Pharmaceutical Care:
An Introduction

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Since the beginning of the century, the practice of pharmacy has evolved from what could be called a medicinal cottage industry to "pill counting" to, most recently, a means for controlling the costs of health care. Fortunately, we believe, the profession continues to evolve as pharmacists regain a respected role and responsibility directed more to the benefit of individual patients. We will describe that role and responsibility as the provision of pharmaceutical care.

Pharmacists entered the 20th century as apothecaries, whose function was to procure, prepare, and evaluate medicinal drugs. That function waned as the production of medications was taken over by the pharmaceutical industry—what, of course, had begun as the outgrowth of the apothecary's "cottage industry." However, the mystique of the profession also waned when community pharmacies became department stores whose secluded professional staff appeared to do little more than count and measure. The hospital pharmacist, meanwhile, was despised as an overpaid professional who made as much money as a "nurse's aide" and kept the peace when his or her professional judgment differed from that of others.

About 25 years ago the picture began to change. Drugs became more sophisticated, and research into the mechanisms and effects of the new drugs demonstrated the complexity of pharmacology. Faced with new information about such matters as drug-drug interactions, receptor-ligand, cell physiology, and the rising prevalence of iatrogenic disorders (i.e., adverse reactions to medication), physicians and the public began to regain their respect for the pharmacist's knowledge. Thus began the practice of clinical pharmacy. Increasingly better-educated pharmacists sought self-actualization—what is the full achievement of their professional potential—and, more and more, their counsel was respectfully solicited in physicians' deliberations about treatment. Although clinical pharmacists participated in patient care, insurers and institutional management often regarded them primarily as economic gatekeepers whose purpose was to establish formularies and in other ways to diminish costs.

Along the way, focus on the patient often gets lost. There now appears to be an obvious demand from society and from the pharmacy profession itself for a professional role that restores emphasis on the pharmacist's direct responsibility to the individual patient. In this booklet we present the case for the pharmacist as a provider of pharmaceutical care.
What is pharmaceutical care, and why should we strive for its establishment? First, let's consider the second question. Talley and Lavenuer estimated that in the USA in 1971, adverse reactions to prescribed drugs accounted for 140,000 deaths and one million admissions to hospitals. In 1987, the United States Food and Drug Administration (FDA) recorded 12,000 deaths and 15,000 hospital admissions associated with adverse reactions to prescription drugs. The number of adverse reactions reported to the FDA may be a small fraction — perhaps only 10% — of the actual number. More estimated that in the USA, the cost of illness associated with prescribed medication is as much as $7 billion annually.

In discussing the problem, someone coined the term "drug misadventuring." Interestingly, the term "misadventure" connotes something only slightly more than inconvenience; disappointment has in fact means great misfortune or disaster. Thus, it reflects general misperceptions about the significance of medication-related morbidity and mortality. In fact, much of the problem is not inherent in the drugs themselves but rather in the way they are prescribed, dispensed, and used. If that is the case, who is better equipped than the pharmacist to alleviate the problem? Clearly, we pharmacists have an ethical mandate to protect the patient from the harmful effects of "drug misadventuring." The role of pharmacist as patient advocate is embodied in the term pharmaceutical care.

Pharmaceutical care was first defined by Mikel et al. in 1976 as "the care that a given patient requires and receives which assures safe and rational drug usage." Although the term was used a number of times after that, it was not offered again until Brodie et al. suggested that pharmaceutical care includes the determination of the drug needs for a given individual and the provision not only of the required drugs but also of the services necessary (before, during, or after treatment) to ensure optimally safe and effective therapy.

Brodie's definition includes the concept of a feedback mechanism as a means of facilitating continuity of care by those who provide it. Hepler subsequently described pharmaceutical care as "a covenantal relationship between a patient and a pharmacist in which the pharmacist performs drug-use-control functions (with appropriate knowledge and skill) governed by awareness of and commitment to the patient's interest." However, it is the work of Hepler and Strand that serves as the foundation for the material presented here. Because the term pharmaceutical care has been used so extensively and has acquired so many different meanings, let us define the term as used here.
Pharmaceutical care is that component of pharmacy practice which entails the direct interaction of the pharmacist with the patient for the purpose of caring for that patient's drug-related needs. Two components that must be present whenever pharmaceutical care is delivered are (a) the pharmacist's taking the time to determine the patient's wishes, preferences, and needs concerning his or her own health, and (b) the pharmacist's commitment to continue care once initiated. For those two reasons, we concur with Hepler and Strand that "pharmaceutical care is the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life." 14

Translated into everyday practice, pharmaceutical care is what an individual pharmacist does when he or she (a) evaluates a patient's drug-related needs, (b) determines whether the patient has one or more actual or potential drug-related problems, and then (c) works with the patient and other professionals to design, implement, and monitor a pharmacotherapeutic plan that will resolve the drug-related problem. A pharmacist delivers pharmaceutical care only when all three responsibilities have been successfully executed for each (and every) patient.

Common administrative reactions to the prospect of providing pharmaceutical care as described above are (a) "We will need many more pharmacists and much more money," (b) "Our pharmacists would not be interested in delivering care at that level," (c) "State laws forbid us from providing pharmaceutical care in our institution." Although such reactions are prevalent, they are not supported by objective evidence. In fact, experience to date suggests that much can be achieved by a more cost-effective use of resources already available.

Many of the human resources, including pharmacists and technicians, are being used very inefficiently at present. Second, current experience suggests that most pharmacists aspire to deliver pharmaceutical care but have been unable to define their aspirations explicitly enough to establish a pharmaceutical-care practice or to help pharmacy management understand their needs well enough to facilitate the work required to deliver pharmaceutical care. Finally, we must recall that state regulations concerning the healthcare professions are developed and enacted to protect the patient. The delivery of pharmaceutical care could be presented as a significant step toward that objective. We are unsure how any current state law could categorically prohibit the pharmacist from providing pharmaceutical care in an established practice.

Nevertheless, the physician who is unfamiliar with pharmaceutical care may be reticent to yield authority to someone perceived as less qualified, and institutional administrators and pharmacy managers may be reticent to assign additional responsibilities to pharmacists. The reticence may derive from concern about motivation or medicolegal responsibility or from less-than-frankly acknowledged personal insecurity, pride, or distrust. For pharmaceutical care to be implemented in any practice setting, such matters need to be examined openly by all concerned, and the pharmacist must be prepared to respond objectively and precisely to all relevant questions.
Issues other than direct therapeutic benefit to the patient may become paramount in deliberations about whether to implement pharmaceutical care. Actually, the frigidity atmosphere of modern medical practice suggests that physicians and institutional administrators would benefit from the establishment of pharmaceutical care. Far from being "risky," professional consultation leading to objectively documented scientific decision making in the choice and monitoring of pharmacotherapy would seem to be medically advantageous. Moreover, although no direct evidence yet supports the contention, a priori reasoning tells us that pharmaceutical care is cost-effective. That is, if untoward results—the therapeutic ineffectiveness or medication-induced distress leading to otherwise unnecessary physician visits or hospital admissions, for example—can be avoided or alleviated by pharmaceutical care, then costs for its implementation are unlikely to be greater than the cost of the untoward results.

Pharmaceutical care has been proposed as the mission for pharmacy practice as the profession moves into the 1990s and on to the next century. However, because the pharmacist who practices pharmaceutical care provides comprehensive care (inclusive of problem identification and solution or prevention) to each patient, it will take a number of years for the profession to achieve its mission. Few pharmacy practices today deliver pharmaceutical care to all patients and by all pharmacists, but that should discourage no one. Certainly, individual practitioners models that already exist can serve as useful "prototypes" for the implementation of pharmaceutical care. However, for the profession of pharmacy to accept the responsibility associated with the delivery of pharmaceutical care, an evolutionary process needs to occur.

Figure 1 illustrates our concept of how the evolutionary process will occur. First it must be emphasized that each pharmacist and each practice site begins at a different point in the evolutionary process of providing pharmaceutical care. Likewise, each pharmacist will move toward delivering pharmaceutical care to each of his or her patients at a different rate.

We believe that the transition to pharmaceutical care will evolve in several phases. Initially, one or two "clinical pharmacists" are hired to provide some patient-oriented services. The new practitioners often are held responsible not only for resolving patients' complicated pharmacotherapy problems but also for working with other pharmacists on the staff to develop their knowledge and skills to improve services.

At first, these "pioneers" deliver a substantial degree of care to only a few patients. A second and temporary phase begins with staff development programs, when the pharmacist-to-patient-care ratio increases and the system appears to be more costly and not very efficient. At that phase especially, if the evolution is to proceed, managers must be
willing to invest the necessary resources to allow the other pharmacists to acquire the skills necessary to identify and resolve patients’ drug-related problems. The staff-development phase is then followed by a highly productive phase during which the delivery of pharmaceutical care is greatly expanded. The expansion does not require a substantial infusion of new resources but rather is the beneficial outcome of a well-conducted management plan and staff-development program to serve more patients. The provision of total pharmaceutical care to all patients requires a final evolutionary phase, when additional resources are needed to provide care for the remaining patients. The reality of practice, however, is that meeting their needs may require a disproportionate number of pharmacists and supportive resources per patient. Figure 1 illustrates this process. It is hoped that pharmacists and pharmacy managers will be motivated to move further along the axes as a result of their dedication, even a moral and ethical obligation, to the patient. In addition to wanting to minimize the patient’s risk of drug-related morbidity or mortality, the pharmacist certainly has a professional need to utilize the knowledge and skills acquired during the lengthy educational process.

Figure 1
The natural evolution of pharmaceutical care

<table>
<thead>
<tr>
<th>Percentage of pharmacists delivering pharmaceutical care</th>
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<tbody>
<tr>
<td>100</td>
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<tr>
<td>50</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>Percentage of patients receiving pharmaceutical care</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>100</td>
</tr>
</tbody>
</table>

- Pioneer phase
- Staff-development phase
- Expansion phase
- Additional-resource phase
To understand the future of pharmacy practice, let us briefly examine its past. Three major stages of development in pharmacy's recent past have been identified: the traditional, or drug-dispensing stage; the transitional, or clinical-pharmacy stage; and the patient-focused, or pharmaceutical-care stage. 14 The three stages reflect different conceptions of pharmacy's functions and obligations — that is, different models of the social and professional role of pharmacy. Although the stages are somewhat arbitrary, they are consistent with the general historical sequences described by Hepler. 15

As noted in our foreword, pharmacists entered the 20th century as apothecaries, procuring, preparing, evaluating, and selling medicinal drugs, but that role was gradually taken over by the pharmaceutical industry.

Clinical pharmacy practice, born in the mid-1960s, represents a period of professional transition in which pharmacists sought to execute fully their professional potential. The clinical-pharmacy stage was a period of rapid expansion of function and professional diversification exposed by some individualistic pioneers with almost missionary zeal. 9 Pharmacists began not only to perform functions that were new to pharmacy, they began to originate functions and to contribute to the literature. 13 It seemed that by moving closer to the patient, pharmacy might increase its relevance and importance to patient care.

Although clinical pharmacy was sometimes described as "patient-oriented practice," the phrase had many different meanings. Some of the proposed definitions of clinical pharmacy practice placed drugs at the forefront or focused on the pharmacist. Brodie's call for "drugwise control" has sometimes been misinterpreted as advocating the profession's focus on the product rather than the person, while his presentation of these ideas in terms of social responsibility for patient care seem to have been overlooked. 12 Brodie himself has recently commented on that misinterpretation. 14 Moreover, newly recognized functions of clinical pharmacy — pharmacokinetic measurement and application, the compounding of nutritional support formulae, and the compounding of medication histories, for example — were originally patient oriented yet continued to focus on drugs and their delivery.

In fact, we argue that although clinical pharmacy has succeeded in developing a number of tools and techniques needed by pharmacists (pharmacokinetic dosing, therapeutic monitoring, provision of drug information, and nutritional support), pharmacy still needs a professional role that matches the patient at the beginning of what the pharmacist does (assessing the patient's need for the pharmacist), at the middle of what the pharmacist does (reviewing all the relevant information and selecting the most appropriate solution to a drug-related problem), and at the finish of what the pharmacist does (assessing the patient outcome from the pharmacist's intervention).

The "soul-searching" stage in pharmacy's pursuit of identity and professional legitimation was perhaps a necessary precondition to professional maturation. 19 Many pharmacists clearly had to develop new socially necessary functions and then test their competence to perform them. Today, many pharmacists fervently express their desire to perform clinical functions and are seeking practices in which they can do so. The need for such practices is clear.

The magnitude of medication-related illness, the evidence that a significant proportion of it is preventable, 20,21 and the evidence that attempting it may actually decrease total costs while improving quality of care 22,23 clearly establishes that more attention needs to be
directed toward ensuring safe and effective drug-taking behavior. We believe that the literature on preventable medication-related illness, and the pharmacist’s possession of a knowledge base that can help to prevent such illness, will justify pharmacy’s claim that its mandate is to protect the patient from pharmacological misadventure. We can assume that if patients knew what the pharmacist knows about drug-related illness, they would not just ask, they would demand that the pharmacist do something to prevent it. In fact, we think that the prevention of drug-related illness has been pharmacy’s mandate for years.

The proceedings of a conference on the Directions of Clinical Practice in Pharmacy indicate that pharmacy still appears as “a profession in search of a role,” but now a profession unable to choose from a bewildering variety of functions and unable to overcome a variety of “barriers to clinical practice.” Introspection will not help us to overcome these barriers, nor will clarifying, listing, or debating even more functions for pharmacy.

We would be irresponsible to propose adding more to the pharmacist’s role until we better understand what patients need from our profession. The missing element as we define our role in the clinical pharmacy stage is the concept of the pharmacist’s responsibility to the patient, a concept that characterizes the third recent stage of pharmacy evolution—pharmacoeconomic care. Accepting that mandate will greatly increase the pharmacist’s responsibility to patients, and discharging the responsibility will require philosophical, organizational, and functional change in the practice of pharmacy. What is often described as clinical pharmacy will not be enough. Certainly, the knowledge and experience pharmacists have gained, as well as the clinical pharmacy services that have been developed, will all be helpful as pharmacists work to deliver pharmaceutical care. However, the literature presented here, and other studies published in the past 20 years, suggest that the application of clinical knowledge and skill, although necessary, are not sufficient for effective pharmaceutical care. There must also be an appropriate philosophy of practice and an appropriate organizational structure within which to practice. We agree with Hepler and Strand that the necessary philosophy of practice be called pharmaceutical care, and that the organizational structure to facilitate providing that care be called a pharmaceutical-care system. Therefore, let us consider (a) the work required of the pharmacist to deliver pharmaceutical care, (b) the responsibilities of pharmacy management in facilitating the pharmacist’s delivery of pharmaceutical care, and (c) the process required for the transition from the present level of pharmacy practice to the delivery of pharmaceutical care.
Our definition of pharmacological care requires that the pharmacist engage in a systematic, comprehensive process whereby he or she is able to accomplish three primary functions: (a) identify a patient’s actual and potential drug-related problems, (b) resolve the patient’s actual drug-related problems, and (c) prevent the patient’s potential drug-related problems from becoming actual problems.14

The pharmacist’s first responsibility should always be to identify any actual or potential drug-related problems experienced by the patient. To do so, the pharmacist must know exactly what a drug-related problem is, which drug-related problems are the responsibility of the pharmacist, and what information is required for their identification. We shall define a drug-related problem as “an undesirable event, a patient experience that occurs, is suspected to occur, or is suspected to occur drug therapy, and that actually, or potentially, interferes with a desired patient outcome.”15

Let us examine our definition by describing the primary components of a drug-related problem:

1. The patient experiences an undesirable event or incurs a risk. It can take the form of a medical complaint, symptom, diagnosis, disease, impairment, disability, or syndrome and can result from physiologic, physiologic, social, or even economic conditions.

2. Some relationship must exist (or be suspected to exist) between the undesirable event and drug therapy. The nature of the relationship will depend upon the specific drug-related problem, but common relationships between an undesirable event and drug therapy are (1) the event is the result of drug therapy, and (2) the event requires drug therapy.

Pharmacists often perceive that a patient is able to experience an infinite number of drug-related problems. However, the categorization of large numbers of such problems indicates that those perceptions are largely the result of unstructured observations and experiences. Almost always, a drug-related problem can be assigned to one of eight general categories (Table 1). The categories are not specific to pharmacologic class, practice specialty, medical service, or degree of pharmacy training. All pharmacists who deliver pharmaceutical care need to be able to identify and prevent or resolve each of the eight types of drug-related problems for each patient.

<table>
<thead>
<tr>
<th>Table 1: Major types of drug-related problems</th>
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<tbody>
<tr>
<td>A patient is experiencing (or has the potential to experience) an undesirable event (medical problem, complaint, symptom, diagnosis or syndrome that is of psychologic, physiologic, social, emotional, or economic origin, and is a function of the patient)</td>
</tr>
<tr>
<td>1. Not having drug therapy but not receiving it (a drug indication)</td>
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<tr>
<td>2. Taking or receiving the wrong drug</td>
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<tr>
<td>3. Taking or receiving too little or too much of the correct drug</td>
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<tr>
<td>4. Taking or receiving too much of the correct drug, resulting in adverse drug reaction</td>
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<tr>
<td>5. Experiencing a drug-drug drug-food interaction</td>
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<tr>
<td>6. Not taking or consuming the drug prescribed or</td>
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<tr>
<td>7. Taking or receiving a drug for which there is no valid medical indication</td>
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Patient care and therefore pharmaceutical care is patient-specific. It is prospective, since a primary responsibility of the pharmacist is to prevent drug-related problems. For that reason, one cannot determine whether pharmaceutical care is needed without first gathering and analyzing information to determine if a specific patient has an actual or a potential drug-related problem. Neither can one predict, from extrapolated population data or from experience, which patient will have a drug-related problem. Because the first step is to determine whether actual or potential problems exist in the individual patient, one must assume that all patients require pharmaceutical care at least until such problems have been ruled out.

However, if only the pharmacist is able to deliver pharmaceutical care, where do support personnel (e.g., pharmacy technicians or clerks), those engaged in other pharmacy services, and pharmacy management fit into the delivery of pharmaceutical care? Actually, as illustrated in Figure 2, they all assist play important roles.¹¹
The term *pharmacy services* represents all services the pharmacist requires to resolve a patient’s drug-related problems. Although the need for a specific service will depend upon the specific problem to be resolved, a number of services are needed in all practice environments if pharmaceutical care is to be delivered (Table 2). For the purpose of this discussion, it is not important whether those services are formally or informally organized. For example, either a formal drug-information center or a book shelf of current, high-quality drug information would be included in item 3 of Table 2, which states that the pharmacist requires access to comprehensive and current drug information.

Let us reemphasize that the specific services required for a pharmacist to deliver pharmaceutical care will depend entirely on the drug-related needs of the patient in a specific practice. Therefore, the pharmacy services that should be developed will be different for each practice site. Patient need should also be used to establish the priority for adding a new service. For example, one site might have patients who require a pharmacist-directed dosing service, and another site might require a blood pressure monitoring service.

It may be helpful to provide examples of who, in a given situation, delivers pharmaceutical care and who supports it. The pharmacist who collects patient, drug, and disease information to determine whether the patient has any drug-related problems and then mobilizes the services needed to resolve or prevent them is delivering pharmaceutical care. A pharmacist who works in the drug-information center to provide the patient-care pharmacist with current drug information is supporting the delivery of pharmaceutical care, as are the personnel who check unit-dose carts or prescription-filling processes.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Pharmacy services needed to deliver pharmaceutical care</th>
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<tbody>
<tr>
<td>1.</td>
<td>Timely and accurate drug distribution</td>
</tr>
<tr>
<td>2.</td>
<td>Timely and complete patient data</td>
</tr>
<tr>
<td>3.</td>
<td>Comprehensive and current drug information</td>
</tr>
<tr>
<td>4.</td>
<td>Comprehensive documentation of the pharmacist’s decisions and interventions</td>
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</tbody>
</table>
The Role of the Manager in Pharmaceutical Care

The only effective role for managers in an organization is to facilitate the work that needs to be done to accomplish the organization’s mission. Therefore it is logical to assume that pharmaceutical care cannot be delivered without the full support of pharmacy managers. The responsibility of management entails a number of functions. The manager needs to establish a mission statement that places pharmaceutical care at the center of the pharmacist’s role. An appropriate organizing structure for pharmaceutical-care delivery throughout the practice must be designed, and the pharmacist’s responsibilities must be explicitly stated, such as in a formal job description. The criteria for evaluation and promotion of the pharmacist must be consistent with expectations to deliver pharmaceutical care, and the workload must be distributed so as to make the delivery of pharmaceutical care as efficient as possible. Perhaps the most tangible responsibility for managers is to acquire the resources needed by the pharmacist to determine whether an individual patient has an actual or a potential drug problem and, then, if indicated, to prevent or resolve it. In addition and when appropriate, the pharmacy manager must evaluate and reinforce the pharmacist’s work. Managers are therefore able to facilitate the delivery of pharmaceutical care in many different ways (see page 15).

It should be implicitly obvious that pharmacists, support services, pharmacy managers, and others in the health-care team all must work cooperatively and efficiently to deliver high-quality pharmaceutical care. Because pharmacy managers exist solely to facilitate the pharmacist’s work, all who participate in pharmaceutical care must thoroughly understand that work.

The Pharmaceutical-Care Process

An Overview

The following discussion will demonstrate how the pharmacist uses support services and pharmacy management to deliver high-quality pharmaceutical care. Figure 3 summarizes the nine steps each pharmacist needs to complete to deliver pharmaceutical care to a patient. Note that unless all nine steps are completed in each case, the patient has not received the highest quality of pharmaceutical care. Here we must reemphasize that pharmaceutical care is a comprehensive, cognitive process and not a conglomeration of autonomous functions to be executed by a pharmacist and where he or she chooses. Let us discuss each step of the process, explaining why it is needed, how to complete it, what resources are required, and the results to be expected.

Step 1: Establish the Pharmacists-Patient Relationship

Pharmaceutical care requires that the pharmacist identify and resolve a patient’s drug-related problems. However, that can occur only when the pharmacist has received authority from the patient (or the patient’s agent) to intervene on his or her behalf. To obtain that authority, the pharmacist must “prove” professional competence and commitment to the patient.
Figure 3: The pharmaceutical-care process: an overview

Step 1: Establish the pharmacist-patient relationship
- Make contact with and communicate to the patient

Step 2: Collect, synthesize, and interpret the relevant information
- Determine necessary patient, drug, and disease data - interpret as a pharmacist with the patient.

Step 3: List and rank the patient's drug-related problems
- Define and prioritize all actual and potential drug-related problems

Step 4: Establish a desired pharmaceutical and therapeutic outcome for each drug-related problem
- For each problem leading to prevention or resolution, determine with the patient the desired outcome - qualitative and measurable

Step 5: Determine feasible pharmaceutical and therapeutic alternatives
- List those therapeutic modalities that could achieve the desired outcome in this patient

Step 6: Choose the "best" pharmaceutical and therapeutic solution
- With the patient, select the best drug, dose, formulation, regimen, schedule, etc.

Step 7: Design a comprehensive drug monitoring plan
- Develop a plan to determine whether the desired therapeutic goal has been achieved - plan must include monitoring for adverse effects

Step 8: Implement the individualized regimen and monitoring plan
- With the help of the patient and the health care professionals responsible for patient, implement and document the decisions made

Step 9: Follow up to measure success
- Determine the pharmacist's success on an individual patient basis and on a long-term basis

In other words, the pharmacist must accept responsibility for identifying and resolving the patient's drug-related problems. Permission from the physician or nurse responsible for the patient's care may also be required. A positive, collaborative relationship with all those who participate in the patient's care is beneficial. Pharmaceutical care directly benefits the patient but can also function as a consulting service, benefit physicians and nurses caring for the patient.

The type of relationship required to deliver pharmaceutical care cannot occur at a distance. The pharmacist must see the patient, explain the proposed relationship, discuss the various choices, obtain information, and seek cooperation, trust, and permission. The initial encounter occurs when the pharmacist interviews the patient personally either upon admission, when a prescription is presented, or at some other mutually convenient time. The pharmaceutical-care relationship will need to be maintained throughout care, so direct contact with the patient should be frequent.
In a small number of cases (e.g., when the patient is comatose, legally underage, or mentally incompetent) the pharmacist may need to establish a surrogate relationship with the patient's family or caregiver. In an even smaller number of cases, the pharmacist will need to rely solely on the physician, the nurse, or another pharmacist to provide information on the patient's behalf. A surrogate relationship, however, should be established only when contact with the patient is not possible.

The primary resources needed to establish the relationship necessary for pharmaceutical care are (a) access to the patient, (b) a clear, articulate definition of the purpose for the pharmacist's interaction with the patient, (c) an ability to communicate with the patient, (d) a documentation system that allows the necessary information obtained from the patient to be easily and accurately recorded and processed, and (e) a dedication and commitment to deliver pharmaceutical care from the beginning of the process to its end.

Having developed a positive relationship with the patient, the pharmacist can proceed with the next steps in delivering pharmaceutical care. To be thorough and consistent, the pharmacist must follow a systematic, thought- and documentation process. A number of processes for accomplishing such tasks have been published.[22] A comprehensive and explicitly stated process that has been implemented in a number of practices is the six-step Pharmacist's Workup of Drug Therapy (PWDT).[20] We must emphasize that the PWDT should not be thought of as another form to complete for each patient. Rather, it is intended as a systematic guide to the problem-solving process needed to identify and, if necessary, to prevent or resolve a patient's drug-related problems. The PWDT will help the pharmacist in any practice to deliver pharmaceutical care even though the source of the information needed for a workup and the nature and detail of the information collected will differ from one case to another.

Just as important as learning the process itself is consistent and complete documentation of the process and its outcomes. Documentation is necessary to provide the best possible pharmaceutical care but also provides uniquely helpful information to the patient's other health-care professionals and provides an objective basis for reimbursement and for performance evaluation. The PWDT serves to document the pharmacist's decisions and interventions in various pharmacy practices — whether in a hospital, a long-term care institution, the patient's home, or a retail outlet.
Step 2: Collect, Synthesize, and Interpret the Relevant Information

The patient will gain the most benefit from pharmaceutical care when it is provided prospectively. Whenever possible, the pharmacist should offer his or her services before decisions are made about drug therapy. The provision of pharmaceutical care at that point makes the process not only more efficient but also more constructive, because it avoids the potential need to rectify the consequences of inappropriate decisions already made by the physician or another health care professional.

The pharmacist’s primary function in delivering pharmaceutical care is to identify drug-related problems (actual and potential), to resolve the actual problems, and to prevent potential problems. The successful identification and resolution of drug-related problems depends on several factors. Because the first factor is the availability of all essential data, the task is to determine what data will be required. The necessary data about the patient can be grouped into three categories: (a) the clinical characteristics of the patient’s illness or condition, (b) the medications or other drugs the patient may be taking, and (c) the patient’s diseases, complaints, or symptoms. Table 3 lists specific data needed in each of the three categories. The amount of the information must be considered, because it will differ in each patient’s case and at each practice setting. Computer sources might include the patient, the patient’s caregiver or family, the medical record, the pharmacist’s profile, laboratories, physicians, nurses, other health care professionals, and technical staff. Having gathered the relevant patient information, the pharmacist then records it and evaluates it in the context of his or her professional knowledge.

The pharmacist needs access to the information required to identify and resolve patients’ drug-related problems and therefore also needs a current and comprehensive data base and the ability and time to collect, interpret, and document the information. In some cases the pharmacist’s education must be augmented with a staff-development or certification program or with continuing education courses.

<table>
<thead>
<tr>
<th>Table 3: Necessary Information</th>
<th>Patient’s pharmacy history</th>
<th>Patient’s disease process(es)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Present medication history</td>
<td>Present medical problems</td>
</tr>
<tr>
<td>Sex</td>
<td>Past medication history</td>
<td>Severity</td>
</tr>
<tr>
<td>Family history</td>
<td>Drug allergies</td>
<td>Prognosis</td>
</tr>
<tr>
<td>Pregnancy status</td>
<td>Toxicity profile of drugs</td>
<td>Virologists</td>
</tr>
<tr>
<td>Immune status</td>
<td>Adverse drug reactions</td>
<td>Epidemiologists</td>
</tr>
<tr>
<td>Kidney function</td>
<td>Associated with the drug</td>
<td>Drug resistance</td>
</tr>
<tr>
<td>Liver function</td>
<td>Route and technique used</td>
<td>Drug reactions</td>
</tr>
<tr>
<td>Central function</td>
<td>for drug administration</td>
<td>Other disease processes</td>
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<tr>
<td>Nutritional status</td>
<td>Patient’s perceptions of</td>
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<tr>
<td>Patient’s expectations</td>
<td>illness or disability</td>
<td></td>
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</tbody>
</table>

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Step 5: List and Rank the Patient's Drug-Related Problems

The listing of a patient's actual and potential drug-related problems will define the pharmacist's pharmaceutical care responsibility to that patient. Most patients have more than one drug-related problem, some quite simple and straightforward and some complex and time-consuming to resolve.

The manner in which a drug-related problem is stated can have a significant impact on the pharmacist's ability to resolve it. Therefore, when composing the list of drug-related problems, the pharmacist must be careful to describe each of the two major components of a patient's drug-related problem: (a) the stress, disorder, symptom(s), or risk factor; and (b) the association or potential association with drug therapy. Each drug-related problem must be stated explicitly. The more specific the information recorded, the greater the probability that an effective solution will be realized. Simply stating that a patient is experiencing "toxicity" from drug therapy, for example, is not very useful. The type of presumed toxicity (e.g., kidney damage, leukopenia, thrombocytopenia, pseudomembranous colitis, diarrhea, or bleeding) and the specific drug thought to be associated with the patient's condition (whether the condition is or is not thought to be drug-concentration dependent) is identified as part of the statement of the patient's drug-related problem. To determine which problems are the most troublesome to the patient and which are of most concern to the physician, the pharmacist must consult not only the patient's nurse or physician but also the pharmacist.

The solution to the problem will depend on how the problem is defined. For example, if the drug-related problem is defined simply as inappropriate drug therapy, the pharmacist cannot know whether the solution is to (a) discontinue the drug and begin a new one, (b) increase the dose, (c) decrease the dose, (d) add a new drug, or (e) discontinue all drug therapy, or (f) initiate some other action that might be appropriate. If, instead, the drug-related problem is defined as insufficient dosage of the appropriate drug, the clear solution is to increase the dosage. The pharmacist now ranks the patient's drug-related problem according to the degree of risk that each problem poses. Risk is defined by the extent of danger to the patient and the rate at which the problem can harm the patient.99

Once the list of drug-related problems is ranked according to risk, the pharmacist must decide (a) which problems must be resolved (or prevented) immediately and which can wait, (b) which problems can be resolved by the pharmacist and which require the help of someone else (perhaps a pharmacist specialist), and ultimately, (c) which problems the pharmacist will accept the responsibility to resolve. Once those decisions have been made, the pharmacist can determine which resources are necessary to resolve the problem and can then proceed.

When step 5 is completed, a documented, comprehensive ranking of the patient's drug-related problems becomes available for the patient, other pharmacists, the physician, and the nurse. In addition, the pharmacist now knows his or her own responsibilities as they relate to a specific patient and can pro
creed with resolving or preventing the patient’s actual or potential drug-related problems. Each problem to be resolved should be given a rankorder number, and the same number should be given throughout the problem-solving process.

The following six steps need to be completed for each problem-solving resolution.

Step 4: Establish a Desired Pharmacotherapeutic Outcome for Each Drug-Related Problem

The temptation to proceed from problem to solution without defining the desired outcome of the drug therapy is very strong. However, unless the desired outcome is stated explicitly, the pharmacist cannot identify feasible alternative treatments. Usually the physician, along with input from the patient, determines the general clinical outcome expected from therapy. Typically the intent is to (a) cure a disease, (b) alleviate or eliminate the symptoms and signs of the disease, (c) arrest or slow a disease process, and (d) prevent a disease or its symptoms. However, since most general clinical outcomes relate to most aspects of health care (medicine, nursing, etc.) and are not in themselves always measurable, the pharmacist must define more specific pharmacotherapeutic outcomes for each problem identified in each patient. Examples of pharmacotherapeutic outcomes— that is, goals for pharmaceutical care in specific cases—are (a) the patient is receiving the appropriate medication for each definitively diagnosed condition or disorder he or she is experiencing, (b) the patient is receiving the appropriate dose of each drug and at the appropriate time and interval, and (c) the patient is free from adverse drug reactions, side effects, and drug interactions.

Once the pharmacist has determined the desired clinical and pharmacotherapeutic outcome for each drug-related problem, he or she must define appropriate indicators for each of the desired pharmacotherapeutic outcomes.

As defined by the Joint Commission on the Accreditation of Health Care Organizations (JCAHO), an indicator is "an instrument which measures a quantifiable aspect of patient care and can be used as a guide to monitor and evaluate the quality and/or appropriateness of patient care." Since our pharmacotherapeutic outcomes include appropriate drug, dose, and the absence of negative effects, appropriate indicators need to be written to include (a) a patient factor—in, e.g., a symptom, quality-of-life variable, or a laboratory finding— that can be used to measure effectiveness of the drug; (b) a progress factor—in, e.g., for each patient factor, the degree of improvement reasonably desired; and (c) a time factor—in, e.g., for each patient factor, the time in which the pharmacotherapy should have achieved the desired degree of improvement.

Having used the word "improvement," let us note that in measuring the effectiveness of pharmacotherapy, qualitative and directional terms such as "increase," "decrease," or "improve" are seldom useful. Instead, very specific, quantitative measures should be used whenever possible because they help to establish endpoints against which to monitor the patient's progress and to provide the information needed to evaluate the quality of pharmaceutical care provided by the pharmacist.
Step 5: Determine Feasible Pharmacotherapeutic Alternatives

The reason for listing all the feasible pharmacotherapeutic alternatives to resolve each drug-related problem is to ensure that each intervention that might benefit the patient has been considered before any one is chosen. The consideration of all possible pharmacotherapeutic solutions, even no drug therapy, is very different from the concept that a drug of choice exists for each medical diagnosis.

Formulations often limit the therapeutic alternatives available to practitioners who are taking care of specific patients. The limitation often continues the pharmacist, because in the pharmacological care of individual patients drug effectiveness and safety always take precedence over cost.

The two variables that place a drug on the pharmacist's list of feasible alternatives are:
(a) the probability that the drug will resolve or prevent the patient's drug-related problem, and
(b) the drug's safety for use in that specific patient. A number of variables will work to eliminate an alternative from being selected as the "best" solution. They include:
(a) allergies or toxicities the patient may have experienced,
(b) the drug's previous ineffectiveness in the patient,
(c) the lack of appropriate monitoring services to ensure that the agent can be administered safely,
(d) the patient's preferences or desire for a particular formulation, and
(e) the cost of the therapeutic alternative.

The pharmacist's choices are facilitated when feasible alternatives are listed in a consistent format. One useful format is a tabulation according to distinguishing characteristics, which might include, for example: (a) different salts of the same drug (if the salt form is thought to make a clinical difference),
(b) different dosage forms of the same drug (such as patches versus tablets or sustained-release versus rapid-release tablets), or (c) differing pharmacologic or biologic activities of same-indication drugs.

A list of feasible alternatives to achieve specific desired outcomes helps both the physician and the pharmacist to evaluate their therapeutic goals and accomplishments and is helpful if the first alternative selected proves ineffective in a particular patient.

To be able to identify and pass judgment on all the available options, the pharmaceutical care practitioner needs a working knowledge of the pharmacotherapeutic alternatives available and the ability to critically analyze the literature, to learn from his or her own clinical experience, and to apply decision-making skills. The preparation of a comprehensive list of feasible alternatives for resolving or preventing a specific drug-related problem in a specific patient requires the pharmacist's access to references and other drug-information sources, to colleagues, and in some cases to pharmacotherapeutics specialists.

Step 6: Choose the "Best" Pharmacotherapeutic Solution and Individualize the Therapeutic Regimen

Step six is intended to ensure that the patient receives the most appropriate solution to his or her drug-related problem. The pharmacist now decides which of the therapeutic alternatives is best and calculates an individualized dosage regimen for each agent. Several decision- -related to this step will be made most efficiently and effectively when the patient is consulted. The patient's participation in decisions can also avert some potential problems later in care, such as failure to comply with therapeutic or monitoring directions.
Having considered the alternatives, the pharmacist generates a complete pharmacotherapeutic recommendation to resolve (or prevent) each drug-related problem. The recommendation will specify the medication and its formulation, the individually calculated dosage (ie, dose, frequency, and duration), and special instructions to the patient. Exactly what is required for the patient must be clearly communicated to others on the healthcare team and sometimes to the patient’s family. Such communication is best accomplished when abbreviations and jargon are avoided.

Various methods have been developed to individualize pharmacotherapeutic regimens prospectively and cost-efficiently. For example, computer software is available to estimate drug-dosage requirements in specific patients according to demographic, pharmacokinetic, and pharmacodynamic data and to estimates of the patient’s renal and hepatic function and other biologic and physiologic factors known to alter drug-dosing requirements. Information and methods are increasingly available to allow drug therapy to be designed to meet the unique needs and desires of each patient.

**Step 7: Design a Therapeutic Drug Monitoring Plan**

The practitioner of pharmaceutical care is obliged to formulate a plan of action to ascertain whether the decisions implemented have produced the desired therapeutic outcomes and whether drug-related toxicities have been minimized or avoided. To subject a patient to the significant risks of drug therapy without monitoring the positive and negative effects falls short of the pharmacist’s agreement with the patient and may be considered unethical.

Information about drugs and patient-specific factors for use in measuring drug efficacy and toxicity is included in the drug-monitoring plan. For each drug-related problem (as consistently monitored in each step), the pharmacist needs to know what information, data, measurements, or test responses are needed and how often they are needed to determine whether (a) the desired outcome (step 1) is being achieved, and (b) whether the patient has experienced any undesirable effects from the drug therapy. Appropriate technology has rapidly developed so that patient and practitioners can now measure blood concentrations of substances such as glucose and certain drugs, and the measurements can be used as biological and chemical-outcome indicators of drug efficacy and toxicity. The most efficient and effective therapeutic drug-monitoring plans incorporate a decision-making process that takes into account the patient’s feelings and complaints. Such plans provide a means to determine whether the signs, symptoms, or impairments that initially caused the patient to seek support from the healthcare system have in fact been eliminated or minimized by pharmacotherapeutic interventions. Therapeutic drug monitoring is performed, which represents the professional reward associated with the practice of pharmacy.
Step 8: Implement the Individualized Regimen and Monitoring Plan

Either the pharmacare-care recommenda-
dations about therapy must be implemented or else the pharmacist must accept and try to understand the physician’s or patient’s rea-
sons for rejecting them. Only if the recommen-
dations are implemented will the individual patient benefit from the pharmacist’s contribu-
tion, but the knowledge gained could help another patient in the future.

The pharmacist communicates pharmacare-
care intentions, decisions, and ideas to both the patient and the physician or nurse
responsible for the patient’s care. Agreement, consent, and commitment to the pharmacist’s plan is obtained from both the patient and the physician. At times, continued acceptance of the plan may require significant discussion, sometimes convincing, and at times, disagree-
ment, which needs to be resolved to everyone’s satisfaction. To achieve the desired clinical outcome for the patient, the pharmacist
must do whatever is reasonable to implement the pharmacare-care recommendations and to accomplish effective pharmacothera-
peutic monitoring.

Step 9: Follow-up to Measure Success in
Individual Cases and in Long-Term
Implementation

The pharmacist’s responsibilities to the patient
are serious and complex. Therefore, evaluations of the impact on the patient of the pharmacist’s
decisions need to occur at appropriate time
intervals. The evaluations need to assess (a)
patient outcomes, (b) the quality of the phar-
macist’s decisions, and (c) the learning
required by the pharmacist to improve out-
comes when less-than-optimal decisions have
been made. Because the knowledge needed to
fulfill these responsibilities changes daily, effec-
tive pharmacare-care requires repeated
assessment of the pharmacist’s professional
knowledge and practice. In step 9 of the phar-
maceutical-care process, the pharmacist reviews
each case both during and after the time the
patient is in the pharmacist’s care. To measure
the long-term effectiveness of pharmacists who
provide pharmacare-care, pharmacy man-
gers will need to develop evaluation instru-
ments, feedback mechanisms, reward systems,
and staff development programs. Their develop-
ment will depend on a data base generated
from the pharmacist’s case-by-case experience
in pharmacare-care.
Throughout the nine steps of the pharmaceutical-care process, the pharmacist must keep in mind several ethical principles. One is the principle of autonomy, relating to the patient's preferences and right to self-determination. As a pharmacist-patient relationship characterized by trust and commitment develops, the pharmacist strives for "beneficence" — the practice of pharmacy in the best interests of the patient — while also respecting the patient's rights and preferences. However, beneficence and autonomy sometimes conflict. For example, illness and emotional stress may render a patient incompetent to make rational decisions regarding treatment; the patient may not have been fully informed or the physician, nurse, or pharmacist may have been unclear in explaining.

In such cases the pharmacist's emphasis on patient autonomy could significantly harm the patient. Hence, Zimbardo has argued that "when there are compelling reasons for believing that a patient's decisions are not autonomous and that as a result the patient cannot exercise the right of self-determination, no paternalistic usurpation of that right is involved when decisions are made for the patient." However, if the patient, upon serious rational reflection, decides to discontinue treatment, and if that decision is consistent with what is known of the patient's values and wishes, then the pharmacist must accept the patient's preference and respect his or her autonomy.

Another ethical issue in pharmaceutical care is the doctrine of informed consent. According to Jensen, et al., informed consent "is merely shorthand for the ethical basis of the relationship between patient and (clinician): an encounter characterized by mutual participation, respect and shared decision making."

Informed consent, they say, "is defined as the willing and uncoerced acceptance of a medical intervention by a patient after adequate disclosure by the physician of the nature of the intervention, its risks, and benefits."

Although that definition singles out the physician, it applies equally to all participants in the relationship between the patient and the health-care provider. We must always remember that pharmacotherapy, because it
is undertaken on a far broader scale, can be as invasive as surgery or any other medical intervention. In any case of proposed pharmaceutical care, patients should receive enough clearly communicated information to enable them to articulate reasonable subjective preferences and to reflect on alternatives, risks, benefits, and personal values concerning their well-being and self-determination. Information provided to the patient is considered adequate when it meets two standards: (a) the information is commonly provided by competent practitioners — including specialists — in the community, and (b) the information would allow reasonable persons to make prudent choices on their own behalf.28 Yet another important ethical issue in pharmaceutical care is confidentiality, which is essential to both the establishment and the maintenance of the patient’s trust of the pharmacist. As are other healthcare professionals, the pharmacist is obliged to maintain confidentiality in all matters related to information concerning the patient. That obligation, say Jonsen et al., “...is justified by the right of privacy, by the expectations of the patient, and by the social advantages of the practice of confidentiality.”29

Pharmaceutical care is both a clinical (empirical) and an ethical system and is characterized by a therapeutic dyad of trust and care. Thus, among the most important imperatives of pharmaceutical care are preference of the patient, beneficence, and respect for autonomy, informed consent, and confidentiality. A solid grounding in, and appreciation for, biomedical ethics is essential to the delivery of pharmaceutical care.

Pharmaceutical care cannot be provided without the recording of certain information, decisions, and actions. Although documentation can be time consuming and intrusive, its importance cannot be overemphasized. However, one of the first problems encountered in a discussion of how to document pharmaceutical care is that “documenting the pharmacist’s activities” has come to mean many different things. Therefore, we need to understand how the term “documentation” has evolved in the context of pharmaceutical care delivery and how it is now being used.

The earliest use of the term in the pharmacy literature, in the late 1960s, referred to descriptive reports of a clinical pharmacy practice. The new concept of clinical pharmacy called for definitions, guidelines, policies, and procedures. The resulting descriptions of the type of services provided, along with general accounts of the activities performed (that is, job descriptions), represent the beginning of pharmacy’s documentation of clinical activities.30-34 Unfortunately, documentation was not focused on clinical issues and therefore did not provide the clinical data necessary to relate the pharmacist’s case-by-case professional abilities to patient outcomes.

Beginning in the late 1970s, a number of external changes and issues created an environment that made it necessary, popular, and indeed lucrative to redefine documentation to mean justification for continued or expanded pharmacy services. Documentation of clinical pharmacy services was being solicited primarily for maintaining or broadening pharmacy’s territory and for establishing financial stability.
Moreover, documentation to justify certain additional clinical activities was for administrative and not clinical purposes. In that context, documentation as administrative reporting measured pharmacy’s output as either units of activity or dollars spent. Units of activity include the number of interventions made by the pharmacist and accepted by the physician. Dollars could be saved by formulary substitutions and by the avoidance of laboratory tests judged to be inappropriate. The primary issue was the sum effect of clinical pharmacy in the economic stability of the institution.

The administrative use of documentation tends to serve a summative function. Summa-
This documentation is retrospective, reflects activities performed over a prolonged period of time, and includes the activities of several individuals. The purpose of management-reporting documentation is to summarize what several pharmacists have done, and the impact of the summary is to aid in determining, usually on economic grounds, whether certain functions should continue or cease. The advantage of summative documentation is that it provides a management report that is easy to compile and can be presented quickly. Although that type of documentation continues to be discussed in pharmacy literature, the question remains how the clinical activities of several pharmacists can be summarized when the clinical activities resulting from specific decisions relevant to individual patients are not documented.

Documentation for the purpose of providing pharmaceutical care is quite different from documentation for administrative purposes in that the information required to identify, resolve, or prevent drug-related problems in a specific patient is recorded, and the recording is for that patient’s benefit. Documentation of pharmaceutical care would thus include: (a) information needed to make decisions and to take actions, (b) records of the pharmacist’s decisions about appropriate drug therapy for each specific patient, and (c) records of the pharmacist’s actions to achieve the desired pharmacotherapeutic outcome for each patient’s drug therapy. Proper pharmaceutical care documentation results in a data base describing the patient; characteristics of the drug and the disease; decisions related to drug choice, dose determinations, and methods or routes of administration; procedures and standards for patient monitoring; and patient outcomes in terms of efficacy, length of illness, side effects, toxicity, and other drug-related factors.

Documentation in pharmaceutical care serves a formative function. That is, it is inherent in pharmaceutical care, rather than being only a retrospective record of events, it forms the pharmacist’s practice by serving as a constructive feedback mechanism. Formative documentation is intended to improve and develop services, is performed concurrently with the pharmacist’s activities and decisions, and accommodates changes when additional data become available. A distinct advantage of formative documentation is the interactive nature of the process. Corrections and adjustments can be made in accordance with the patient’s changing condition during the course of pharmaceutical care.

Which type of documentation is best actually depends on the purpose. If the objective is to determine whether or not a pharmacy service should be continued, summative documentation may serve best. However, if the objective is to document what the pharmacist actually does to deliver pharmaceutical care and how well that care is delivered, then formative documentation is required.
The qualitative and quantitative measurement of patient outcomes is fast developing into a complex science. However, to understand which patient outcomes result from pharmaceutical care, one must avoid complexity and focus on those that are associated with drug therapy. As mentioned earlier, the positive patient outcomes that result from appropriate drug therapy include: (a) cure of the disease, (b) reduction or elimination of the patient’s symptoms, (c) the arrest or slowing of the disease process, and (d) the prevention of disease or symptoms. However, these outcomes are so broad as to include the contributions made by medicine, nursing, and other allied health professions, and therefore the contributions made by the pharmacist-provider of pharmaceutical care cannot be measured without identifying more specific outcomes attributable to pharmaceutical care.

The absence or presence of any of the actual or potential drug-related problems described in Table 1 serves as a pharmacotherapeutic outcome for the purpose of identifying the pharmacist’s contribution. In other words, when the pharmacist identifies and then resolves any of the problems listed (and documents that process), a tangible, significant contribution to the patient’s positive outcome can be cited. In the practice of pharmaceutical care, if an existing drug-related problem is not identified or if the intervention for an identified drug-related problem is inappropriate, the pharmacist is accountable for failing to achieve a positive outcome.

Note that the measurement of patient outcomes from pharmaceutical care requires documentation of the entire process from identification of the drug-related problem to the ultimate effect (i.e., the patient outcome) of the pharmacist’s plan to resolve the problem. Both the process and the outcome of pharmaceutical care must be documented to evaluate the pharmacist’s contribution to the patient’s continued health or recovery. While all the steps are thoroughly documented, the therapeu tic and economic impact of pharmaceutical care can be summarized straightforwardly to provide the data needed to justify the continuation and expansion of pharmaceutical care services.
Pharmaceutical care requires capable pharmacists, sufficient resources, and support from all personnel of the organization in which it is practiced; its delivery is impossible without the cooperation of pharmacy managers who understand it, are committed to it, and will create a system that facilitates it. The successful delivery of pharmaceutical care requires an organization to have (a) a philosophy of practice to guide the work to be done, (b) a pharmacy-practice plan that clearly defines the work to be completed by the pharmacy, and (c) a management plan that allows the philosophy to guide the work that must be achieved in daily practice. A pharmacy manager who intends to facilitate the delivery of pharmaceutical care will need to develop each of those three components for the organization.

The philosophy of pharmacy practice that will support pharmaceutical care has been discussed throughout this document. Figure 1 illustrates the conceptual framework used by managers who facilitate the delivery of pharmaceutical care. To do so, the manager must regard the patient as central to any endeavor of the pharmacy department. Thus, when making decisions, the manager gives the highest priority to the patient. That priority makes pharmaceutical care the most important pharmacy activity. For example, drug distribution becomes a support service needed to ensure that pharmaceutical care can be provided, and proposals for new pharmacy services (for the elimination of services) are evaluated primarily in terms of their value in supporting the delivery of pharmaceutical care by pharmacists. Once the practice has achieved the standard established by the management, education, and research activities can evolve as important dimensions of pharmaceutical care support services.

The pharmacy-practice plan must be developed by the pharmacists who are to deliver pharmaceutical care. The primary components of a pharmacy-practice plan (Table 4) are worthy of a short discussion.

Table 4

<table>
<thead>
<tr>
<th>Creating a pharmacy-practice model</th>
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<tr>
<td>I. Establish the mission, goal, and purpose for the pharmacist's work.</td>
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<tr>
<td>A. Explain the specific domain work needed of the pharmacist.</td>
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<tr>
<td>B. Define whether patients will receive care, which patients will not receive care.</td>
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<td>II. Describe the specific work that will be done to accomplish the goal stated in I.</td>
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<tr>
<td>A. Deferring which of the eight drug-related problems will be identified, resolved, and prevented.</td>
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<td>B. Define which systematic process the pharmacist will use to accomplish the work.</td>
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<td>C. Determine how the pharmacist will document the patient specific factors discussed in B.</td>
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<td>D. Decide which standard of pharmacy will be delivered.</td>
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<td>E. Determine how the pharmacist will receive feedback, assess competency, and gain feedback.</td>
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<td>III. Attest to the pharmacy skill of pharmacy practice to be done.</td>
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<tr>
<td>A. Identify a practitioner willing to deliver pharmaceutical care.</td>
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<td>B. Assess the practitioner's ability to deliver pharmaceutical care.</td>
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<td>IV. Communicate all that has been learned to the pharmacist management.</td>
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<td>A. Establish ongoing communication methods with pharmacy management.</td>
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<td>B. Be willing to teach and to learn from whatever is necessary to deliver pharmaceutical care.</td>
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<td>III. Accept risk.</td>
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<tr>
<td>A. Be willing to move forward before everything is &quot;perfect&quot; and before all the questions have been answered.</td>
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| B. Allow the pharmacist management to make their mistakes without negative consequences from the pharmacist.
Perhaps the most important aspect of pharmaceutical care is the pharmacist’s acceptance of their responsibility. Each pharmacist must accept the importance of the work to be performed and recognize priorities to face practice activities first on the patient’s needs. Once that commitment is made, the pharmacist can more easily understand how to fulfill his or her responsibilities.

Another component of a pharmacy-practice plan is procedural. The pharmacist must establish a systematic process for the delivery of pharmaceutical care, and part of that responsibility is to design a method for the documentation of care. One method, the Pharmacist’s Workup of Drug Therapy, was mentioned on page 10. An obvious but occasionally overlooked requirement in establishing pharmaceutical care is that both management and pharmacists be assured that each pharmacist in the practice can in fact perform the expected functions.

The importance of the pharmacy manager’s thorough understanding of each step of the pharmacist’s work in pharmaceutical care cannot be overemphasized. Only with that understanding will the manager be able to identify, obtain, and maintain the resources necessary to accomplish each step of the process as defined.

The final step to delivering pharmaceutical care is to develop a management plan that allows the work described in the pharmacy practice plan to be accomplished (Table 4). The primary components of the management plan are (a) a “mission” statement consistent with the philosophy of pharmacy practice, (b) an organizational structure that supports the work defined, (c) job descriptions that accurately state the responsibilities to be accomplished and the experience, skills, and knowledge needed to accomplish them, (d) appropriate personnel (the recruitment of pharmacists depends on appropriate definitions of professional and supportive responsibilities as well as diligence, discrimination, and financial realism in appraising candidates), (e) practice standards conducive to high-quality pharmaceutical care, (f) resources needed to perform the work at the level stated in the standards (eg, time, support personnel, knowledge, skills, support services), (g) evaluation, feedback, and reward systems that directly support the work to be accomplished, and (h) methods for enhancing the knowledge, skills, and values required by the pharmacists to deliver high-quality pharmaceutical care. Each component of the management plan must be developed from the pharmaceutical care practice plan already described.
The transition in pharmacy practice that most occur to establish pharmaceutical care will vary from practice to practice but will encompass decisions, actions, attitudes, resources, and timetable needed to achieve change in the practice. The appropriate transitional plan depends on a number of factors that will vary from one practice to another according to the positions of the individual pharmacists and the practice itself in the evolution to pharmaceutical care (Figure 1). Variables that affect the transitional plan for a pharmacy practice include: (a) the current philosophy of pharmacy practice, (b) the current responsibilities of pharmacists and support personnel, (c) the current allocation of resources, (d) the degree to which the pharmacists and pharmacy managers are committed to implementing pharmaceutical care, (e) the degree of autonomy (in relation to the organization's administrators) given to managers to make decisions about philosophy, organizational structure, and allocation of resources, and (f) the energy that pharmacists and pharmacy managers are willing to devote to implementing pharmaceutical care.

Communication between pharmacy management and the pharmacy practitioner is perhaps one of the most important factors in the transition to pharmaceutical care. Traditionally, practitioners have allowed management to determine how pharmacy will be practiced in a particular site. However, because managers cannot know the needs of individual patients, the delivery of pharmaceutical care requires that pharmacists assume much greater authority in determining how their work will be performed. Similarly, pharmaceutical-care delivery requires that pharmacists be kept informed of managerial (eg, fiscal or legal) demands that impinge on their practice. Never before has communication between pharmacists and pharmacy management been more important.

Another critically important step is that of assuming risk for the transition to pharmaceutical care. If the pharmacy manager desires to transform a practice from traditional or clinical pharmacy services to the delivery of pharmaceutical care, he or she must realize that the task will be highly complex and difficult. The transition will entail converting a practice dedicated primarily to the distribution of drug products and the sporadic delivery of clinical pharmacy services to one that systematically delivers pharmaceutical care and only as one of many support services distributes drug products. The transition is especially difficult for managers, since the management techniques and practices necessary and appropriate for delivering drug products are quite different from those needed in the delivery of pharmaceutical care. When the transition is accomplished, management practices appropriate for both product delivery and care delivery must be integrated and consistently applied.
One of the most difficult tasks for the pharmacy manager will be to assess the existing system accurately. For many years, pharmacists and pharmacy managers have had difficulty in separating what is thought to occur from what is actually occurring in daily practice. The pharmacy manager will have to undertake whatever research is required to truly assess, within the existing system, the nature of each of the components discussed on page 29.

To accomplish a complete and effective transition to the delivery of pharmaceutical care, the pharmacy manager must design a strategic plan. Although the development of a strategic plan is beyond the scope of this discussion, plans designed and executed in a number of practices are available as examples. Note, however, that the strategic plan must be tailored to the individual practice.

The most important step in making the transition from current practice standards to the delivery of pharmaceutical care is beginning the process. The task will become easier if one waits for significantly more data, literature, or experience. Each pharmacist and each pharmacy manager will have to work through the transition process. Patients are in need of pharmaceutical care. That alone should give all pharmacists the motivation needed to carry out their ethical, clinical, and professional responsibilities.

Pharmaceutical care represents the next revolution in pharmacy. Central to the concept of pharmaceutical care is the pharmacist's accepting the responsibility for the outcome, whether beneficial or adverse, of the medication, services, and pharmaceutical advice provided to patients. Pharmaceutical care requires the pharmacist to communicate to establish a commonly supportive relationship among patients, practitioners, and managers. Throughout the pharmaceutical care process, the patient's preferences must be identified and respected.

Pharmaceutical care is not simply a collection of clinical pharmacy services. Rather, it represents a systematic process designed to identify and resolve drug-related problems and determine what medications, services, and advice an individual patient needs. Moreover, unlike most existing pharmaceutical services, the pharmaceutical-care process dictates that a written document be generated to record the drug-related problems, the recommended solutions, and the patient-specific outcomes that actually result from the individualized pharmacotherapy.

The implementation of pharmaceutical care will necessitate a substantial commitment on the part of the profession. We pharmacists must collectively commit to refocus the goals and activities of the profession of pharmacy by redesigning our management systems to be more supportive of practitioners, refocussing our practice activities toward the patient's needs and preferences. We must also redesign our educational programs to prepare the next generation of pharmaceutical-care practitioners and managers. Only through coordinated efforts of pharmacy practitioners and managers will our future patients fully realize the benefits of the pharmaceutical care process and be free from drug-related problems.