

# The Iowa Center for Pharmaceutical Care: An Effective Education-Practice Partnership

Harry P. Hagel  
John P. Rovers  
Jay D. Currie  
Randy P. McDonough  
Jenelle L. Sobotka

**ABSTRACT.** The Iowa Center for Pharmaceutical Care (ICPC) is a collaborative partnership between Iowa's two colleges of pharmacy and the state pharmacists' association. To provide historical perspective, a discussion of the colleges' objectives and practice-related issues resulting in the development of the ICPC is included. The education and training program originally developed and used to convert more than 150 community pharmacy practices to a pharmaceutical care model and eventually acquired by the American Pharmaceutical Association is described. Impact on practitioners, the state association, colleges, faculty, and students, along with limitations of the implementation model and future activities of the ICPC

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Harry P. Hagel, MS, R.Ph., is Pharmacy Practice Development Consultant for Pharmacy Development Systems, Anaheim Hills, CA 92808-2116. John P. Rovers, Pharm.D., is Assistant Professor at Drake University College of Pharmacy and Health Sciences, Des Moines, IA 50311-4505. Jay D. Currie, Pharm.D., is Associate Professor (Clinical) and Randy P. McDonough, MS, R.Ph., is Assistant Professor (Clinical) at the University of Iowa College of Pharmacy, Iowa City, IA 52242-1112. Jenelle L. Sobotka, Pharm.D., is Associate Executive Director of the Iowa Pharmacists Association, Des Moines, IA 50322-2900.

The authors wish to acknowledge the contributions of Thomas R. Temple, Executive Vice-President of the Iowa Pharmacists Association, Deans Stephen Hoag and Gilbert Banker, and former ICPC staff members John Vallandingham, Sue Ann Smith, and Steve Firman.

are also addressed. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: [getinfo@haworthpressinc.com](mailto:getinfo@haworthpressinc.com)]

### INTRODUCTION

Since its initial description by Hepler and Strand (1), many professional associations, colleges of pharmacy, and other pharmacy-related organizations have adopted the concept of pharmaceutical care as the model under which pharmacy should be practiced. However, considerable confusion remains about its nature, how it can best be adopted, and how the practice of pharmacy will differ under a new model.

Individual pharmacists have responded to the concept in various ways. Some pharmacists continue to believe that pharmaceutical care is synonymous with patient counseling, while some feel that it is only a minor modification of how they have always practiced or even that it is just the latest "buzzword." Others have a good grasp of the new model, but hesitate to adopt it due to a variety of real and perceived barriers. A few "pioneering" pharmacists have already implemented pharmaceutical care within their pharmacies. Finally, a rapidly growing number of pharmacists are anxious to convert their practices, but lack a convenient, thorough, and affordable method to learn about the concept of pharmaceutical care and reconfigure their practices to accommodate it.

A unique, collaborative approach in Iowa is allowing community pharmacists to implement a more patient-focused practice in their pharmacies. At the same time, it has enabled Iowa's two colleges of pharmacy and the state pharmacists' association to achieve their educational and service missions more effectively.

### THE IOWA CENTER FOR PHARMACEUTICAL CARE

Sweeping changes affecting pharmacy and pharmacy education led the Iowa Pharmacists Association (IPA), the Iowa Pharmacy Foundation (IPF), and the colleges of pharmacy at Drake University and the University of Iowa to become partners in the Iowa Center

for Pharmaceutical Care (ICPC). The ICPC, created in May 1994, "serves pharmacists in Iowa as a resource center dedicated to the adoption, evaluation, and promotion of the tenets of pharmaceutical care as the basis and central focus of the practice of pharmacy." To achieve this mission, seven specific action steps were identified to guide the activities of the ICPC. The ICPC mission statement and related action steps are included in Table 1.

Successful partnering between the two colleges of pharmacy and the Iowa Pharmacists Association in the ICPC implies that all parties involved share in the risks and benefits of the agreed upon endeavor. Furthermore, each interested party may have similar goals but potentially different reasons for wanting to achieve those goals.

TABLE 1. ICPC Mission and Action Steps

MISSION STATEMENT
The Iowa Center for Pharmaceutical Care serves pharmacists in Iowa as a resource center dedicated to the adoption, evaluation, and promotion of the tenets of pharmaceutical care as the basis and central focus of the practice of pharmacy.
ACTION STEPS
<ol style="list-style-type: none"><li>1. Provide site-specific advice, counsel, and guidance to aid in converting practices to pharmaceutical care</li><li>2. Provide education and training on all aspects of pharmaceutical care practice</li><li>3. Evaluate and disseminate information on pharmaceutical care practice</li><li>4. Coordinate or conduct educational initiatives to pharmacists, payers, patients, health-care providers, and others to create a demand for pharmaceutical care practices</li><li>5. Coordinate or conduct research or analysis on issues relating to pharmaceutical care</li><li>6. Identify and evaluate innovative pharmaceutical care compensation methodologies</li><li>7. Support the development, evaluation, and implementation of professional guidelines and standards for pharmaceutical care</li></ol>

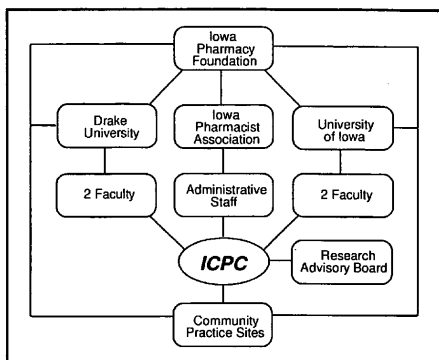
With both colleges of pharmacy actively implementing an entry-level Pharm.D. degree, a new curriculum that emphasized skills needed by graduates to practice pharmaceutical care in community pharmacies as well as other settings was considered essential (2). To achieve this goal, the colleges of pharmacy agreed that working with community practitioners to develop clerkship sites for doctoral students would be consistent with curricular goals. Consequently, resources invested by the colleges were expected to yield clerkship sites that could provide students the opportunity to work directly with patients, identify and manage drug therapy problems in the community setting, and work closely with experienced community practitioners who had successfully transformed their practices. At the same time, by participating in the education, training, and practice development activities of the ICPC, preceptors would acquire pharmaceutical care practice skills that could be maintained and continually enhanced through interaction with advanced students and college faculty.

From the practice perspective, more than five years of educational program offerings and support of research activity focusing on pharmaceutical care implementation by the IPA certainly helped create a vision to promote the concept of pharmaceutical care to Iowa's pharmacists. ICPC was viewed as a venue to move the pharmaceutical care concept to reality by assisting pharmacists in changing their practices.

Rapidly shrinking gross margins on prescription dispensing fees led community pharmacists to identify pharmaceutical care as a significant change in practice which could lead to obtaining payment for cognitive services and ultimately assure their survival. Consequently, forward-thinking community practitioners within Iowa, faced with having no organized training or implementation method by which to implement pharmaceutical care in their pharmacies, sought assistance from the two colleges of pharmacy in the state and the Iowa Pharmacists Association.

The ICPC is administered through the Iowa Pharmacy Foundation (IPF), the Iowa Pharmacists Association (IPA), and the Drake University and University of Iowa Colleges of Pharmacy (see Figure 1). Faculty resources from the colleges and administrative funding from the IPF were secured to support the Center. The deans of

FIGURE 1. ICPC Organizational Structure



each college serve as board members of the IPF. This administrative structure helps to strengthen the collaboration and further assure a mutually beneficial partnership between education and practice. Existing and developing relationships with numerous practice sites throughout the state completes the circle of cooperation thus addressing the immediate needs of the practitioners as well as the eventual training site needs of the colleges. Planning, development, and day-to-day operations are provided by Association staff and two faculty members from each college.

### ***EDUCATION AND TRAINING PROGRAM***

The ICPC initially evaluated existing proprietary and academic approaches to pharmaceutical care. Although disease-management programs offered a promising opportunity for the probable develop-

ment of a revenue stream (and might be easier to implement), the decision was made to provide pharmacists with general rather than specialized skills. The ICPC philosophy on pharmaceutical care is based upon the literature of Hepler, Strand, Cipolle and others (1,3). The overall intent of the educational initiative continues to focus on equipping pharmacists to interact professionally with their patients in order to identify problems related to drug therapy, propose solutions to such problems to patients and other care providers, implement and monitor those solutions, and finally, document this activity. Indeed, this sequence of professional activities is ICPC's operational definition of pharmaceutical care.

To facilitate the rapid development of an education and training program, pharmacists from 14 pilot pharmacies in Iowa participated in a joint training program conducted by the ICPC faculty and staff from the Peters' Institute for Pharmaceutical Care at the University of Minnesota. Based upon experiences learned in this initial training effort, as well as the results of an earlier pilot study on pharmaceutical care implementation conducted in Iowa by Currie et al. (4), an education and training program designed to assist pharmacists in implementing pharmaceutical care was developed. The curriculum was used and enhanced for over 18 months to assist more than 200 pharmacists to implement pharmaceutical care. In November 1995, the ICPC education and training program was acquired by the American Pharmaceutical Association (APhA). Using the ICPC program as a template, along with input from numerous other individuals involved with pharmaceutical care across the United States, APhA developed a national education program entitled "Positioning Your Practice for Pharmaceutical Care: An Individualized Blueprint for Change" (5). The ICPC employs the APhA program for pharmacist training, but continues to use site-specific implementation support and a variety of supplemental learning exercises.

The ICPC pharmaceutical care education and implementation objectives are:

1. to have professional and technical staff in participating pharmacies adopt the pharmaceutical care philosophy and provide an enhanced level of patient service,

2. to renovate the pharmacy facility to support the provision of pharmaceutical care, and
3. to create a practice environment capable of offering experiential education in pharmaceutical care to pharmacy students.

Table 2 contains the program topics included in the original ICPC education and training program. In general, however, the program content was originally and continues to be directed at:

1. the social and professional *need* for pharmaceutical care,
2. the physical layout, staffing, and facility *changes* needed to deliver pharmaceutical care, and
3. the *process* of delivering pharmaceutical care to patients.

Figure 2 depicts the entire ICPC education and implementation program, a 16-week period of site-specific consultation, regional

TABLE 2. ICPC Education and Training Program

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**ORIGINAL PROGRAM CONTENT**

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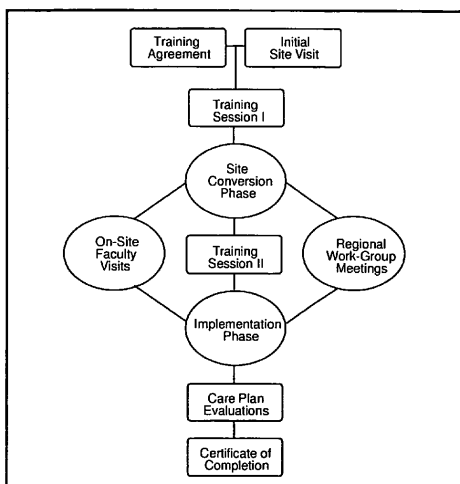
**Session I**

1. Program Overview/Content
2. Site Conversion
3. Technician Roles
4. Drug Information Resources
5. Action Plan Development

**Session II**

1. Pharmaceutical Care Review
  2. Marketing
  3. Drug Therapy Problems
  4. Data Collection
  5. Patient Interviewing
  6. Communication Skills
  7. Drug Therapy Evaluation
  8. Care Planning
  9. Plan Implementation
  10. Patient Monitoring and Follow-Up
  11. Documentation
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FIGURE 2. ICPC Education and Training Program



work-group meetings, and group training sessions. The cycle begins when a pharmacy registers for ICPC training and a faculty member or trained facilitator performs an initial pretraining site visit. This first contact establishes a collegial relationship with practitioners and is believed by faculty members to enhance implementation. During the initial visit, particular attention is paid to current practice patterns, staffing, work-flow patterns, and potential locations for providing patient care. A disorganized work flow or a patient consultation area that is too far from or too close to the

dispensing area often prevents pharmacists from effectively participating in patient care.

Within two weeks of the initial site assessment visit, all professional, technical, and clerical personnel from the practice site are encouraged to attend a two-day training program currently using APhA materials. Typically, staff from eight to ten pharmacies begin training simultaneously, but up to 25 pharmacies have been enrolled in a single group. Objectives for the first training session are:

1. individual participants can clearly define pharmaceutical care and describe the societal and professional needs for its adoption, and
2. each pharmacy has a site-specific action plan for store layout changes, staffing requirements, training schedules, and other resources necessary to deliver pharmaceutical care.

The need for pharmaceutical care is presented from an economic and sociologic perspective based upon health-care statistics and the pharmacy literature. Lectures, exercises, and discussions explore patient issues, health-care economics, professional needs, and the pharmacists' personal sense of practice responsibilities. A well-defined and agreed-upon vision for pharmaceutical care serves as the foundation for participating pharmacists and technicians to meet the challenges associated with implementation of pharmaceutical care. Participants are occasionally overwhelmed by these discussions and voice concerns that must be assuaged by other pharmacists and ICPC faculty. Specific issues for technicians are addressed in a separate breakout meeting that further emphasizes the role of the technician in supporting pharmaceutical care delivery.

A large portion of the first seminar utilizes directed activities to assist each pharmacy systematically evaluate their current work and develop a site specific action plan. In fact, a specific workflow and staffing adjustment method was developed to help pharmacies identify nonjudgmental tasks which can be delegated to technicians and therefore free up time for pharmacists to interact with patients. By comparing current and desired technician contributions to specific dispensing functions, the number of additional technician hours needed to cover dispensing functions previously performed by pharmacists can be estimated. While the process has not been vali-

dated scientifically, the value of the process lies in the objective evaluation of current work activities and philosophical discussion of who is best suited to perform dispensing functions.

Additional resources beyond changes in pharmacy layout, work flow, and staffing are identified in order to support pharmaceutical care implementation and delivery. These may include additional phone lines, fax equipment, office fixtures, drug information resources, and marketing materials. By the end of the first seminar, participants have developed an action plan to re-engineer their practice site and support pharmaceutical care. This interaction between pharmacists, technicians, and clerks has been conducive to the team building required to ensure a successful conversion to pharmaceutical care.

During the eight-week period following the first training session, the pharmacy focuses on the administrative, personnel, and physical layout changes outlined in its action plan. ICPC faculty regularly contact the pharmacy and conduct on-site visits as needed to assure progress. In addition, group meetings with other pharmacies undertaking the conversion process are conducted to provide encouragement, support, and group problem-solving opportunities. By the end of the eight-week conversion period, a patient-care area must be constructed, technical personnel trained in delegated dispensing functions, and resources to assist in pharmaceutical care provision secured. The ultimate measure of conversion success at this stage is the availability of additional pharmacist time which can be used for patient interaction and counseling activities prior to the focused training of the pharmacists in pharmaceutical care.

Following the site conversion phase, a second three-day program, again using the APhA materials, is held to provide instruction in the actual process of pharmaceutical care delivery. The objective of this session is to teach pharmacists to identify drug-related problems, how to resolve them, and how to document their actions. Pharmacists learn patient assessment and data collection methods, as well as communication techniques for successful patient interviews. They are taught a systematic approach to drug therapy evaluation and documentation and given ample opportunities to practice the required skills and are given immediate feedback by faculty trainers. Finally, guidance on difficult communication situations,

reimbursement, and marketing for pharmaceutical care is provided. After completing the second training session, each pharmacist is expected to return to an adequately prepared pharmacy and immediately begin providing pharmaceutical care.

ICPC follow-up activities assist pharmacists to further develop, refine, and advance their patient-care skills. Implementation goals require each pharmacist to document completed pharmaceutical care, including patient specific care plans for a predetermined number of patients over an eight-week period. Submitted care plans are reviewed, constructive feedback attached, and returned to the pharmacists. ICPC faculty continue to contact the site by telephone and make on-site visits to assist with patient identification, therapy evaluation, and documentation problems. Additional meetings with participating pharmacies are also conducted to allow everyone to share and learn from the successes and challenges of others. APhA awards continuing education credit and ICPC awards a certificate of completion when the site is able to provide and document patient-specific pharmaceutical care. ICPC does not offer pharmacist certification or pharmacy accreditation, but participates in state and national efforts to develop standards for initial and ongoing quality assessment.

The costs associated with administering the education and training program as well as the administrative costs for the ICPC are considerable. More than \$300,000 was initially allocated by the IPF to support development and ongoing management of the program over a three-year period. In addition, these initial funds were used to provide the 14 pioneer pharmacies with forgivable loans to help subsidize their individual training and site redesign costs. The loans were considered essential to initiate momentum within Iowa and further refine the implementation methodology.

A very crude estimate of the direct costs per pharmacist to deliver the program is in the range of \$1,000 to \$1,500. The registration fee is set to recover those costs as much as possible and includes five days of live education/training, three practice site visits by the faculty, and three regional workgroup meetings using a statewide fiber-optic cable network. In addition to the registration fee, the pharmacy will have expenses related to site redesign, staff training time, and the addition of technician personnel. These costs can range

from a few thousand dollars to more than a hundred thousand dollars depending on the magnitude of reengineering the site chooses to undertake. Pharmacists are encouraged to seek out any available grant funds to help offset the costs associated with training the implementation.

### ***IMPACT ON PRACTITIONERS***

Individual pharmacists who accept the challenge and begin the difficult process of pharmaceutical care implementation are truly leaders whose vision and effort offer the best opportunity to preserve the profession and define an expanded role for pharmacists in primary care. Considering the magnitude of personal and professional change required, pharmacist-centered barriers can be difficult to overcome.

A common obstacle to implementation is the pharmacist's self-perceived role as a medication dispenser rather than a primary-care provider and the patient's correspondingly limited expectations of the pharmacist. The initial patient encounter beyond traditional counseling or neighborly conversation can be frightening for many pharmacists. Attempting to assume an intensified patient interaction role can be threatening to the pharmacist's self-confidence and professional identity. Education and training, while necessary for acquiring new skills, must be supplemented with appropriate encouragement and support during a very stressful period. Although many external barriers may be credited by the pharmacist as reasons for lack of progress, a personal fear of failure and a sense of vulnerability are more commonly the critical obstacles.

Nevertheless, pharmacists who have successfully transformed their pharmacies and their staffs express a high level of professional satisfaction and optimism for the future of pharmacy. Although concrete data is not available from the Iowa experience, the majority of patients who experience the new level of care typically express renewed appreciation for the pharmacist's ability to assist them with their medication-related needs. Physician acceptance and cooperation, in general, has been very positive and could be described as similar to experiences reported by pharmacists implementing clinical pharmacy services twenty or thirty years ago.

Understandably, financial issues and the present lack of consistent reimbursement for cognitive services also represent a major threat to implementing pharmaceutical care. Reengineering the practice environment requires capital and the ability to delay a return on investment. Poorly capitalized pharmacists who are engaging in a "last ditch" effort to stave off an imminent financial crisis will have difficulty committing the dollars needed for practice conversion. Commitment to patient care and the pharmacy profession appear to encourage pharmacists to assume the financial risk.

Concurrent with pharmacist training and reengineering, the demand for the new services must be created and reimbursement for the service must be pursued. Identification of key stakeholders in the marketplace and subsequently defining the service in terms of their needs is critical. Pharmaceutical care is not a pharmacy phenomenon; it is a need that the marketplace must be made to understand exists. Without a perception of need, very little monetary value can be placed on the product. Individual pharmacies, pharmacists, and pharmacy groups must focus on integration and cooperation to identify and meet that need. Marketing efforts must be comprehensive and continuous and provide evaluative feedback in order to be effective in creating supply and demand for pharmaceutical care.

Clearly, pharmacists will need to make difficult decisions as to whether or not to provide pharmaceutical care services without existing payment vehicles for them. In the current economic climate, those pharmacists who are anticipating a third-party payment mechanism for cognitive services will be disappointed. Although third-party payers have expressed cautious agreement with the need for and logic behind pharmaceutical care, they will reimburse for performance, not good ideas. Other payment sources, including the patients themselves, must be aggressively pursued.

### **IMPACT ON STATE ASSOCIATIONS**

The mission of a state pharmacy association is typically to identify and implement solutions to problems facing the profession and seize upon its opportunities. Accordingly, pharmaceutical care appears to be a proactive strategy for a profession in need of expanded

role definition in order to exist in a rapidly evolving health-care system. The association plays a critical role in bringing practitioners and the colleges together in a collaborative effort that better positions the pharmacist in the health-care marketplace. In this regard, associations are adept at mobilizing the available financial and educational resources, administrative expertise, and political effort to facilitate a full transformation of the profession. In concert with the colleges, associations can provide a support structure and environment for program administration in which faculty can develop and operationalize the implementation of pharmaceutical care. Moreover, by bringing to the collaborative effort its vision and insight relative to the future of pharmacy practice, the association is able to demonstrate to its membership a greater sense of value and purpose.

### ***IMPACT ON THE COLLEGES***

Understandably, devoting faculty resources has budgetary and personnel-related ramifications. From a budgetary standpoint, reassignment of existing clinical faculty can minimize the financial impact. Faculty selection, on the other hand, should be carefully considered. ICPC faculty from each college were selected to develop experiential education and clerkship sites based on their professional interests and skills and existing administrative responsibilities. Although the faculty members do not all have extensive experience in ambulatory or community practice, the varied administrative, marketing, and clinical education backgrounds have resulted in a full complement of skills that have definitely been advantageous. Professional motivation, organizational abilities, prior clinical practice experience, and teaching skills should be carefully considered when selecting faculty to assist practitioners with implementing pharmaceutical care. The Center's faculty have found time management issues to be their most significant encumbrance. Initially, up to a 50 percent increase in the workload of individual faculty is not unusual and much of this effort is expended at night and on weekends. In a sparsely populated rural state such as Iowa, considerable time and travel costs were required in site visits to pharmacies. Balancing ICPC activities with existing college teaching, scholarship, and service responsibilities remains a challenge for ICPC faculty and their academic administrators.

Numerous benefits for the colleges can be readily identified. Renewed and strengthened relationships between practitioners and the colleges may be one of the most exciting long-term benefits of the ICPC which will influence the educational process far beyond experiential training site availability. Both colleges have noted improved relations with their alumni because of the Center's approach of bringing education from the campus into the community. The ICPC definitely has made both colleges more visible and credible with the profession in the state.

ICPC faculty also report a better understanding of community pharmacists and their workplace and continuously infuse the practice perspective into their own university teaching and scholarship activities. Besides offering courses in pharmaceutical care, a renewed sense of purpose and framework from which to teach traditional therapeutic topics has been noted. Various projects ranging from development of community pharmacy based teaching cases, advanced practitioner training, and pharmaceutical care implementation in hospitals are currently underway. More recently, a faculty development session focusing on pharmaceutical care was conducted at one of the colleges in order to facilitate a shared vision for the practice graduating students would eventually enter. Finally, increased demand for therapeutic-based continuing education programs for ICPC trained pharmacists continues to be a welcome challenge.

### **IMPACT ON STUDENTS**

In a very real sense, concurrent education of practicing pharmacists and pharmacy students to deliver pharmaceutical care has begun to occur. By bridging the gap between education and practice, the students perception of the college and faculty appears to be improving. Through coursework and experiential training focusing on pharmaceutical care, some students have indicated renewed optimism for making the transition to practice and excitement about the challenges of a new practice environment. Unfortunately, career opportunities for new graduates to practice pharmaceutical care in community settings is still limited. However, by preparing new graduates to provide pharmaceutical care as well as how to trans-

form or develop new practices, expansion of those opportunities will hopefully occur at a more rapid pace.

### ***LIMITATIONS OF THE IMPLEMENTATION MODEL***

Experience with use of the model suggests that pharmacists can be converted to a pharmaceutical care practice using the philosophies and materials described. However, there are limitations to how broadly applicable the approach will be in converting an entire profession. Some of these limitations may be addressed by enhancing the educational materials. Others appear to be rooted in the character of pharmacists or the nature of pharmacy and are consequently much more difficult problems to resolve.

The ICPC was founded at the urgent request of the profession to help convert pharmacy practice in Iowa. Although ICPC faculty recognized the importance of adequate evaluation of the educational materials and approach, there was insufficient time or manpower to adequately define and evaluate desired outcomes concurrently with educational activities. Consequently, it is difficult to determine which activities are either most or least valuable and which should be augmented or deleted.

Without actual data, the "success rate" of the model is more a function of how success is defined. The majority of pharmacists trained have submitted evidence that they are capable of providing pharmaceutical care. Our observations suggest, however, that the proportion of those pharmacists consistently providing pharmaceutical care on a regular basis to the majority of their patients appears to be considerably smaller. Although lack of reimbursement is a potential cause for a pharmacist not to regularly provide pharmaceutical care, it should also be noted that a variety of other explanations remain to be explored. Pharmacists who fail to completely convert their practices are not responsible to anyone should their initial enthusiasm deteriorate. Other pharmacists have reported becoming frustrated when trying to identify which patients to begin rendering pharmaceutical care to and which patients can most safely forego such care. Still other pharmacists simply may not have the "people" skills to be adequate caregivers.

Finally, it should also be noted that both the original ICPC and

the APhA educational materials assume that pharmacists have an adequate knowledge base in therapeutics and pathophysiology to render pharmaceutical care. The accuracy of that assumption has not been validated. Anecdotaly, most pharmacists are capable of identifying drug therapy problems and carrying out the pharmaceutical care process. However, the magnitude and eventual impact of their solutions to identified problems needs to be further assessed. Quality assurance studies to evaluate both process and content of pharmacists' care plans are currently underway. In the interim, participants in ICPC training are actively seeking continuing education seminars focusing on disease-state management as well as nontraditional Doctor of Pharmacy programs. Consequently, providing practitioners with additional therapeutic knowledge to apply within the pharmaceutical care framework has thus become a high priority for both the colleges and the Association.

An overriding question still remains: what combination of skills, knowledge base, and systems is optimal at converting a pharmacist's practice? After working with community pharmacists for more than three years, it appears that while some answers have been generated, more questions continue to be raised, which suggests that significant research is needed to facilitate transformation of the profession.

### ***FUTURE ACTIVITIES***

ICPC activities primarily focus on site conversion and pharmaceutical care implementation in community pharmacies. Evaluative feedback from participants continues to be very positive. Minimal changes in scheduling and topic sequence has occurred during the last year, but the general content continues to be relevant and well received. Considering the education and training program is now well established, ICPC's developing agenda includes expansion to other practice venues. Conversations with directors of pharmacy in small rural hospitals indicate the necessity of helping these pharmacists convert their departments to a pharmaceutical care model. In other environments, the need to assist pharmacists who practice in nursing homes, home health, and managed-care settings remains to be addressed. A comparative study to develop and evaluate a pharmaceutical care implementation model for hospital pharmacies is currently underway.

ICPC has also begun to investigate areas of commonality with disease management approaches to pharmaceutical care. Once a critical mass of pharmacists with general pharmaceutical care skills has been achieved, ICPC supports disease-management modules to build the existing pharmaceutical care practice. This approach will allow all their patients to receive a high level of care while providing pharmacists with the dependable source of revenue that disease management more readily provides.

A complete move to pharmaceutical care obviously requires public support. Therefore, a plan to publicize and market pharmaceutical care to various "publics" including patients, payers, and other health-care providers is currently under development. A complete educational program and marketing toolkit to assist pharmacists in their marketing efforts has been developed and is currently offered as part of pharmaceutical care training.

The Center has also established a research advisory board comprised of ICPC faculty and social and administrative science faculty at both colleges of pharmacy in Iowa (see Figure 1). The board has identified priority research areas related to pharmaceutical care. Faculty with similar research interests from both colleges can meet to discuss and plan future collaborative work. The board also reviews research proposals to endorse and encourage participation by patients, pharmacists, and pharmacies in those projects which support the research priorities established by the board.

### CONCLUSION

A collaborative effort between pharmacy practice, education, and pharmacist associations in converting community pharmacy practices to a pharmaceutical care provider and training site has benefited the two colleges of pharmacy as well as more than 200 community practitioners in Iowa. In addition, the common goal of advancing the profession and concurrent achievement of organization-specific goals has been facilitated. To obtain further information on ICPC training and organizational issues, interested readers may contact: Jenelle Sobotka, Pharm.D., Director, Iowa Center for Pharmaceutical Care, 8515 Douglas Avenue, Suite 16, Des Moines, Iowa 50322, telephone (515) 271-0713.

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