills.³ However, each pharmacy practice setting is different and faces its own challenges in creating, promoting, and establishing an open setting for pharmaceutical care practice.

In pharmaceutical care practice, the healthcare process changes from practices running in series to those running in parallel. Patients, as more active participants in the decision-making process, interact with a healthcare team of which the pharmacist is an integral member. Communication among the healthcare team members is critical for optimal patient outcomes, as each team member has his or her own expertise to contribute. For pharmacists, their pharmacological as well as their behavioral medicine training can be used to make rec-

ommendations and follow-up on therapy. This open role benefits: 1) patients through greater healthcare coverage; 2) physicians by increasing their patient knowledge base and relieving some of the burden of follow-up and monitoring practices; and 3) managed care organizations by decreasing costs because of low compliance and "therapeutic misadventures." Drug-related morbidity and mortality costs an estimated \$76.6 billion per year in the United States.⁴

Pharmaceutical Care and Formulary Decision Making

In today's cost-cutting environment of formularies, focus is often placed on line items. Certain treatments or drugs are eliminated based on their acquisition cost and are not considered within the whole picture of cost effectiveness. This is especially true for atypical antipsychotic agents, which have been shown to produce significantly improved efficacy, cost effectiveness, and patient outcomes in clinical trials despite higher acquisition costs.⁵ (See Table 1 for a comparison of the frequency of major adverse events of atypical antipsy-

Table 1. Frequency of Side Effects of Conventional and Atypical Antipsychotic Drugs

Side Effects	Conventional Antipsychotics	Clozapine	Risperidone	Olanzapine	Sertindole	Ziprasidone	Quetiapine
Parkinsonism	15%-50%	Low	1%-4%	Low	Low	Low	Low
Akathisia	12%-75%	Low	Low	Low	Low	Low	Low
Sedation	Moderate/high	High	Low	Moderate	Low	Low	Moderate
Tardive dyskinesia	10%-45%	Very low	Very low	Very low	ND	ND	Very low
Agranulocytosis	< 0.1%	1%	ND	ND	ND	ND	ND
Neuroleptic malignant syndrome	< 1%	Low	Low	ND	ND	ND	ND
Anticholinergic effects	Varied	Moderate/high	None/low	Moderate	ND	ND	ND

ND = Not determined.

chotic agents with that of conventional [typical] agents.) Given that drug costs are only 2% of the direct healthcare costs for treating schizophrenia, any drug that can significantly decrease hospitalization or relapse rates will reduce costs overall.^{5,6} Early intervention in reducing relapse rates can have a significant lifetime impact in healthcare costs, quality of life, and work status. The danger in line-item budgeting is the narrow view placed on drug acquisition costs alone.

Similarly, compartmentalization of pharmacy departments from other departments in larger healthcare organizations (eg, the silo mentality) risks a narrow view in which healthcare treatment decisions are made—information can become compartmentalized as well. Most pharmacy directors already know the importance of tracking the utilization and cost spent on each drug. Interdepartmental communication helps to ensure that decisions are not made in a vacuum and a more complete picture is obtained for disease management, an important philosophy for managed care. In this way, pharmacists have an opportunity to be patient advocates.⁷

The goals of pharmacy service centers and pharmacy departments in healthcare organizations are the same (Table 2). In particular, improving drug efficiency and safety is a key role for pharmacists. By ensuring that drug therapies are used for the appropriate indications and monitoring and documenting adverse events, pharmacists can bridge the gap between a drug's efficacy in a defined trial population and its efficiency in the general patient population. Similarly, quality-of-life assessment is increasingly incorporated into clinical practice. With further training, pharmacists are in an advantageous position to measure quality of life in their patients and to use the information in pharmaceutical care practice.⁸

Pharmacist-Patient Relationships

Under the definition of pharmaceutical care described by Hepler and Strand,¹ 2 important events must take place to achieve successful patient outcomes: 1) the pharmacist forms a professional, open relationship with the patient, and 2) the pharmacist macromonitors drug use (ie, before the medications are administered, during the administration, and after the drug trial). Many pharmacists are already in key positions to be transition figures in improving patient outcomes, and they have significantly more access to patients in settings removed from the constraints of typical clinical environments (doctors' offices, hospitals, outpatient clinics). In addition, many pharmacists can change their work environments to incorporate a private consultation area, delegate dispensing activities to technicians, and modify the work flow among staff to accommodate patient scheduling. In one community pharmacy model, patients were seen every 6 to 8 weeks for a 15- to 20-minute consultation.⁹ In chain drug stores, decisions to make modifications (eg, private consultation areas) are made by the parent company.

Pharmacists also see patients outside of the state of active illness when a drug is typically prescribed. By forging a relationship based on caring, trust, open communication,

Table 2. Goals of Pharmacy Service Centers and Pharmacy Departments

<ul style="list-style-type: none"> ■ Improving efficiency and safety of drug therapies ■ Improving patients' quality of life ■ Improving patients' satisfaction and compliance ■ Saving money ■ Saving time for physicians and other healthcare team members

cooperation, and mutual decision making, the pharmacist can obtain personal information and preferences from patients and implement processes to ensure that patients have access to pharmaceutical care at all times. With this information, pharmacists and patients can design individualized plans together to achieve specific outcomes. Presently, a body of knowledge exists that demonstrates the benefits of clinical pharmacist and pharmaceutical care interventions in patient outcomes, including those for psychiatric patients.^{7,10-12}

Pharmaceutical Care Philosophy

Pharmaceutical care is comprised broadly of 4 components: education, medical-legal issues, drug therapy knowledge, and communication.

Education. Pharmacists are involved in many levels of educational activities with patients, future pharmacists, and healthcare teams. Within inpatient institutions, pharmacists provide patient education programs, which are essential to increasing compliance with medication regimens and improving outcomes. Before medications are dispensed, patients can be educated on dosing, duration, storage, target symptoms, adverse events, interactions, and use in pregnancy/lactation—all before discharge. Pharmacists can obtain informed consent and provide the necessary documentation for patient education and informed consent. The pharmacist can also conduct group and family education as necessary.

Future pharmacists and other healthcare professionals (eg, psychiatrists, nurses) view the pharmacist as a valuable source of knowledge and experience. Many pharmacists teach at allied health educational institutions and medical schools. Dentists can also benefit from pharmacy training regarding interactions between psychotropic drugs and

other agents used in dentistry (eg, anesthetics) as well as adverse oral effects of medication (eg, xerostomia and gingival hyperplasia).

For healthcare professionals, pharmacists are a convenient and reliable source of drug information, and they can provide in-service continuing education programs in hospital and community settings. Distance-learning programs may be useful for the healthcare team in rural areas where transport to major cities for continuing education programs is difficult.

Medical-Legal Issues. Pharmacists, especially psychiatric pharmacists, should be mindful of the numerous medical-legal issues they will face in their expanding roles. One issue in particular that has become a hot topic in the era of managed care and cost containment is limited access to newer medications and other treatment modalities (eg, hospitalization) because of acquisition costs. Indeed, the relevance of these issues forms the basis of health economics and pharmacoeconomics research. In addition, informed consent and treatment of psychiatric patients under an emergency order of detention pose unique situations and challenges for the psychiatric pharmacist.

Drug Therapy Knowledge. The traditional role of the pharmacist as a formulary dispenser still holds true, although the level of decision making has changed. For example, the previous paradigm was that patients taking antipsychotic agents had to have failed multiple therapies before they had access to newer therapies; often this paradigm was applied because of cost issues or, in the case of clozapine, increased adverse event risk. Today, formularies are managed very differently. Pharmacists do not maintain large inventories, so one drug does not have to be eliminated from the formulary for another. In fact,

pharmacists can recommend drugs for formulary inclusion based on efficacy and cost compared with others. The onus is on the pharmacist to demonstrate that all medications in stock are still of value. This also helps to rid pharmacists of the drug police image and role that many disdain. For patients with schizophrenia, the paradigm shift brings access to newer drugs for newly diagnosed patients, so health outcomes and resource utilization are affected early in the disease process.

Applications of pharmacists' knowledge extend beyond the pharmacy counter to physicians. Pharmacists can prepare drug monographs and guidelines as well as algorithms for drug classes and disease states. In fact, psychiatric pharmacists working in concert with psychiatrists frequently prepare algorithms. This is best exemplified by the Texas Medication Algorithm Project, a public-academic collaborative effort in which pharmacists are part of a team of experts who develop algorithms for schizophrenia, major depressive disorder, and bipolar disorder.^{13,14}

Pharmacists can also provide consultation services to physicians, especially for psychiatric patients. In Oklahoma, as part of the Oklahoma Department of Human Services/Developmental Disability Services Division, pharmacists provide, through clinical pharmacology services, individualized medication consultations. These include a review of all patients' medications, including nonprescription medications and caffeine and nicotine use. The reviews serve to ensure that an indication exists for all drugs (for psychiatric patients, to ensure that a psychiatric diagnosis or symptomology justifies the medications). If no indication is available, pharmacists request clarification. Any member of a patient's healthcare team—a case manager, a nurse, one of the practicing physicians—can request the consult.

Pharmacists can also provide pharmacokinetic/toxicology services by reviewing all drug concentrations above and below the accepted therapeutic range as well as abnormal test results. These services, along with medication reviews, enable pharmacists to make recommendations based on the reviews and follow up on the recommendations.

Applications of pharmacists' knowledge extend beyond the pharmacy counter to physicians. Pharmacists can prepare drug monographs and guidelines as well as algorithms for drug classes and disease states.

Communication. Drug therapy knowledge and communication skills are inextricably linked in pharmaceutical care practice. Pharmacists are in a unique position to facilitate dialogue on many levels with the patients and the healthcare team. For patients, they can act as a listening ear for adverse event reporting and compliance issues, which are so important for patients taking antipsychotic medications to prevent relapse and hospitalization.

Documentation serves as a source of communication among the healthcare team. Pre- and postimplementation documentation is essential to justify any cognitive or clinical service being provided and should include the total number of prescription drugs, the number of doses, the total number of pills (to possibly minimize the total number of doses), and the readmission rates per year.

Psychiatric patients require additional documentation, as shown in

Table 3. With psychiatric patients and those at risk of being affected by anticholinergic drugs, the number of drugs or number of doses can impair cognitive function. Faced with the prospect of taking 20 pills per day, for example, patients may ignore dosage schedules and take them all at once if it is more convenient and easier to remember. A rapport with the patient can circumvent such therapeutic misadventures through communication and education.

A critical review of pharmacists' impact on psychiatric patients reveals cost savings in patient care, reduced numbers of hospitalizations, improved patient compliance, decreased drug side effects, reduction in long-term therapy, and reduced use of psychotropic agents and sedative-hypnotics.¹⁰ Although a more comprehensive and rigorous analysis of pharmacists' contribution to patient health outcomes is needed, the benefits have been established.

For the healthcare team, medication reviews can provide a wealth of information and save time for physicians. Monitoring and feedback by pharmacists prevents tracking the same information by several parties—the information is shared in team meetings. These activities, in particular, rely on the knowledge of drug therapy discussed previously, as well as an open, professional relationship with the healthcare team.

Medication reviews should include information from the patients themselves, their families, and their medical records (current and historical). Prescription and nonprescription drug use should be recorded, as well as the use of tobacco, alcohol, caffeine, herbal and nutritional supplements, and recreational drugs. This documentation serves to ensure adequate trials of drugs and proper reporting of adverse events and allergic reactions, and to measure efficacy, compliance, and laboratory monitoring. All of this information can paint a more complete picture of the patient and help to explain why they are responding (or not) to a drug. It can also help to justify more expensive or more toxic treatments, such as clozapine, which require laboratory monitoring.

Pharmacists can maintain their own databases of medication information, giving them a clearer picture of compliance and response between doctor visits. Patients express how they feel about the drug, if it's working, the number of school or workdays missed, or any changed plans due to illness. In this way, patients play a more active role in their treatment plans, which also helps to increase compliance.

Clinical monitoring is another form of communication between the pharmacist and the patient, and the pharmacist and the healthcare team. With minimal training, pharmacists in the community can explore many avenues of monitoring, such as vital signs and routine laboratory tests.^{15,16}

Communication also takes the form of professional recommendations. Pharmacists monitor drug interactions and adverse events and communicate those findings through reports to required committees, such as pharmacy and therapeutics committees, and to appropriate agencies, such as the Food and Drug Administration or a pharmaceutical company. Pharmacists are in a key

Table 3. Recommended Documentation for Psychiatric Patients

<ul style="list-style-type: none"> ■ Total number of drugs: prescription and nonprescription ■ Number of psychoactive or psychotropic drugs ■ Number of serious adverse events reported per 100 patients ■ Number of hospitalizations and other urgent care interventions ■ Concomitant illnesses
--

position to find therapeutic alternatives and augmentation strategies and make recommendations for follow-up and monitoring. They can also identify the relevant target symptoms to be monitored.

Using the recommendations, pharmacists can then establish protocols for the healthcare teams in a variety of levels of care and follow up on their own recommendations for continuous quality improvement, thus closing the loop on the disease-state management process.

With this level of documentation and communication, pharmacists work as integral team members and establish a transition of care for patients moving from the hospital to outpatient settings. A smooth transition of care reduces the risk of patients becoming revolving-door patients and significantly decreases the number of those who fall through the cracks. This is especially true for patients with schizophrenia. Forty-two percent of patients receiving conventional antipsychotic medications relapse due to noncompliance each year.¹⁷ Noncompliance with antipsychotic medications accounts for approximately 37% of rehospitalization costs.⁵

In clinical research, the pharmacist's knowledge base and access to patients can prove an invaluable resource for coordinating research activities such as patient recruitment, obtaining informed consent, performing evaluations and ratings, and completing case report forms. Pharmacists can also recommend, design, and implement research protocols.

Where Can Pharmaceutical Care Be Practiced?

Pharmaceutical care can be practiced in all types of settings: hospitals, large institutions, and rural areas (including house calls). Also, a study of pharmaceutical care practice in doctors' offices has already demonstrated success for physicians, the

office staff, and the patients. Pharmacists can spend as much time as needed with patients, without requiring a special trip to an additional location.¹⁸

With the traditional role of pharmacists limited to distributive services, some community pharmacists may find it difficult to see themselves in a more expanded role. Yet today's healthcare structures require more of pharmacists, particularly community pharmacists (Table 4). In rural areas, community pharmacists are underutilized. Rural areas suffer as health professional shortage areas, with insufficient primary care physician supply to meet national averages for office visits for certain diseases. In those cases, the most prevalent providers are pharmacists.¹⁹ It is, therefore, logical to use the expertise on hand. Pharmacists can become a focal point for other clinical services (eg, laboratory monitoring and vital signs) and could become a portal for clinical data input for integrated healthcare networks.¹⁵

In larger institutions and long-term care facilities, the transition to incorporating pharmaceutical care is more easily facilitated as other members of the healthcare team are present in-house for decision making. With increasing pressure to decrease lengths of stay, the pharmacist will play a pivotal role in patient and family education, lifestyle recommendations, and other measures to increase compliance and quality of life once the patient is discharged.

Table 4. The Evolving Roles of the Pharmacist

<ul style="list-style-type: none"> ■ Provider of information ■ Provider of patient monitoring ■ Portal of entry for managed care system ■ Advocate for the patient
--

Patient Awareness

Pharmaceutical care success is dependent on the awareness of these new roles among patients and the healthcare team. Pharmacists can adopt relatively straightforward measures to increase their visibility, such as placing an advertisement in a local newspaper, interviewing/talking with patients, and building relationships with primary care physicians and the healthcare team. In fact, studies have shown that simple measures, such as a brief pamphlet about pharmacists' activities, can increase patient awareness and remove barriers to taking advantage of these services.²⁰ Such measures, in addition to physician detailing, may also increase revenues (albeit limited) for community pharmacies that invest in pharmaceutical care practice, mainly for disease management services.^{20,21}

The response among other healthcare professionals may vary, but the shared responsibility of patient outcomes only helps the patients and other healthcare professionals. Improved patient outcomes is the universal objective among all healthcare disciplines.

Conclusion

The incorporation of pharmaceutical care practice is beginning to show its benefits in many clinical settings. The services and expertise that pharmacists are able to offer have been an untapped resource, only surfacing over the past decade.

In this new paradigm, psychiatric pharmacists in particular have more specific responsibilities in terms of formulary decisions, patient documentation, and health outcomes. With the practice of pharmaceutical care, psychiatric pharmacists can be patient advocates by recommending formulary changes to allow access to the newer atypical agents and by acting as a listening ear for adverse event reporting to prevent relapse or

hospitalization (ie, revolving-door patients). Documentation of adverse events and concomitant medications is critical for patients with impaired cognitive function and is necessary to justify more expensive or potentially more toxic treatments, which may require laboratory monitoring, when patients are not responding to their current drug trial. Psychiatric pharmacists' drug therapy knowledge may be used for making guideline and algorithm recommendations for psychiatric disorders, as seen in the Texas Medication Algorithm Project, and in consultation services to ensure proper indications for each medication.

Atypical antipsychotic agents for patients with schizophrenia offer unique advantages, but the older philosophy of rigid formulary control remains a barrier to making these significantly effective drugs available to newly diagnosed patients. In addition, the use of line-item budgets, which have been used in recent years by state government to fund certain medications, could result in the elimination of atypical antipsychotic funding by a single stroke of a pen. As an advocate for the patient, pharmacists—and psychiatric pharmacists in particular—have the opportunity to afford real quality-of-life changes for their patients through their role in formulary decisions and their access to and relationships with patients, their families, and providers. Indeed, the benefits of pharmaceutical care have been documented in terms of patient outcomes and cost savings in patient care for psychiatric patients. The responsibility now lies with pharmacists to proactively implement pharmaceutical care practices in their settings.

... REFERENCES ...

1. Hepler CD, Strand LM. Opportunities and responsibilities in pharmaceutical care.

Am J Hosp Pharm 1990;47:533-542.

2. American Pharmaceutical Association. *Principles of Practice for Pharmaceutical Care* Available at <http://www2.aphanet.org/AphA/pharmcare/prinprac.html>. Accessed April 2, 1999.
3. Herrier RN, Boyce RW. Establishing an active patient partnership. *Am Pharm* 1995;NS35:48-57.
4. Johnson JA, Bootman JL. Drug-related morbidity and mortality: A cost-of-illness model. *Arch Intern Med* 1995;155:1949-1956.
5. Jann MW, Cohen LJ. Economic considerations and formulary management of oral antipsychotics. *Diseases Managed Health Outcomes* 1998;3:115-129.
6. Rice DP, Miller LS. The economic burden of schizophrenia: Conceptual and methodological issues and cost estimates. In: Moscavelli EM, Sartornes N. *Schizophrenia* New York: John Wiley & Sons; 1996.
7. Holdford D, Kennedy DT, Bernadella P, Small RE. Implementing disease management in community pharmacy practice. *Clin Ther* 1998;20:328-339.
8. Bentley JP, Smith MC, Banahan BF III, Frate DA, Parks BR. Quality of life assessment by community pharmacists: An exploratory study. *Qual Life Res* 1998;7:175-186.
9. Munroe WP, Kunz K, Dalmady-Israel C, et al. The economic evaluation of pharmacist involvement in disease management in a community pharmacy setting. *Clin Ther* 1997;19:113-123.
10. Jenkins MH, Bond CA. The impact of clinical pharmacists on psychiatric patients. *Pharmacotherapy* 1996;16:708-714.
11. Fincham JE. Pharmaceutical care studies: A review and update. *Drug Benefits Trends* 1998;10:41-45.
12. Phillips SL, Carr-Lopez SM. Impact of a pharmacist on medication discontinuation in a hospital-based geriatric clinic. *Am J Hosp Pharm* 1990;47:1075-1079.
13. Gilbert DA, Altshuler KZ, Rago WV, et al. Texas Medication Algorithm Project: Definitions, rationale, and methods to develop medication algorithms. *J Clin Psychiatry* 1998;59:345-351.
14. Shon SP, Crismon ML, Toprac MG, et al. Mental health care from the public perspective: The Texas Medication Algorithm Project. *J Clin Psychiatry* 1999;60(suppl 3):16-20, discussion 21.
15. Pauley T, Marcrom R, Randolph R. Physical assessment in the community pharmacy. *Am Pharm* 1995;NS35:40-49.
16. Barnette DJ, Murphy CM, Carter BL. Clinical skill development for community pharmacists. *J Am Pharm Assoc* 1996;NS36:573-580.
17. Schatzberg AF, Nemeroff CB, eds. *Textbook of Psychopharmacology* Washington, DC: American Psychiatric Press; 1995:636.
18. Campbell RK, Saulie BA. Providing pharmaceutical care in a physician office. *J Am Pharm Assoc* 1998;38:495-499.
19. Knapp KK, Paavola FG, Maine LL, Sorofman B, Politzer RM. Availability of primary care providers and pharmacists in the United States. *J Am Pharm Assoc* 1999;39:127-135.
20. Chewning B, Schommer JC. Increasing clients' knowledge of community pharmacists' roles. *Pharm Res* 1996;13:1299-1304.
21. Norwood GJ, Sleath BL, Caiola SM, Lien T. Costs of implementing pharmaceutical care in community pharmacies. *J Am Pharm Assoc* 1998;38:755-761.