

Are We Delivering on Our Promise to Society to Assure the Safe Use of Medications? Educating Pharmacists to Continue Adding Value to Health Care. Report of the 2000-2001 Argus Commission

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INTRODUCTION

In the tradition of Argus, the many-eyed mythological being, this year's commissioners scanned the current environment, identified major forces that may affect pharmacy practice and pharmacists roles, and — in the context of today's realities — proposed three possible futures for pharmacists over the next decade. At its conclusion, the commissioners reflected on the value of this exercise relative to their local situations and the implications of their thinking for the academy as a whole. This report reflects the conclusions of a single group's wide-ranging, yet in the end, focused discussion. In view of local and regional variations in educational focus, health care delivery, and regulatory environments, we believe similar, periodic exercises conducted at each college or school among small groups of faculty, students, and practitioners could do much to:

- help faculty revalidate or readjust educational directions, including educational process and content;
- involve students in a process and provide them with a model by which they can think about their futures, focus their life-long learning, and become more effective change agents; and
- create an environment and process where faculty, practitioners, students, and other stakeholders can come to consensus about their core purpose and practice expectations.

WHAT ARE THE MAJOR FORCES THAT WILL AFFECT PHARMACY PRACTICE AND THE ROLE OF PHARMACISTS?

The following social, economic, and demographic forces will affect

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pharmacy practice and pharmaceutical education in profound ways:

- the aging of the population and the increasing number of “baby boomers” who want to stay healthy;
- the increasing number of prescriptions generated due to (1) the growing number of people with chronic diseases, (2) the use of medications to enhance health, (3) direct-to-consumer advertising of prescription medications, (4) access to drug insurance benefits, and (5) the availability of new and novel medications;
- shifting consumer emphasis to their own self care;
- the continuing shifts of prescription medication to nonprescription status;
- increasing costs of health care and medications that are likely to result in changes in access to and reimbursement for health care and drugs;
- increasing risks of pharmacotherapy;
- growing practice of restricting the use of specified drugs to certain providers or sites;
- increasing sophistication of information technology and automation as it pertains to — for example — health care delivery, drug information, medication alerts, drug prescribing, and drug dispensing;
- increasing availability of health care, medical information, and drugs through the internet;
- increasingly diverse population; and
- the growing demand for pharmacists in all sectors of the health care system

WHAT ARE THE CURRENT REALITIES IN PHARMACY PRACTICE THAT MUST BE TAKEN INTO CONSIDERATION?

Pharmacy Workforce

- There is currently a shortage of pharmacists and there will be a shortage for the foreseeable future. The growth in the supply of pharmacists has not kept pace with the growth in practice opportunities. Moreover, if prescription volume is used as a proxy for pharmacist demand, the growth in the number of pharmacists (4-5 percent) will not match the projected annual increase of 15-18 percent over the next three years, even though the number of pharmacists in the workforce has been increasing at a rate greater than the increase in population(1).
- The preponderance of females entering the field suggests that more practitioners are likely to work part time or will move in and out of the workforce, especially during their childbearing and childrearing years (2).
- The new PharmD curriculum has changed the type, competencies, and practice expectations of pharmacy graduates. More mature students with broader life experiences are entering colleges and schools of pharmacy. The focus on student learning in colleges and schools of pharmacy; the increased proficiency of graduates as agile, competent problem-solvers; and the enhanced depth and breadth of pharmaceutical and health care education and experiences has created a graduate with enhanced professional confidence and vision. This, in turn, has expanded opportunities and increased the demand for these graduates in nontraditional environments, further exacerbating the workforce shortage in all settings.
- Market analysis of the next wave of students/practitioners (Generation Y, born after 1978) suggests that these individuals are socially conscious and achievement oriented. They will want practice and employment opportunities that are meaningful, fun, team oriented, and which provide continual learning(3).
- Some employers and health care practitioners are beginning to differentiate between PharmD/clinical pharmacists and “other” pharmacists and to distinguish among pharmacists with differential training and skills sets.
- There is a trend toward regulation that allows increased use of ancillary personnel and technology in the dispensing process, as well as centralization of the drug dispensing process.
- While the number of pharmacists continues to rise (112,600 in 1970

to 196,000 in 2000) and while the pharmacist to population ratio continues to grow (56.1/100,000 in 1975, 64.1 in 1985, and 71.2 in 2000), evidence shows that in today’s environment, pharmacists have inadequate time and space to provide pharmaceutical care to the population in a satisfactory manner(1).

Pharmacy Practice

- Community pharmacies and pharmacists are strategically located within the community and are a convenient healthcare resource for the public.
- Pharmacists continue to be responsible for the oversight and management of distribution systems that assure accurate dispensation of prescribed drugs.
- The Commission believes that pharmacists do not consistently provide an ideal or mandated level of patient counseling/education and follow-up to assess appropriate use and outcomes of drug therapy (pharmaceutical care) in most practice settings. The current workforce shortage of pharmacists, prescription volume, administrative activities undertaken by pharmacists in processing prescriptions, regulatory constraints on pharmacy practice, administration resistance, and the differing nature of practice sites are some factors that contribute to this situation.
- Pharmacists practicing in institutional, closed managed care systems and other health care systems are embraced as important members of the healthcare team. This is in contrast to most pharmacists practicing in community settings, who lack physical or virtual access to shared data so critical to team delivery of healthcare.

WHAT IS THE CORE PURPOSE OF THE PROFESSION?

How do pharmacists add value to the nation’s health care? Are we meeting our mandate to protect public safety with regard to medication use?

- Pharmacists have been mandated by society to assure patient safety by identifying and preventing potential prescribing errors and adverse events (drug/drug interactions, drug disease interactions, etc.). In a “values research” study sponsored by the National Association of Chain Drugstores (NACDS)(4), consumers most valued pharmacists for catching mistakes, providing advice and counsel on taking prescription and OTC medicines, and working with physicians. These attributes were very important to them because they felt lives would be saved, there would be no adverse reactions, medications would be taken properly, and people would get better. Another study by Leape, *et al.*(5) demonstrated the value of the pharmacist in improving the quality of care provided in critical care units. Similarly, the Institute of Medicine(6) recommended that pharmacists be more involved with drug therapy as a way of reducing the tragic level of drug-related illness due to medication errors.
- The current uncoordinated system of care, lack of a shared medical record, increased volume of drugs dispensed, increased potency and potential toxicity of available drugs, and self-medication, combine to create an enormous potential for adverse drug events is enormous. Consolidation of drug history records within pharmacy information systems offers the best potential for identifying and preventing potential drug-related problems. The pharmacist’s extensive education in all aspects of drugs (chemistry, biology, action, product development, therapeutic use, and policy), access to patient and drug information, and ability to interact with healthcare providers and patients, potentially allows him/her to evaluate drug doses, interactions, and use.

MOST LIKELY FUTURE SCENARIOS

In view of societal expectations, the limited pharmacist manpower situation, and current forces of change, what future scenarios would place the pharmacist in the most cost efficient positions to add value to healthcare AND to maximize the safe use of medications? Clearly, these may not be mutually exclusive.

Scenario 1: Pharmacists provide focused, stratified, individualized care based on standardized criteria that assess patient risk for drug misadventures. Care may be provided in person or at a distance and is likely to be decoupled from the dispensing process.

Scenario 2: Pharmacists are an integral part of the healthcare team/system. Pharmacists participate in designing drug-use protocols. Using large population databases, pharmacists assess drug utilization patterns against evidence and design interventions that promote the best use of medicines.

Scenario 3: In pharmacies/operations primarily responsible for dispensing large volumes of prescriptions, the responsibility of the pharmacists present will be to oversee a process/system/people that prepare accurate prescriptions. This “type of” pharmacist will be viewed as a drug distribution manager. Far fewer pharmacists will be involved in any direct aspect of prescription preparation.

IMPLICATIONS FOR THE ACADEMY

The commission affirms that inexorable and unpredictable changes in the healthcare environment will continue to create a bright but amorphous future for pharmacy. As in all analyses of these environmental factors, there is the possibility of expanded or markedly contracted opportunities for the profession. It is our view that every faculty, practitioner and student must be armed with the skill to grapple with change for the purpose of continually assessing the directions of our curricula and practices. By stepping back, looking ahead, and making mid-course adjustments in direction we maintain the currency and focus of our own life-long learning. By identifying the gaps between current reality and the future, while keeping our core purpose in mind, we are in a stronger position to influence and direct change. This is nothing more than the practice of continuous quality improvement (CQI). We believe that a CQI process is essential for the ongoing successes of our schools, faculty, students, and practitioners.

RECOMMENDATIONS

Recommendation 1: In light of each school’s unique environment and constituent groups, the commission urges each school to incorporate an exercise that addresses forces of change, current realities, core purpose, future realities, and personal action steps into its process for continual self assessment and quality improvement. Examples of questions that we might ask ourselves are:

- What are the major forces of change?
- What are the current practice realities?
- What are the core/unique competencies of pharmacists that add value to health care?
- What are the future scenarios that most effectively use pharmacists to enhance healthcare and ensure safe medication use?

- What are the gaps between the present in the future?
- What action steps can I, the college, or the profession take to achieve a desirable future(s)?

Recommendation 2: The commission strongly urges each school to incorporate a similar exercise into their curriculums as a capstone experience for advanced pharmacy students. Such an exercise could be enriched by the inclusion of practitioners and faculty.

Recommendation 3: In view of the amorphous and unpredictable future of pharmacy, the commission urges faculty to provide flexibility within the curriculum to allow students to pursue electives congruent with their interests and personal strengths. A breadth of professional experiences outside the formal curriculum can also enlarge our students’ vision for their roles as pharmacists over their careers.

Recommendation 4: The Commission recommends that AACP initiate and stimulate discussion, both within the academy and with the health care professions, that leads to standardization of the thought processes and practices critical to insuring the safe and effective use of drugs in and by patients. A consensus on “Pharmacy Standards of Practice,” independent of practice setting would be an excellent beginning. In time, as healthcare continues to evolve, other health professions, society and policy makers would have a much clearer expectation of pharmacist contributions to patient outcomes. The academy also would have a more rational basis for designing a curriculum that has as one of its outcomes, preparation of a pharmacist who plays a key role in minimizing drug misadventures.

CONCLUSION

Using the scenarios and questions described above, panels of faculty, practitioners, students, or combinations of these will be able to engage in critical discussions about the future of the profession and, in the process, learn much about themselves and their futures.

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