AACP Commission to Implement Change in Pharmaceutical Education

"Maintaining our Commitment to Change"

Background Paper 5

Introduction
In July, 1995, AACP President Mary Anne Koda-Kimble reappointed the AACP Commission to Implement Change in Pharmaceutical Education. President Koda-Kimble charged the Commission to:

- analyze and assess how the vast changes that have occurred in health care delivery, the pharmaceutical industry, education, scientific discovery, and research since the Commission deliberated six years ago should alter its original observations and recommendations; and
- update and append its original observations and recommendations.

In her Presidential address, the AACP President stated,

Although I believe that many of the Commission’s recommendations remain timely, I am concerned that those of us using the Commission’s work as a template for reengineering our curricula may already be out of step with the future unless we have also considered the impact of these dislocating changes into our planning....The addendum should help us recalibrate our compasses while maintaining our momentum in a climate of accelerating change.

The Commission met in December 1995 and May 1996. It scanned the changing health care environment and examined its impact on pharmacy practice and pharmaceutical education. The Commission concluded that the analysis, conclusions, and recommendations contained in Background Papers I and II, its Position Paper, and the paper, The Responsibility of Pharmaceutical Education for Scholarship, Graduate Education, Fellowships, and Postgraduate Professional Education and Training, remain appropriate, timely, and relevant in today’s environment. Indeed, certain aspects of the Commission’s work are more relevant now than they may have been in 1992 and need more emphasis today.

The forces causing change in pharmaceutical education are many, varied, and growing in number and intensity. Educators are facing threats from two general directions as they seek to define and carry out their missions. First, convulsive market forces are affecting the health care system and, consequently, the practice of pharmacy. Secondly, major economic and political forces are affecting the higher education enterprise and pharmaceutical education in profound ways. The extraordinary pace of change is requiring an unprecedented response from pharmaceutical education.

Environmental Scan
The tangle of causative forces and results that are subsumed under the title of health care reform are confusing and ubiquitous. They are, however, exerting severe pressures on professional health care practice and health professions education. A key to understanding these vectors is a composite view of the changing paradigms in health care. Shugars, et.al. (1) outlined these forces in the following table:
Dynamic Transition in Health Care

<table>
<thead>
<tr>
<th>Current Paradigm</th>
<th>Emerging Paradigm</th>
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<tr>
<td>Specialized Care</td>
<td>Primary care</td>
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<tr>
<td>Technologically driven</td>
<td>Humanely balanced</td>
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<td>Cost unaware</td>
<td>Cost aware</td>
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<tr>
<td>Institutionally based</td>
<td>Community based</td>
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<tr>
<td>Governed professionally</td>
<td>Governed managerially</td>
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<tr>
<td>Acute treatment</td>
<td>Chronic management</td>
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<td>Individual patient focused</td>
<td>Population perspective</td>
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<td>Curative care</td>
<td>Prevention oriented</td>
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<tr>
<td>Individual provider</td>
<td>Team provider</td>
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<tr>
<td>Competition</td>
<td>Cooperation</td>
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As it applies particularly to pharmacy, health care reform is focusing on accountability for professionals’ actions. Because of the historic relationship between physician (prescriber) and pharmacist (dispenser), the prescriber has maintained accountability for the results of pharmacotherapy. That is changing in a reformed system. The philosophy of pharmaceutical care holds that pharmacists assume responsibility (accountability) for patients under their care, and society is not only accepting that assumption, but holding the profession to it (2).

Corporate America is introducing significant competition into the health care marketplace. This is exerting enormous economic pressures on the health professions to become more efficient. Such pressures are already affecting the demand for pharmacists, how pharmacists practice, and how we educate them.

**Manpower: The Impact of Mergers and Technology** -- The most pervasive influence that the introduction of competition is having on pharmacy practice is the demand for pharmacists in terms of numbers and functions to be performed (i.e., skills demanded). Mergers among pharmaceutical manufacturers, hospitals, and pharmacy chains are creating personnel redundancies in newly merged enterprises. Pharmacists are among this excess personnel. This translates into scarcity of employment opportunities and flat or declining salaries. There is every indication that this trend will continue. It is conceivable that as few as six or seven manufacturers and three or four chain pharmacy corporations will survive and prosper in the U.S. as we progress into the 21st century. It is also reasonable to expect that hospitals will be merged into major integrated health care delivery networks, only three or four of which will predominate and compete in any major population area.

Competition is exerting economic pressures on the distribution process of prescribed medicines and forcing a dramatic increase in the number of prescriptions dispensed per pharmacist. Lower reimbursement amounts to pharmacies are forcing them to increase dispensing volumes in order to maintain profit margins at acceptable levels. Pharmacies are increasing their use of technicians and automation as a way to increase their prescription volume and productivity while keeping costs down. If the price of automated prescription dispensing units continues to decline, more pharmacies, including those with relatively low volumes, will be able to afford to employ this labor saving technology.
Nowhere is the impact of automation and distribution technology on the economics of pharmacy practice more evident than in mail-order drug distribution. Automation has made the mail-order prescription distribution business a financial success. In such facilities, relatively few pharmacists (as compared with typical hospital or community pharmacies) supervise the preparation and distribution of thousands of prescriptions per day. Supported by innovations in bar coding and parcel/mail delivery technology, the distribution of prescription medication through the mails is accurate, timely, and efficient. Despite the fact that mail-service pharmacists engage in no face-to-face patient contact, payers are encouraging their beneficiaries to utilize more efficient dispensing, and patients are complying with these incentives. Many mail service pharmacy operations offer patients opportunities to discuss medication questions with pharmacists by telephone.

The result of price competition in pharmacy practice will be a continuing decline in the number of pharmacists required to dispense a given volume of prescriptions. Despite a growing total number of prescription orders generated per year, the trend for more efficient use of pharmacists, technicians, and robotics will lessen the need for pharmacists in this area of pharmacy practice.

New Demand for New Pharmacists -- While managed care economic policies and technologies are decreasing the demand for pharmacists in dispensing, the philosophy is driving a growing demand for pharmacists with a variety of other skills. Some of these skills (e.g., managing drug distribution systems) are traditional to the profession. Others, such as managing drug therapy and preventing drug-related illness, have emerged as the profession’s new vision. Skills, such as managing populations of patients, are new in a profession historically oriented to serving individual patients.

Managed care is becoming aware of the enormous economic toll of drug-related illness and it is actively looking for solutions. Moreover, managed care looks to pharmacy as one of the professions to assume the responsibility to lower the rate of drug misadventures. Acute care institutions, long-term care facilities, hospice care organizations, ambulatory care facilities (affiliated with hospitals, independent or chain pharmacies), and home care agencies are some of the sites where pharmacists will be in demand as care team members to manage patients’ pharmacotherapies. Other practice opportunities exist with physician groups. As these physician groups assume the risk for patient populations (through capitation reimbursement), they will want pharmacists’ expertise to assist in prescribing (within formulary and/or disease management guidelines) and in a cost-effective manner. Although managed care is focused on the cost of drugs per se, there is a trend toward the quality of therapy and its role in saving health care costs over the long run. Physician groups recognize that using drugs appropriately can minimize total cost of care. Examples of cost avoidance include decreased emergency room visits for patients with asthma or those inadvertently over anticoagulated.

However, it is clear that other professions feel confident and competent to function as drug therapy managers and they are moving aggressively to do so. Unless we educate our students and practitioners to assume the responsibility to manage drug therapy, it will be done by others. The pharmacy profession is well positioned to take its place as responsible for the management of drug therapy in revised health care systems because of its history with the preparation, distribution, and use of drugs, its foundation in the biomedical and pharmaceutical sciences, and the support infrastructure of the profession including pharmaceutical education.
Dispensing is Still Pharmacy’s Responsibility -- Notwithstanding the above, it is vital to our understanding of the health care environment to realize that dispensing is and must remain as a responsibility of the pharmacy profession. While fewer pharmacists will be actually engaged in dispensing medication, a sufficient number will continue to do so, especially in rural areas. Moreover, more pharmacists will be managing the dispensing process and assuming responsibility for its quality and outcomes. In so doing, they will be supervising technicians and the complex interplay of personnel, computers, robots, and patients.

Information Technology -- Perhaps the most rapidly changing technology in health care is information technology. How information is obtained, stored, analyzed, and distributed is changing daily. It affects how faculty teach, how students learn, how practitioners provide care, how students and practitioners are assessed, how practitioners are compensated, how they interact with one another, and how patients are treated or treat themselves.

Pharmacy has a rich history of gathering, storing, analyzing, and using data on drug use and outcomes. Computers play critical roles in contemporary pharmacy practice. Pharmacists appear to be the most computer literate of all health professionals. It is important that the profession, with the support of pharmaceutical education, stay on the cutting edge of information technology so that breakthroughs can be applied quickly and efficiently.

Opportunities Abound -- While change generates threats, it also produces enormous opportunities. Pharmaceutical education shares a responsibility with the profession to identify practice opportunities, assess them, test them, and demonstrate pharmacists’ potential to fulfill them successfully. Moreover, schools have the obligation to assure that managed care groups recognize the value that pharmacists can bring to their programs. Pharmaceutical education must assist the profession to document the value of pharmaceutical care in managed care environments. It must provide clinical assistance or back up to practitioners, train practitioners to reengineer their practices, and provide to practitioners the opportunity to develop the clinical skills needed to provide pharmaceutical care. Schools and colleges of pharmacy should create prototypes with practitioners to establish and evaluate practice models that could be used within evolving health care environments in rural, suburban, and urban areas.

Clinical faculty who provide patient care must have the same responsibilities to document the outcomes of their care that will demonstrate the value of their practices. Moreover, they must consider seriously reengineering their own practices as they assist other pharmacists in reengineering theirs.

Pharmaceutical Care to Individuals or Populations? -- One commentator (3) in managed care expressed the view that the majority of pharmacists’ time in such settings will be involved with serving populations of patients rather than individuals. This so-called “population-based pharmaceutical care” was extolled as the future of the profession and the most significant contribution that the profession can provide to society. Under this arrangement, pharmacists would use demographic and epidemiological data to:

- establish formularies;
- develop and monitor pharmacy policies;
- develop and manage pharmacy networks;
- prepare and analyze reports of drug utilization/costs;
- operate drug utilization review programs;
- contribute to managed care organizations’ quality management programs;
- educate members on drug benefits and use;
- educate providers on drug policies and procedures;
• identify patients/providers who use drugs inappropriately; and
• work to change behavior of individual patients and providers.

These are important functions that need to be performed in managed care, and pharmacists are uniquely qualified to perform them. “Population-based pharmaceutical care” can detect where drug-related problems are occurring. It can identify patients and drugs that need special attention within specific systems.

Without individual pharmaceutical care, however, no system can effectively manage drug therapy and control drug-related illness. Clearly, population data analysis can provide critically needed information to physicians, nurses, and pharmacists as they deliver their care to individual patients. The population-based functions identified above occur either before or after patients are seen but cannot substitute for patient-specific services while patients are being seen. Drug-related illnesses occur frequently with drugs that are already in a system’s formulary. Formulary drugs are prescribed, administered, and used inappropriately. Patients need pharmacists’ services at the time they are receiving care. This is when drug therapy decisions are made, when patients are informed of their therapies, and when patients are educated about how to use their therapies and the importance of complying with therapy. This is when critical patient monitoring activities occur. This is where and when pharmaceutical care needs to be provided. Successful pharmacotherapy is specific for each patient.

Higher Education Environment -- As changes are occurring in the health care environment, changes are also taking place within higher education. There has been a perceptible decline of state support for institutions that have traditionally depended upon such support. At the same time, federal support for research is threatened. There is growing public skepticism of faculty and their teaching responsibilities. The nature of the student body is changing. In pharmacy, the demographic nature of entering classes is changing. Students are older; a growing number have degrees in other fields, and the ethnic mix of students is becoming more diverse.

The growing public skepticism of higher education is one of the driving forces behind the outcomes assessment movement. For all in higher education, including schools and colleges of pharmacy, assessing the outcomes of their educational programs contributes to continued assessment of quality and clearer definitions of what quality in pharmaceutical education is. The process involves defining the appropriate educational and programmatic outcomes of curriculums (see Background Paper II [4]), gathering data related to these outcomes, and assessing the extent to which the program is achieving those outcomes. Corrections (if needed) in courses, sequences, teaching strategies, and related activities are necessary follow-ups to these assessments.

Experiential education is changing because of downsizing and restructuring of health care institutions where clinical training had occurred. The shift of care from acute, institutional care to chronic, ambulatory care is having an enormous impact on locating teaching sites. Information technology has broadened avenues of personal interaction; it offers the possibility to facilitate patient communication, faculty mentoring, and professional education. Today, learning occurs through on-line communication between faculty and students. Moreover, advances in information technology are making scientific information and data more available to practitioners. As the classroom is expanding into the virtual classroom, so is the medical library expanding into the virtual library.
New, powerful purchasers may begin to demand that pharmacy schools educate/train students with specified abilities. As has occurred in other fields, it is possible that a large purchaser of pharmacist talent may initiate its own pharmacist educational program to prepare practitioners to its specifications efficiently and quickly. Employers are already demanding educational programs specific for the practitioners that they employ.

**Quickening the Process of Curricular Change**

Pharmacy faculty and administrators have been responding positively to the Commission’s prior background and position papers related to curricular change. However, with the pace of change accelerating, the Commission is concerned that curricular revisions are not occurring fast enough to keep abreast or ahead of environmental change. The recently concluded AACP Institute for Curricular and Pedagogical Change provided a needed boost for faculties and administrators. Unfortunately, not all schools were able to attend. The Commission earnestly hopes that all schools will participate in future Institutes. The Commission believes strongly that the pace of curricular and pedagogical change must be ahead of or at least abreast of the pace of environmental change. We owe it to our students, to our practitioners, and to society.

Flexibility is necessary for successful curricular management in times of rapid change. In the past, faculties could revise their curriculums leisurely and revisit them at lengthy intervals. Today, faculties must build flexibility into their curricular revision structure and process so that they may be changed promptly and efficiently to meet the challenges of major paradigm shifts in the health care environment.

This requires that faculties be proactive rather than reactive. They must constantly analyze the environment, envision potential roles for pharmacists in that environment, and identify new skills and qualities that will be needed by pharmacists over their careers. This can only work if faculties maintain constant and vigilant scans of their environments. As stated in the preamble of AACP’s Strategic Plan:

> Social, economic, technical, political, demographic, and health care environments are changing at an ever increasing pace. Schools and colleges of pharmacy and their faculty need access to the latest information about and analyses of these changes to make sound decisions.

AACP must assist schools by providing national scan data so that they may add local data to complete their scans of their regions.

**Teaching and Learning Processes**

Background Paper II (4) dealt extensively with the teaching and learning process and the need for faculties to examine not only what they teach but, more importantly, how they teach it and how students learn. The Commission continues to believe that schools must facilitate changes in the ways that faculty teach.
It is absolutely critical that faculties develop and implement the educational plans and strategies to change students from dependent to independent learners as early as possible in their educational careers. Indeed, faculties may select students for entrance into pharmacy programs based, in part, on their self-learning abilities. If anything is a given, we know that our graduates will need the ability to assess their environments, to identify opportunities, and to implement changes in their practices and careers over time. It is, therefore, more important than ever that we apply methods of teaching that encourage independent learning.

It is evident from conversations with faculty from pharmaceutical and other areas of higher education that students offer considerable resistance to efforts to change them into independent learners. However, such a change is necessary if they are to succeed in a practice world where success will come to those who will have the most current knowledge and skills and the foresight to apply them.

Background Paper II (4) outlines a variety of teaching strategies, such as small group discussions, peer teaching, recitation, simulations, computer-assisted instruction, and experiential education. The decision regarding what strategy to employ and when to employ it should come as a result of the curricular planning process in which the interests and abilities of faculty to use different teaching strategies is measured against the perceived value of different methods at specific times in the curriculum to facilitate student achievement of specific outcomes.

**Experiential Education**

Experiential education continues to evolve in pharmaceutical education. Only three decades ago, pharmacy curriculums contained no experiential education. Today, students are exposed to patient care and pharmacy practice in clerkships, externships, and internships. Schools and colleges of pharmacy have built substantial educational structure into their clerkship and externship experiences. Some educational researchers continue to experiment in efforts to improve the educational quality of experiential education. Some pharmacy and medical schools are experimenting with model patients and clinics as methods of delivering experientional instruction. Other researchers are experimenting with standard patients, role playing, and virtual experiences utilizing sophisticated computer technology. These experiments should continue and pharmacy faculty should assess their outcomes.

Experiential education ought to reflect contemporary practice experience in a variety of settings. Because of the increasing costs of experiential education, educators are examining various alternatives to student-patient interactions (e.g., standardized patients). The Commission cautions that while newer approaches, such as standardized patients, might add value to an experiential curriculum, they do not replace the actual encounter of a student with an ill patient.

Service learning, in which students engage in experiences (provide services) that involve contact with the public (patients), is growing as an educational strategy in pharmaceutical education. In these rotations, students (usually early in their pharmaceutical education careers) work in community, church, or private agencies that provide custodial or day care for people. This affords students an opportunity to relate to people who are not feeling well or otherwise are compromised. It is one strategy to introduce the concept of caring as well as the social context of students’ work into the curriculum. If other professional schools have their students in service learning, it also becomes an opportunity to introduce interdisciplinary or interprofessional team learning early in the curriculum.
The ability to function effectively within a team is an important educational outcome in preparing health professionals, and experiential education is the place in the curriculum where interprofessional education and training should occur. As curricular change mandates increased clinical education, schools and colleges are finding it difficult to locate sufficient sites for experiential education. Managed care offers one opportunity especially if interdisciplinary teams of students can learn in various managed care rotations. While it seems that managed care has yet to appreciate the value of educating health professional students in these settings, schools of pharmacy, medicine, and nursing should collaborate to present persuasive evidence of such value.

Experiential education will continue to be a substantial and critically important part of the pharmacy curriculum. While we have depended on practitioner educators in the past to provide a vast portion of experiential education, the changing nature of practice, and the economic pressures on traditional teaching institutions leads the Commission to conclude that schools and colleges of pharmacy will be required to seek out preceptors in practice sites heretofore not used for this purpose.

Until recently, managed care companies have been reluctant to expand their mission to include education. However, there are notable exceptions where students receive quality education in such sites under preceptors employed by those institutions. More managed care institutions need to understand the value that they can receive by associating themselves in educational and service partnerships with schools and colleges of pharmacy. Moreover, students need to understand the concepts of managed care, and learning in that environment is the best method for acquiring that understanding.

Regardless of where experiential education occurs, it is clear that sites and experiences will become more diverse. Moreover, schools should concentrate on upgrading the educational skills of their preceptors by offering formal training programs in both on-site and distance learning formats.

Practitioner Education

The profession has adopted pharmaceutical care as its vision with enormous energy. As practitioners move toward the vision, they are generating substantial demands for educational programs to equip them with the clinical and managerial skills to provide pharmaceutical care. The profession needs the support of its education component if it is to maintain this momentum. The active collaboration of schools and colleges of pharmacy and practitioner organizations in Iowa and Minnesota are examples of the type of help schools can offer their practice colleagues. In these states, faculty documented the value of pharmaceutical care, assisted practitioners to reengineer their practices, and are assisting them to acquire the clinical skills to deliver quality pharmaceutical care.

Many schools are offering nontraditional educational programs to practitioners through which they may acquire additional knowledge and clinical skills. An increasing number of these programs are of sufficient length and rigor that students can earn a Pharm.D. degree. The Commission encourages all schools to consider offering this option to practitioners or to participate in a consortium of schools that will offer such programs.

It is clear that pharmaceutical education must move beyond traditional continuing education if it is to adequately serve the needs of the profession. The reader is directed to the Commission’s paper, The Responsibility of Pharmaceutical Education for Scholarship, Graduate Education, Fellowships, and Postgraduate Education and Training (5), for the Commission’s views with regard to practitioner education.
Educational Outcomes
The Commission envisions a health care future in which most pharmacists will practice within organized systems of care delivery evolving as a result of the lessons learned in today’s managed care experiments. The majority of care will be provided to patients who are ambulatory or cared for in their homes. The telephone and the Internet will play major roles to assess patient status, obtain data, and deliver care. Many pharmacists will practice in large, multispecialty groups with physicians, nurses, and other providers. Regardless of where and with whom pharmacists will practice, the fact that they will practice largely within managed environments determines some of the knowledge and skills (abilities) that pharmacists should possess upon graduation. The Commission has reorganized the educational outcomes from its Background Paper II (4) into six broad categories in the context of a practice future controlled by managed care philosophies. The statements within parentheses refer to the educational outcomes contained in Background Paper II. The careful reader will note that these entry-level educational outcomes are not entirely new to pharmaceutical education.

Understand health care policy, organization, financing, regulation and delivery -- It is critical that graduates understand the complexity of health care and the influence of economics in the organization and delivery of care. Students should understand the importance of pharmacy, pharmacists, and pharmaceutical care in the health care system and the impact that economic forces are having on the profession. Moreover, students should be able to understand systems of care including forces of change within health care, strengths and weaknesses of various systems, and how the implementation of pharmaceutical care can improve the quality and efficiency of health care delivery. Students should be able to use information to identify potential new roles and implement change in their own practices and careers. (Personal awareness and social responsibility, participate in policy formation/professional governance)

Participate in multidisciplinary teams to provide care and develop clinical practice or disease management guidelines -- Graduates must have skills to collaborate effectively as team members. Key is the ability to communicate with professional peers who have different orientations to the provision of care. Communication encompasses the transmission of information in a clear, logical, and confident manner, the ability to dissent with respect, and the confidence to acquiesce. Graduates must understand the importance of and possess the skills to document findings, views, recommendations, services, and outcomes. Moreover, graduates must possess initial skills to develop drug-use protocols; they must have experience in managing drug therapy under protocols; and they must have the ability to evaluate the health outcomes of their interventions.

Utilize various information systems to maintain and retrieve patient data and to communicate with other health professionals -- Graduates must be computer literate. They must know about and understand the value of integrated databases to the quality of care; they must possess the initial skills to utilize and integrate databases to reach decisions. They must be able to retrieve information from databases and the Internet. Graduates must have the ability to communicate with supervisors, professional colleagues, and patients electronically; and they must be able to use the Internet or similar data networks as tools for learning, teaching, and communicating with peers, patients, and supervisors.

Graduates must possess the beginning skills to recognize, document, and assess outcomes of their care and the care provided by their teams. They must be prepared to utilize various information systems for maintaining patient data and communicating with other health professionals. (Communicate/teach/educate/collaborate)
Graduates must be able to comprehend and conceptualize data sets, bring together data from a variety of sources, compile and integrate population-based data from multiple sources and use population data to develop or recommend policies for the health care practice as well as to influence individual patient care. (Thinking abilities, communication abilities)

**Determine the most cost-effective therapeutic plan** -- Graduates must be able to analyze drug and therapeutic plan costs in order to recommend the most appropriate cost-effective plan. New practitioners must understand the contribution of drug and drug delivery costs to the overall costs of care. They must be able to factor the costs of treatment failures and adverse drug effects into overall health care costs. New practitioners must have experience in caring for patients who are using non-drug therapies and nontraditional drug therapies (e.g., herbal).

The use of economics in a therapeutic decision raises the potential for ethical dilemmas that may interfere with or prevent sound decision making. New practitioners must have an appreciation for and some experience with resolving ethical problems in pharmaceutical care. The importance of values and ethical principles was addressed in the Commission Background Paper II in its discussion of general outcomes that underlie the education of a professional person and citizen. (Thinking abilities, professional outcomes/competencies/practice functions)

**Participate in population-based treatment, prevention, and education programs** -- Graduates must understand the use of epidemiological data and possess initial skills in using these data to develop treatment guidelines and programs, prevention strategies, and educational activities for populations. (Professional outcomes/competencies)

**Understand and appreciate cultural diversity**-- Graduates should, when feasible, have experience in delivering pharmaceutical care to patients of ethnic backgrounds different from their own. (Personal awareness and social responsibility, facility with ethical principles)

Schools and colleges must recognize that as the demographic nature of the population is changing, so is the demographic pattern of the students who are applying for entrance into pharmacy programs. This recognition will require schools and colleges to examine their teaching processes to assure that they are the most effective in facilitating learning among members of a changing ethnic population of students.

The Commission encourages schools and colleges of pharmacy to build into their new curriculums methods to evaluate the extent to which they achieve their educational outcomes. Such information is useful to faculties as ways to continually assess the quality of their curriculums and to improve their programs.

**The Need for Experimentation and Risk Taking**
In times of turmoil and change, those who succeed are generally those who are willing to experiment with new approaches to problems and take risks. Pharmaceutical education is no different. Indeed, the Commission is impressed with the degree of curricular innovation and experimentation that is occurring in schools and colleges of pharmacy. It is important that we continue to search for new ways of doing things, to take risks, and to learn from our successes and mistakes.
However, in a scholarly academy, it is not sufficient simply to conduct experiments or take risks. There must be a high degree of rigor associated with the experiment, results must be valid, the process reviewed by peers, and the results reported to the academy. This is the only way that the academy will accept and use new systems or methods.

The culture of curricular and pedagogical experimentation is relatively new in pharmaceutical education. Yet, it is critical if we are to accelerate our process of curricular and pedagogical change. Support of school administration is essential. Administrators must attach value to curricular experimentation and risk taking. It is such leadership that will create the environments necessary to support experimentation in the face of ambiguity.

Impact of the Commission’s Work

There can be no doubt that the Commission’s work was, and continues to be, a stimulus and ferment for change in pharmaceutical education. This is as the Commission desired. Early in its discussions, the Commission concluded that its work would be in vain if it did not produce significant and timely change.

As a result of the 1992 AACP Annual Meeting, in which the Association adopted significant policies affecting the future of pharmaceutical education and the profession, a substantial increase in the number of schools offering the Pharm.D. as the sole professional degree occurred. In 1992, 14 pharmacy schools (19 percent) offered the Pharm.D. as the sole first professional degree. As of fall 1995, 37 percent of schools were admitting students into all-Pharm.D. programs. In fall 1996, that percentage is over 50 percent. Seventy-five percent of all schools and colleges have declared their intent to move to an all-Pharm.D. educational program.

Similar energies have been directed toward changes in curricular vision, content, and structure. In 1992, AACP organized a visitation program to assist schools with their change agendas. By the end of 1995, 25 schools had availed themselves of this service. AACP offered programs on curricular and institutional change at its Annual Meetings, Interim Meetings, and Academic Management Symposia (AMS). Curriculum committee chairs began meeting as a special interest group within AACP; interim meetings focused on curriculum revision and evaluating teaching; and the 1995 AMS program dealt with instituting and managing change. Twenty-five schools sent five-member faculty teams to the 1996 AACP Institute on Curricular and Pedagogical Change to develop school-specific plans for curricular change.

While the bulk of the discussion and debate surrounding the Commission’s 1992 policy recommendations focused on those concerned with the entry degree, the most significant recommendations, from the Commission’s viewpoint, concern those related to the educational outcomes of the professional curriculum, the need for prompt and extensive curricular revision, and the need to change the process of teaching within the curriculum. In fact, the activity in most schools since 1992 has not focused on degrees but has been directed toward curricular change based on educational outcomes.
Conclusion
Despite the momentous changes that are occurring in health care, Background Paper II (4) remains relevant to pharmaceutical education. The Commission encourages all schools and colleges of pharmacy to accelerate their plans to revise their curriculums based on the recommendations contained in its previous reports. Health care reform is focusing on educational outcomes that, while mentioned in Background Paper II, may not immediately stand out to faculty as being important. We attempted, in this addendum, to focus on those educational outcomes and strategies that are important in preparing pharmacists to provide pharmaceutical care in a changing health care market dominated by managed care philosophies.

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References


