

## Development of a Patient-Based Practice Model in Community Pharmacy Practice: Academic-Practice Interface

Thomas J. Reutzler and Melissa Hogan

*Midwestern University, Chicago College of Pharmacy, 555 31st Street, Downers Grove, IL 60515*

Parisa Vatanka Kazerooni

*Cholestech Corporation, Hayward CA*

The purpose of this paper is to describe shared faculty arrangements between a large chain pharmacy corporation and two schools of pharmacy. The two faculty members involved worked jointly on programs intended to improve the level of drug therapy-related services provided in the participating pharmacies, develop high quality experiential education sites for students, and enhance the morale and capabilities of staff pharmacists. The paper is built around two conceptual frameworks. One is a model of interorganizational relations used to organize the complexity of the relationships among the three organizational entities involved in this project. The other is a functional model of patient-based pharmacy practice that evolved along with the project and its intended and unintended turns. The paper concludes with a summary of lessons learned that may be of use to others involved in similar projects. These include the view that upgrading of community pharmacy services must begin with enhancing the skill levels of present staff. Also, patience is required after alterations to practice are made. One of the most important recommendations of this paper is that a coordinating committee made up of representatives from all involved organizations be formed prior to the start of the project and meet on a periodic basis throughout the project to iron out differences, anticipate problems, and generally enhance the productivity of the relationships. Such a body was used in the project described here and proved successful.

### INTRODUCTION

The goals of an individual organization are generally achieved through a coordinated effort within that organization. However, some goals may be more completely achieved through collaboration with other organizations that possess congruent goals. This is a paper that describes a project involving Midwestern University (Midwestern), Drake University (Drake), and American Drug Stores (ADS). Midwestern and Drake wished to expand sites for student rotations and to develop and evaluate patient-based models in the community pharmacy setting. American Drug Stores wanted to maximize its ability to recruit, satisfy, and retain pharmacists and be responsive to potential changes in the pharmacy market place. A patient-based practice model was sketched out prior to the beginning of the project, and this model evolved as the project progressed. A model of interorganizational relations also evolved along with the project. This paper describes the conceptualization and evolution of the project using the practice and interorganizational models as organizing frameworks. In this way, the experience described here may be of use to others.

The paper provides an analytical description of the cooperative enterprise up to the present time and attempts to extract some lessons from the experience that may be of value to those involved in similar undertakings. Other overviews and in-depth descriptions of specific aspects of the project are presented elsewhere<sup>1-4</sup>(1-4).

After describing, first, the background and, second, the context, of this project, the paragraphs that follow go on to identify an interorganizational framework that can be used to

analyze the relationships among the three participating organizations. Then, using this framework as an analytical road map, the environmental context of this interorganizational experience is outlined, relevant characteristics and motivations of the three cooperating organizations are discussed, and the nature of the relationships among these three organizations is described. This includes a description of the development and use of a coordinating committee. A functional practice model used as the starting point for development of patient-based pharmacy services is explained next. This is followed by descriptions of the implementation and evolution of this practice model, including its responsiveness to pressures and opportunities arising in the managed care sector. This amounts, in large part, to a commentary on the problems and opportunities inherent in the implementation of patient-based practice models in today's community pharmacy environment. The nature of the learning experience the effort provides for pharmacy students is addressed next. The final sections of this paper include a look

<sup>1</sup>Hogan, M.L., "Practitioner-faculty linkage: development of a practice model in a community chain setting." Presented at ASHP Midyear Meeting, Las Vegas, NV, December (1995).

<sup>2</sup>Hogan, M.L., "University partnership with community pharmacy," Presented at ASHP Annual Meeting, San Diego, CA, June (1996).

<sup>3</sup>Reutzler, T.J., Hogan, M.L., Vatanka, P.J., "Development and evaluation of a patient-based practice model in the chain pharmacy environment: experience with shared faculty positions," Presented at AACP Annual Meeting, Reno, NV, July (1996).

<sup>4</sup>Vatanka, P.J., Hogan, M.L., "University collaboration with a national pharmacy chain in the development of a pharmaceutical care operational model," Presented at APhA Annual Meeting, Los Angeles, CA, March (1997).

at the current status and future possibilities of the project, a discussion of the lessons learned from this experience, some of which should benefit pharmacy schools and chain pharmacy corporations attempting similar initiatives, and some other conclusions.

## BACKGROUND OF THE PROJECT

American Drug Stores, marketed as Osco Drug/Sav-On, a national community pharmacy chain of over 900 stores, has been interested in exploring new ways to improve patient care and customer service provided by its pharmacists. Likewise, Midwestern University and Drake University continually seek to improve educational opportunities and experiences for pharmacy students and to contribute to the profession of pharmacy and to rational drug therapy. These goals resulted in the formation of a unique relationship among American Drug Stores, Midwestern University Chicago College of Pharmacy, Downers Grove, Illinois, and Drake University College of Pharmacy & Health Sciences, Des Moines, Iowa. The relationship began in May, 1995, when Midwestern and ADS jointly hired a faculty member to report to both organizations. In October, 1995, Drake University, in conjunction with ADS, hired a faculty member to be based in the Chicagoland area and work with both organizations. Shortly after the Drake faculty member assumed her position, the two faculty members discovered that they had similar goals and agreed to fully collaborate. The efforts described in this article reflect the collaboration of the two colleges and ADS.

The three organizations sought to develop and maintain a successful interorganizational relationship that would foster the development and implementation of an effective and workable pharmacy practice model. The organizations formed a coordinating committee that met every two weeks to assess project progress and eliminate obstacles before they became overwhelming. In addition, an explicit evaluation component was built into this practice and educational opportunity.

## CONTEXT OF THE PROJECT

Shared faculty positions have a long history in terms of pharmacy school relationships with hospitals but are now emerging as an important aspect of relationships between schools and chain pharmacy corporations. The blossoming of these relationships has gone hand-in-hand with a desire not just to provide educational sites for students, but also to experiment with and evaluate community practice models that emphasize the provision of professional (versus solely technical) services on the part of the pharmacist(5,6). This desire on the part of pharmacy educators and researchers to see the expansion of patient-based pharmacy services in the community setting has also been expressed more generally via demonstration and research projects not confined to chain pharmacy corporations or shared faculty arrangements(7,8).

One of the most important aspects of these projects is the degree to which the intervention in question is consistent with the day-to-day needs and realities of the retail pharmacy marketplace. For example, one might discover that a program to provide warfarin monitoring and adjustment services in a community pharmacy resulted in substantial and significant improvement in therapy, health status, secondary utilization, etc. While such a result would be encouraging, the question is whether such a program can be sustained in the absence of external subsidies. That is, will the retail market support it? If so, then the program would not be withdrawn at the conclusion of the project. In the present case, the involved parties were

determined to continually mesh practice models and innovations with the real marketplace and to confine evaluations of these interventions to such a reality as well. The goal was to identify improvements that are consistent with routine office-based drug therapy and that could live on their own in the long run in the absence of a "special" project. This approach resulted in a more challenging endeavor but one that avoids artificial optimism.

## AN INTERORGANIZATIONAL RELATIONS MODEL

We reviewed the literature on interorganizational relations and found the work by Davidson on planning and coordinating services in multiorganizational contexts useful(9). Although Davidson's work is over twenty years old and aimed specifically at social service agencies, it corresponds with our experience in the shared position project. This is so, because Davidson is interested in the type of interorganizational relationships that fall between mere communication across organizations and the development of formal interorganizational structures that require individual organizations to sacrifice some of their autonomy. Also, Davidson's model is based on a wide range of interorganizational theory, most of which is general in nature, and therefore potentially relevant to any case of interorganizational relationships.

### The Model

According to Davidson's framework, coordination among organizations is shaped by three sets of factors: environmental pressures (economy, political pressures, legislation, availability of funds, and demographic trends); organizational characteristics (resources, domain, interdependence); and the interorganizational process used (structure and history of the group, role conflict of group members, the behavior of group members, and leadership).

To survive, organizations must adapt to their environments, and environmental factors create the preconditions for interorganizational relationships. A turbulent environment exist when: (i) organizations or groups of organizations are so large that their actions induce processes to develop out of the environment; (ii) the economy and other aspects of society are interdependent resulting in more legislation and regulation of those aspects; and (iii) there must be increased reliance on research and development to meet competition. These factors increase an organization's uncertainty and make it more difficult for the organization to function independently and, therefore, more likely that it will enter into arrangements with other organizations.

Organizational characteristics affect how well the organization can respond to its environment and, therefore, the likelihood that it will consider the establishment of relations with other organizations. Resources include money, space, equipment and supplies, staff, and clients. When resources are scarce or difficult to acquire, organizations will be more likely to enter into relationships with other organizations that can help. When organizations are interdependent, they may be more likely to consider each other in order to reach their own goals. Given this condition, the organizations may be more willing to work together explicitly to solve problems and may actually share similar problems. At the same time, though, when organizations view relationships with other organizations as a threat to their domain, problem-solving can be impeded, because they may be more likely adopt a competitive - versus cooperative - approach and may refuse or withdraw from the relationship.

Four interorganizational process factors are the keys to the ultimate success of the arrangement. As Davidson says, "Interorganizational relations occur through the interaction of individuals in groups." He goes on to point out that such groups have a life of their own and tend to evolve in a pattern from exploration of mutual trust to task definition to actual work. In addition, the maturity of the organizations and the seniority of group members are factors, because more established organizations and individuals are better able to resist the changes engendered by interorganizational relationships. In regard to role conflict, each group member represents the interest of their own organization and is now a member of a new, cooperating interorganizational group. This creates potential tension, and the success of the arrangement depends on resolution of this conflict. Likewise, there are two main types of behavior: problem solving, which is oriented towards the new group, and bargaining, which is oriented toward the interests of the home organization. If problem-solving is done first and done well, productive bargaining can then take place. If either is pushed too hard, success is jeopardized. Finally, effective leadership within the interorganizational group can enhance the ability of the group to balance problem-solving and bargaining.

Relationships between and among organizations can be jeopardized at any level. For example, even if environmental and organizational factors point towards the establishment of active relations, a poor interorganizational process can result in failure(9). The organization of the material that follows is based on the Davidson article, and many of the insights presented are derived directly from using his framework to organize and analyze our experience.

### **Environmental Pressures in the Present Case**

Using Davidson's map of the environment as a guide, four factors were identified as creating the preconditions for the initiation of the shared position project.

1. Managed care organizations and pharmacy benefit managers desire inexpensive channels of product distribution. At the same time, they are considering the potential economic benefits of the pharmacist's contribution to drug therapy management. The chain drug store industry must continue to provide the products and services that customers want while responding to changes in the environment, especially the increased role of managed care. Likewise, pharmacy educators need to expose their students to the evolving health care system.
2. Community pharmacy practice is moving toward the provision of pharmaceutical care. This change is a result of several factors, most prominently that new technology and work force deployment strategies are reducing the pharmacist's role in dispensing. At the same time, pharmacy educators are advocating and socializing students into the new patient-based role.
3. The Omnibus Budget Reconciliation Act of 1990 (OBRA '90) was enacted in an attempt to both improve the quality of care and decrease the associated costs of care provided to Medicaid patients. According to OBRA '90 regulations, pharmacies are required to offer to counsel all Medicaid patients on new prescription medications. OBRA '90 has resulted in modifications to state pharmacy acts that have tended to define larger roles for pharmacists in the drug therapy process.
4. Chain pharmacy corporations continue to emerge as the

dominant force in the drug market and are the largest employer of pharmacy school graduates. They need these new pharmacists to staff their outlets, and the schools need the chains to place their graduates.

In Davidson's terms, these four factors highlight the emerging importance of large organizations, the need for continual research and development to remain competitive, and the increasingly important role of legislation and regulation in a complex society and marketplace.

### **Organizational Characteristics in the Present Case**

The ADS-Midwestern-Drake experience involves three interdependent organizations working to achieve individual and mutual goals. Colleges of pharmacy are emphasizing patient-based practice models, especially in the community setting, and acknowledging the necessity to expose students to emerging environmental factors. This creates an ongoing need for high quality rotation sites that can help students achieve these ends. Colleges also need the direct financial support of chains. Specifically, the goal of Midwestern University in the present case was to develop a model of pharmaceutical care in the community setting as a prototype for future model expansion. That model would offer ideal clerkship training sites for students and serve as a laboratory in which research on its cost and effectiveness could be conducted. Drake University's goals were similar to those of Midwestern. Drake was interested in developing a model of pharmacy practice in the community setting which embodied the concepts of pharmaceutical care taught in didactic courses and could be implemented throughout ADS pharmacies nationally. In addition, pharmacy schools need places for graduates to work, and the shared position project enhances the abilities of Midwestern and Drake to meet this need.

In a changing and uncertain marketplace, community pharmacy needs assistance in improving the quality and expanding the scope of the care it provides to patients. Chain pharmacy needs to be able to recruit, retain, and provide job satisfaction to pharmacists who are being socialized in school into the new practice roles. American Drug Stores recognized the potential benefits of collaboration with the universities in an effort to enhance pharmacy services. Specifically, ADS wanted to improve customer service, elevate customer satisfaction and loyalty, improve pharmacist job satisfaction, increase profits through higher sales, and achieve public recognition of contributions to community pharmacy practice.

### **Interorganizational Process Factors in the Present Case**

Each university hired a pharmacy practice faculty member to work with ADS to develop and implement a new practice model. The Midwestern-ADS position's salary was equally funded by both organizations. The Drake-ADS position's salary was provided by Drake. Miscellaneous expenses and an office were provided by ADS. Also, project costs were absorbed by ADS, primarily the Operations Division, and to a lesser degree, the Education Division.

Although the salary arrangements differed, both faculty considered themselves "shared faculty" and reported to supervisors in their respective colleges as well as at ADS. These unique arrangements served to facilitate success of the multi-organizational collaboration. The shared faculty served as liaisons between ADS and their respective colleges, as well as between the colleges themselves. Because both were newly hired for the positions and had recently completed post-gradu-

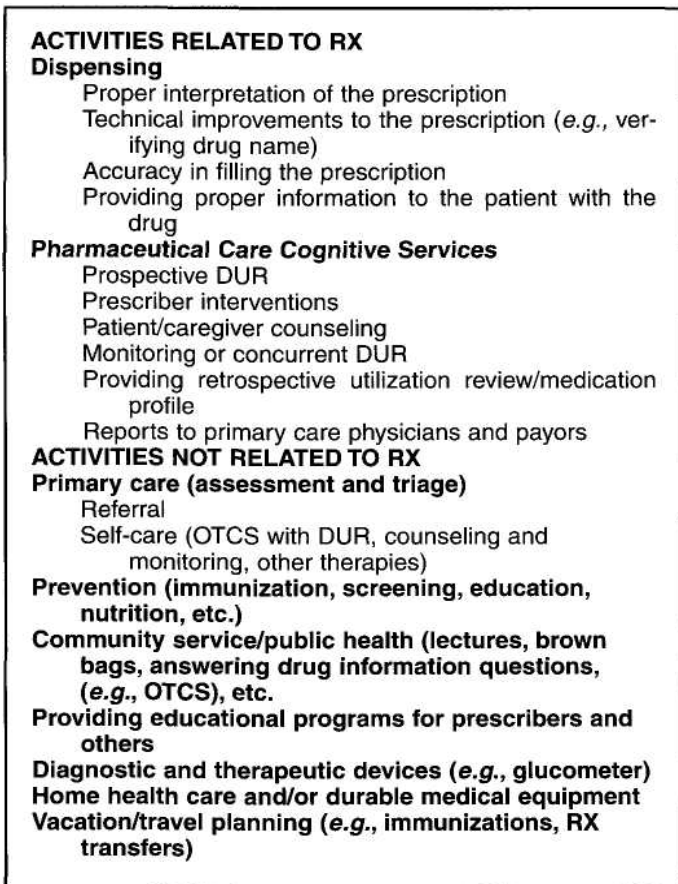


Fig. 1. A functional pharmacist practice model.

ate education, neither had pre-existing loyalties to any entity. Although this situation was quite beneficial to the success of the collaborative efforts, both faculty sometimes experienced a sense of having no "home organization" or two "home organizations". They sometimes encountered difficulties with the multiple and extensive responsibilities associated with reporting to two separate organizations. Perhaps one unexpected benefit of the arrangement was the support that the two faculty provided to each other. The collaboration between the two faculty enabled both to work successfully under sometimes very stressful circumstances and to communicate their ideas more effectively to the corporation and the colleges.

In order to facilitate communication among all parties in the ADS-Midwestern-Drake initiative, an operations team or coordinating committee was formed. This team included: ADS representatives (Vice President of Operations-East and regional pharmacy managers assigned to program pharmacies), Midwestern representatives (co-funded faculty member and Pharmacy Administration faculty member), and Drake representatives (shared faculty member and Chair of Pharmacy Practice). Many other representatives from each organization were involved in program development from time to time and informed of progress through circulated meeting summaries. The operations team met bi-weekly. At the meetings, the faculty members gave progress updates, obtained input and feedback from team members, and sought approval when needed. Through the meetings and meeting summaries, all team members were kept apprised of progress and had an opportunity to contribute substantively to the project. This coordinating body was a critical component of the shared position project. It proactively headed off many problems before they material-

ized and allowed rapid responses to the stumbling blocks that did occur. The three organizations were able to meet their separate goals through a single process. The result was that domain conflict was minimal and occurred mainly around issues at the conceptual level regarding differing emphasis on the pharmaceutical care versus product distribution orientations to the pharmacist's role. According to Davidson, if problem solving is done first and well by the interorganizational group, productive bargaining, which is oriented toward the interests of the home organizations, can then take place.

### PRACTICE MODEL CONCEPTUALIZATION

Given the goals outlined in an earlier section of this paper, it was reasoned that a functional pharmacist practice model could help to define a range of potential activities for the occupants of the shared positions. Such a model was developed prior to the beginning of the project and fashioned to be as comprehensive as possible. To avoid artificiality, the model was explicitly geared for use in routine community pharmacy practice involving routine office-based drug therapy. This was the real challenge of the project. The faculty deliberately did not attempt to implement temporary operation of an institutional clinic model within the open community pharmacy setting. The model adopted was an elaboration of a patient-based model of community practice presented elsewhere(10). It rests on the work of several experts in the field(11-13) and it calls for the pharmacist to conduct prospective and concurrent drug utilization review (DUR) on every prescription and intervene with prescribers and patients to optimize therapy. The model also includes dispensing as an important part of the pharmacist's role as well as the provision of certain primary care and other services. The model is presented in Figure 1.

Finally, the model was further refined by sub-dividing pharmacist functions by one or more classes of factors to define potential product/service lines and intensity of service with the goal of ensuring minimal and sensible changes to work flow. These factors include the patient's disease states and risk factors (e.g., diabetes, post-surgical) age, and gender as well as the therapeutic class (e.g., cough and cold, dermatological) and nature of the medication (original versus refill; chronic versus acute).

The pharmaceutical care model was designed to utilize the operational process already in place at ADS. The ADS process utilizes a work flow system to designate staff functions. This enables the pharmacist to focus on those tasks that require clinical judgement and are legally required. Pharmacy technicians and dispensing technology are utilized for most non-judgmental tasks. The pharmaceutical care model integrated ADS work flow with the additional tasks required for optimal patient care. Thus, it was rigorous in design without disrupting efficient prescription processing.

### PRACTICE MODEL IMPLEMENTATION

During initial negotiations with ADS, each university defined the format under which the shared faculty would work. The development and evolution of the approaches taken by each university are intertwined with evolution of the model and so are described here briefly. Midwestern University administrators initially involved in establishing the position with ADS decided that the faculty member would work with the pharmacy team in a single store. That pharmacy was selected based on its proximity to the College, prior positive experience of the College with the head pharmacist as an externship preceptor, and the physical structure of the pharmacy. The intent was to

**Table I. Characteristics of pharmacies assigned to Drake faculty member**

Characteristic	One	Two	Three	Four	Five
Location	Suburb <sup>a</sup>	City <sup>b</sup>	City	City	Suburb
Design	Standard <sup>c</sup>	Clinic <sup>d</sup>	Standard	Standard	Vision <sup>e</sup>
Patient Population <sup>f</sup>	Heterogeneous	Primarily Indigent	Adult	Heterogeneous	Heterogeneous (Geriatric)
#Rx/Week	1900	2200	1000	700	1000
Special Services	None	None	None	None	Diabetes Care Center Patient Video Library

<sup>a</sup>Outside the limits of the City of Chicago but within Cook County or one of the surrounding "collar" counties.

<sup>b</sup>Within the limits of the City of Chicago.

<sup>c</sup>This is the common Osco Pharmacy design. It includes a unique arrangement involving an in-window for prescription intake, an out-window for prescription dispensing, and a counter between the two. This design usually includes a patient waiting area. The pharmacy is located along a peripheral wall of an Osco Drug Store and does not include a private consultation room.

<sup>d</sup>This pharmacy is located within the same building as a Chicago Department of Health outpatient clinic.

<sup>e</sup>Vision pharmacies reflect improvement in physical design (e.g. private patient consultation room).

<sup>f</sup>As defined by pharmacy management. These descriptions do not have a quantitative or scientific basis.

implement a pharmaceutical care model in that pharmacy and test its financial feasibility and effect on patient outcomes. If successful, the model could then be implemented in other ADS pharmacies.

Drake University administrators also defined the work format to be employed by the Drake shared faculty member. Rather than work with a single pharmacy, Drake would employ several stores to utilize the STARR model (Structured Teaching Arrangements to Reflect Reality) developed by Drake professor, Harry Hagel. This model has been implemented in a variety of practice settings by Drake faculty. It enables a single faculty member to oversee the clerkship experience of students at up to six different sites simultaneously. This is accomplished by developing co-preceptors at each site who are clinical practitioners, such as pharmacists or physicians. To implement this approach, five pharmacies were selected to reflect a cross-section of types and locations of Osco Drug pharmacies in Chicagoland. Specific factors considered included location, pharmacy design, patient population, prescription volume, and existing patient care services. In addition, all of the stores chosen were assessed by management as having pharmacy team members with an interest in participation. These pharmacies are profiled in Table I, which shows that they represent a broad spectrum of pharmacy types and locations.

The Midwestern University shared faculty member commenced her efforts in May, 1995. To begin, she defined goals and established a timeline for achieving them. She then observed daily pharmacy operations and participated in the ADS new pharmacist training program. In an effort to learn about other possible models of practice, the faculty member visited several non-ADS pharmacies to determine how they addressed pharmaceutical care activities and services. Specific goals of the Midwestern faculty member included making structural changes to the pharmacy to enable more private consultation while prescriptions are dispensed as well as modifications to enhance the professional atmosphere of the pharmacy. The faculty member also outlined an educational program designed to enhance the skills and knowledge of the pharmacy team. While in the initial development phase, the faculty member came to be viewed as a resource to the pharmacy team and was called on to assist with drug information questions received in the pharmacy and to counsel patients that requested in-depth medication consultation.

Several developments caused the faculty member to modify her efforts prior to implementing all goals. One, the head pharmacist was removed from the store because of operations issues not related to the project or the pharmaceutical care model. Two, ADS did not wish to invest in structural modifications, preferring, instead, to observe the results of educational efforts first. Three, the faculty member realized that the pharmacy team was becoming dependent on her to care for patients, rather than viewing her as a role model and enhancing the level of care they provided. Four, like those of staff members, patient expectations were not easily modified. Careful observation by the faculty member led to the conclusion that obtaining their medicine rapidly and at a good price was the priority for most patients at the store in question.

Members of the project may have been naive in expecting patients and staff members to readily embrace higher levels of pharmacist services. An evaluation component was built into the shared position project from the beginning, and although it had to be modified as the endeavor evolved, some of its findings are insightful here. A pre/post with control design paired the initial Midwestern University project pharmacy with a control store of similar size located in a nearby neighborhood. Prior to the start of the project, interviewers conducted patient satisfaction and preference surveys at both stores and asked pharmacy and non-pharmacy employees to complete similar satisfaction and preference questionnaires. In addition, an employee teamwork and communication survey was administered to pharmacy employees of the project store. Later, a patient satisfaction survey was given to patients that participated in special programs provided at the project store during Pharmacy Week. Results of these initial data collection efforts showed that, prior to the beginning of the project:

- patients were already highly satisfied with pharmacists and the pharmacy at both the control and treatment stores;
- employees were not as satisfied as patients;
- non-pharmacy employees had a dimmer view of pharmacy services than pharmacy employees.<sup>5</sup>

<sup>5</sup>Picman, D., Reutzler, T.J., "Chicago College of Pharmacy and American Drug Stores co-funded faculty position: patient and employee pre-test results," Unpublished working paper presented to American Drug Stores management, July, 1995. Available from the authors upon request.

Also, employee approaches to teamwork and communication were satisfactory, but there was considerable room for improvement. In addition, Pharmacy Week programs were well received, but attendance was low for some.

The patient results are consistent with the pharmacy patronage literature, which consistently shows that professional pharmacy services take a back seat to convenience of location when it comes to patient selection of pharmacy(14-16). These realities made it clear to project staff that a longer and more deliberate time frame was necessary before positive results could be expected.

During the period when the Midwestern shared faculty member was experiencing these events, the Drake shared faculty member commenced her position (October, 1995). She began by establishing her goals and a timeline for fulfilling them. These included: implementing pharmaceutical care services within at least five pharmacies during the first year; training pharmacists to serve as community clerkship preceptors and developing a series of training modules for pharmacy teams by the end of the second year; and distributing the education program throughout ADS stores nationally during the third year. It was almost immediately obvious that the two faculty were working toward the same end and that it would be more efficient to work in concert. It was also clear by then that the focus of the faculty members' combined efforts should be, first, the education and training of pharmacists. This was seen as a prerequisite for changing practice. In order to decrease team reliance on the Midwestern faculty member, and to maximize benefits to ADS from efforts aimed at pharmacist education, the Midwestern faculty member included a second store in her efforts. The store was selected on the basis of location and pharmacy team enthusiasm, which were assessed via recommendations from ADS operations staff followed by informal interviews conducted by the faculty member with pharmacy team members at the store in question.

#### **PRACTICE MODEL EVOLUTION: EDUCATION**

The shared faculty members outlined a twelve month educational program, entitled Pharmacy Education Series or PES, for pharmacists in the seven stores with which they were working. The series was designed to serve three functions: one, to enhance the knowledge and skills of the pharmacy teams; two, to train the pharmacists to serve as co-preceptors to students on clinical clerkships in the pharmacies; and three, to implement practice modifications consistent with the pharmaceutical care model the faculty developed. The shared faculty members recognized that further education efforts for ADS pharmacists must have a much more compact time frame but preferred to conduct this initial phase program over a longer time to enable them to concurrently study the effects of their efforts.

Six topics were covered in the education series, each over a two-month time period, through a combination of seminars and home study materials. The application of skills intrinsic to the provision of pharmaceutical care was taught in the first two sessions, "effective communications" and "clinical skills applications". For the remainder of the series, the faculty addressed disease states common among ambulatory patients. These included diabetes, obstructive airways disease, and coronary heart disease. In the final session, the unique needs of special patient populations, including geriatrics, pediatrics, and companion animals, were addressed.

The faculty coordinated a full day of lectures and workshops on each topic. At each seminar, participants were provided current pharmacotherapeutic information and given

opportunities to practice applying their new knowledge through patient case scenarios. They were also shown corresponding diagnostic and treatment devices commonly available in pharmacies.

For each topic, the faculty challenged the pharmacists with Calls to Action, specific practice applications which could be incorporated into the current operational process. At each session, the group discussed the successes and challenges they encountered while implementing the practice applications. The pharmacy teams often encountered similar difficulties and learned from each other's efforts to overcome those difficulties. In this way, faculty were able to draw upon the expertise of the practicing pharmacists to streamline implementation of the practice applications. During the second month of each topic, pharmacists were given home study course packs, which were designed to reinforce and build upon concepts learned in the seminar. At the conclusion of the education series, a comprehensive examination was administered to all participants. It included both written and practical components. An actual agenda from one of the PES seminars is presented in the Appendix as an example intended to enhance reader understanding of the educational program.

#### **PRACTICE MODEL EVOLUTION: OTHER ISSUES**

The practice model evolved in other ways during the course of the project. The two faculty members developed a hierarchical model of community pharmacy services as a potential product offering for managed care organizations. This hierarchical model differentiates a set of standard services that should be provided for every prescription from those of a more intense nature required for certain types of prescriptions and/or patients.

The project resulted in substantial involvement with managed care organizations along other lines. Intensive negotiations for the provision of warfarin monitoring services to patients of a large health maintenance organization (HMO) were conducted for several months, but no agreement was reached. There were less intensive discussions with another HMO regarding obstructive airways disease services. Although neither project reached fruition, the experience showed project participants that there is a real potential for pharmacists fulfilling specialized professional roles for groups of insured patients.

#### **PRACTICE MODEL: STUDENT LEARNING**

One of the most important reasons for the universities to collaborate with ADS was the potential for development of clerkship sites for students. Both universities sought to develop ideal practice settings in which students could see the concepts of pharmaceutical care implemented and have an opportunity to practice in that environment. While developing the practice model and enhancing the clinical skills of the pharmacists through the PES, the two faculty members were also developing the pharmacists' skills as preceptors.

The substance of the Drake and Midwestern clerkships was similar. They were designed to enable students to learn and practice how to provide direct patient care in the community pharmacy setting. Through their experiences, students learned to evaluate patient profiles, identify and resolve actual and potential drug-related problems, and counsel patients on their drug therapy. All students were required to develop a project that enhances the care provided to patients in the pharmacy. Students were also involved in special events in the pharmacies whenever possible. For example, students in one pharmacy

participated in a program to provide blood pressure monitoring to walk-in patients on a weekly basis. Other students have been involved in health fairs offered by the pharmacies during their clerkships.

Students were precepted by the shared faculty member from their respective school along with the practicing pharmacist in the pharmacy. Rotations were designed in this way to enable students to benefit from the expertise and unique perspective of each preceptor. Faculty preceptors were responsible for designing the clerkship and ensuring that students received appropriate experience and instruction from their pharmacist preceptors. Faculty preceptors assigned and evaluated all didactic activities, including patient case presentations, presentations on therapeutics topics, and all written assignments. Pharmacist preceptors oversaw the day-to-day activities of students in the pharmacies and served as role models and coaches to them as they practiced their patient care skills. The two preceptors (faculty and practitioner) collaborated on student performance evaluations. Students from the various clerkship sites met as a group each week with their respective faculty member. Often, the faculty preceptors from Midwestern and Drake conducted the group student learning sessions together. This format allowed students from the different universities to interact with and learn from each other.

## CURRENT STATUS

With the assistance of the Midwestern faculty member, ADS is in the process of rolling out the Pharmacy Education Series to all pharmacists corporate-wide. Drake and ADS will concentrate their future collaborative efforts in the Des Moines, Iowa area. A grant was secured to conduct patient and pharmacist focus groups that would shed light on the success and problems of the education series. These focus groups have been conducted, and the results are being used to guide revision of the PES as it is expanded corporate-wide and to point the way toward future directions of shared position projects generally.

## CONCLUSION/LESSONS LEARNED

We found the interorganizational relations and pharmacy practice models to be extremely useful ways to organize this experience. We recommend that others involved in similar undertakings explicitly identify and use such models (along with education models) prior to the start of their projects. This should help involved actors anticipate challenges and opportunities and provide a structure for summarizing and sharing knowledge gained through the experience. This applies regardless of pharmacy setting (e.g., chain, independent, supermarket, clinic). The specifics of interorganizational relationships may vary depending on organizational size, resources, and other factors, but the model can accommodate these differences and remains useful in spite (or because) of them. Likewise, practice innovations, regardless of the setting in which they take place, are more likely to be effective and easier to disseminate when they are the result of organized thinking about patients, drug therapy, and pharmacist functions.

We recommend with enthusiasm the early formation and regular use of a coordinating body with representatives from all organizations involved in a project. This was, perhaps, the most important innovation of the enterprise described here. It saved many hours of work and made for more satisfied project participants.

Another lesson learned in the present project is that development and implementation of patient-based services in the community pharmacy should begin with pharmacist education.

Professional degree and continuing education programs are of high quality and useful in their own right. But the fact is that moving to a more complete patient focus in the community pharmacy requires upgrading of therapeutics skills, people skills, and attitude.

Likewise, it is essential that those wishing to provide the complete range of professional pharmacy services in the community setting be patient. Patrons of these pharmacies are accustomed to receiving their medication quickly and cheaply, and they do not have substantial appreciation for either the risks of drug therapy or the potential role of the pharmacist to reduce risk. Therefore, they must be gradually and consistently exposed to such services and educated at the same time. Hopefully, in the long run, they will come to demand such services from all pharmacists and express that demand through their choice of health insurance. In the meantime, innovators should keep their expectations for success modest.

Finally, all of the previous comments must be interpreted in terms of this project's attempt to embed itself in the current chain pharmacy market. It consciously and intentionally did not import experiments from institutional ambulatory settings. It met the realities of the marketplace for drugs head on. This is the reason for its challenges and disappointments as well as its value.

Hopefully, by presenting this experience in an organized way, we have provided a tool to help others that want to participate in similar projects or simply increase their understanding of the role of pharmacy in the community.

In general, projects such as the one described here represent excellent opportunities for student education, faculty and student research, strengthening of bonds between academia and practice, and the conceptualization, development, implementation, and operation of programs and services that have the potential to improve drug therapy and, therefore, optimize health status outcomes for patients.

*Am. J. Pharm. Educ.*, 63, 119-126(1999); received 8/20/98, accepted 2/10/99.

## References

- (1) Ukens, C., "American drug stores: managed care leader," *Drug Topics*, **140**(7), 52-56(1996).
- (2) Anon., "American drug stores takes academic approach to cognitive services," *Pharm. Reim. Dis. Manage. Rept.*, **1**(12), 7-8(1996).
- (3) Hogan, M., Vatanka, P., "American Drug Stores pharmaceutical care model: collaboration with university faculty," *KeePosted*, **22**(9), 6-7(1997).
- (4) Friebele, E., "Two pharmacists pioneer change in a national chain," *Pharm Stu.*, **27**, 18, 23(1997).
- (5) Simon, P., "Implementing pharmaceutical care in community pharmacy: The Dominick's pharmaceutical care model," *KeePosted*, **22**(7), 10-11(1997).
- (6) Park, J.J., Kelly, P., Carter, B.L., et al, "Comprehensive pharmaceutical care in the chain setting," *J. Am. Pharm. Assoc.*, **NS36**, 443-451(1996).
- (7) Grainger-Rousseau, T.J., Miralles, M.A., Hepler, C.D., et al., "Therapeutic outcomes monitoring: Application of pharmaceutical care guidelines to community pharmacy," *ibid.*, **NS37**, 647-661(1997).
- (8) Tomechko, M.A., Strand, L.M., Morley, P.C., et al., "Q and A from the pharmaceutical care project in Minnesota," *Am. Pharm.*, **NS35**, 30-39(1995).
- (9) Davidson, S.M., "Planning and coordination of social services in multi-organizational contexts," *Soc. Serv. Rev.*, **50**, 117-137(1976).
- (10) Reutzel, T.J., "The compatibility of the retail setting with a patient-based practice model: Reports from community pharmacists," *J Clin Pharm Ther.*, **19**, 301-312(1994).
- (11) Hepler, C.D. and Strand, L.M., "Opportunities and responsibilities in pharmaceutical care," *Am. J. Hosp. Pharm.*, **47**, 533-543(1990).
- (12) Ascione, F.J., Shimp, L.A. and Opdycke, R.C., "Research in pharmaceutical care: experiences from the focused drug therapy review program," *Am. J. Pharm. Educ.*, **56**, 441-447(1992).
- (13) Office of Inspector General, R.P. Kusserow, *The Clinical Role of the Community Pharmacist*, U.S. Department of Health and Human

Services, OAI-01-89-89160, Washington DC (1990).

- (14) Shepherd, M.D. and Crawford, S. Y., "An investigation of what factors are important to the elderly in selecting a pharmacy and purchasing drug products," *J. Pharm. Market Manage.*, **2**, 63-82(1987).
- (15) Arneson, D.L., Jacobs, E.W., Scott, D.M. and Murray, W.J., "Patronage motives of community pharmacy patrons," *J. Pharm. Market Manage.*, **4**(2), 3-22(1989).
- (20) Metge, C.J., Hendricksen, C. and Maine, L., "Consumer attitudes, behaviors, and perceptions about pharmacies, pharmacists, and pharmaceutical care," *J. Am. Pharm. Assoc.*, **38**, 37-47(1998).

Midwestern University

Pharmacist, PharmD, Assistant Professor of  
Pharmacy Practice

Location: Oak Brook Education Center—Scan Room

Date: 8-21-96 (9:30 AM-6:00 PM)

9:30 AM-10:00 AM	Continental breakfast and discussion of Call to Action III
10:00 AM-11:00 AM	<b>Lectures</b> Pathophysiology and diagnosis of asthma and COPD
11:00 AM-12:00 NOON	Pharmacology and treatment of asthma and COPD
NOON - 12:30 PM	Lunch and spirometry demonstration
12:30 PM-1:30 PM	<b>Workshop</b> OAD medications: <ul style="list-style-type: none"><li>• Indications, dosing, special considerations</li><li>• MDI and spacer technique (video, practice)</li></ul>
1:30 PM-2:45 PM	Vitalograph®: <ul style="list-style-type: none"><li>• Demonstration (video, practice) and utilization log</li></ul>
2:45 PM-3:00 PM	Break
3:00 PM-3:30 PM	Peak flow meter and nebulizer demonstration
3:30 PM-4:30 PM	Practice application: <ul style="list-style-type: none"><li>• Define Call to Action IV (group participation)</li></ul>
4:30 PM-5:30 PM	Patient case discussion
5:30 PM-6:00 PM	Seminar evaluation

---

## APPENDIX. EXAMPLE OF PHARMACY EDUCATION SERIES LECTURE AND WORKSHOP

Topic: ADS 1996 Education Series  
Obstructive Airways Disease

Speakers: Northwestern University Medical School  
Physician 1, MD, FCCP, Director of Medical ICU at Northwestern  
Physician 2, MD, FCCP, Director of Medical ICU at VALMC  
Pharmaceutical Company  
Medical Specialist  
Medical Instrument Company  
Speaker  
Drake University  
Pharmacist, PharmD, Assistant Professor of Pharmacy Practice