



**The Academy's Agenda for Improving the Safety of Medication Use  
Report of the 2006-2007 Argus Commission**

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*Acknowledgement:* The Argus Commission gratefully acknowledges J. Lyle Bootman, Dean, University of Arizona College of Pharmacy, co-chair of the Institute of Medicine (IOM) Committee on Identifying and Preventing Medication Errors and editor of *Preventing Medication Errors* for his assistance and guidance.

The American Association of Colleges of Pharmacy (AACP) Argus Commission comprises the five immediate past presidents of the Association. This Commission is named for a mythological being attributed to be all-seeing. These leaders serve the Association to scan the environment and interpret implications for policy and action. The Commission also convenes at the request of the standing AACP president to offer their views and analysis on focused areas. AACP 2006-07 President Marilyn Speedie asked the Argus Commission to review and discuss the most recent report in the Institutes of Medicine (IOM) Quality Chasm Series: *Preventing Medication Errors*.<sup>1</sup> The Argus Commission specifically was charged to analyze the report and discern the implications of the report's recommendations on the Association and its member institutions.

Given the impact that the Quality Chasm series has had on healthcare policy and education, it is imperative that the academy is prepared to take a leadership role in responding to the call for action on the safety of medication use. Pharmacy education recognized the need for more proactive medication management over a decade ago and has completed the process of transitioning all pharmacy graduates to professional education at the doctoral level. Doctor of Pharmacy degree program accreditation standards<sup>2</sup> adopted in January 2006 and implemented July 1, 2007 fully embrace the five core competencies articulated in the IOM report, *Health Professions Education: A Bridge to Quality*. Specifically, all health professionals should be educated to provide patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement and using informatics.<sup>3</sup>

## **BACKGROUND**

In 1996 the Institutes of Medicine launched the Quality Chasm Series, a series of reports focused on assessing and improving the nation's quality of health care. Responding to the key messages in earlier

volumes of the series (i.e., *To Err Is Human* (2000), *Crossing the Quality Chasm* (2001), and *Patient Safety* (2004)), the latest publication, *Preventing Medication Errors*(2006),<sup>1</sup> sets forth an agenda for improving the safety of medication use. This latest report provides an extensive overview of the system for drug development, regulation, distribution, and use. *Preventing Medication Errors*<sup>1</sup> also examines the peer-reviewed literature on the incidence and cost of medication errors and the effectiveness of error prevention strategies. The report provides action agendas detailing the measures needed to improve the safety of medication use in both the short- and long-term. The message is targeted to all stakeholders in the medication use system including patients, providers, payers, policy makers, regulators, and educators.

## **ACADEMIC PHARMACY'S ROLE**

Academic pharmacy can address the problem by engaging partners (students, patients, practitioners, policy-makers and others) and assuming leadership in education; research (setting the research agenda, advocating for funding, and promoting the expertise of pharmacy faculty researchers in this critical area); and practice (creating broad-based service models). Several key recent environmental factors that will have an impact:

- The language of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 provides for development of payment models for Medication Therapy Management Services (MTMS). Refinement of the evolving payment models is likely to expand the availability of pharmacist-provided medication management services to the general population. Providers under these models will likely be compensated by other payers as well.
- Proliferation of onsite community pharmacy clinics may provide the potential for interdisciplinary practice and pharmacist access to the patient's medical record.
- Evolving technology for communication, drug/medical information access and order fulfillment likely will provide additional opportunities to enhance the quality of medication use.

**Policy Statement:** AACP supports research, education, and development of practice models to promote safe medication practices as the standard of care in all practice settings.

### **Education**

Pharmacy education is specifically committed to strengthening the curricular content of the Doctor of Pharmacy program in the following areas:

- Patient-centered, culturally proficient care and medication use safety;
- Interprofessional education and practice;
- Design of medication use systems and use of technology in the delivery of pharmacy services, including informatics;
- Evidence-based care; and
- Effective communication skills to promote improved provider-patient communication.

Graduates must be culturally competent and able to educate patients about their condition and medications in a way that they are able to understand and apply the information to maximize optimal health outcomes. Pharmacists should be prepared to take leadership roles for medication safety in practice environments.<sup>4</sup> Pharmacy students need to internalize their ultimate responsibility for patient medication safety. Advanced practice experiences and residencies can be designed to achieve these goals. Such programs would benefit from collaboration with other disciplines such as medicine and public health.

**Recommendation 1.** AACP should continue to encourage development of shared evidence-based curricular resources on patient safety and encourage innovations in building interprofessional models for teaching patient safety such as through the annual "Innovations in Teaching" competition.<sup>5</sup>

**Recommendation 2.** Academic pharmacy, in collaboration with the profession, should create and support postgraduate education and training programs (PGY-2 residency and fellowship programs) in patient medication use safety/quality improvement to prepare pharmacists for leadership positions of responsibility for ensuring medication safety in community and health-system practice.

**Recommendation 3.** Pharmacy practitioners and academicians should assist in evaluating residency standards to ensure that residency-trained pharmacists are prepared for a leadership role in medication error prevention and resolution.

**Suggestion 1.** Academic pharmacy should reinforce the ultimate responsibility of graduates for the safety of medication use by patients through vertical curricular integration of knowledge on the safe and effective use of medications throughout the professional program.

**Suggestion 2.** Colleges/schools of pharmacy should enhance interprofessional education as a means for increasing interdisciplinary practice and understanding across the health professions about preventing medication errors and improving safe medication use.

**Suggestion 3.** Colleges/schools of pharmacy should provide continuing professional development relative to medication safety and improvement of medication use for students, residents, faculty, practitioners and other healthcare professionals.

**Suggestion 4.** Colleges/schools of pharmacy should create and evaluate demonstration projects/pilots on effective redesign of systems for practice management intended to optimize patient safety and decrease medication errors. Findings from such projects/pilots should be used to inform curricular content.

## **Practice**

A culture of safety should permeate the practice of pharmacy in all settings. Advocacy for regulatory and legislative change is needed to empower and encourage pharmacists to expand the scope of practice to improve safe and effective medication use. Quality of medication information, technology, practice management and support all contribute to patient safety and effective, quality care to achieve desired health outcomes. So much information is available, but is it reliable, accessible, and understandable to all? It is a pharmacist's responsibility to direct patients to valid sources of information to help them understand their conditions and their medications. Medication information available to patients may be inaccurate, difficult to interpret, and inconsistent with principles of cultural sensitivity and awareness. AACP members can offer their expertise to the National Library of Medicine and consumer organizations to create quality patient education materials that are accessible in multiple formats.

The Argus Commission believes that high-quality, standards-based training for pharmacy technicians is a critical element to support medication safety efforts in a pharmacy care practice. Training for technicians should be consistent and should adhere to published ASHP standards for program accreditation.

The Argus Commission believes that an accreditation process for community pharmacy could lead to development of systems for continuous quality improvement and evidence-based protocols for order fulfillment and patient care to decrease medication errors and improve the safety of medication use.

**Recommendation 4.** A standards-based accreditation process should be developed for community pharmacies similar to that used in institutional health system settings for consistency and quality standards to ensure medication safety and effectiveness and quality of medication use for desired health outcomes.

**Recommendation 5.** Pharmacy practitioners and academicians should collaborate to develop and evaluate sustainable financial and business models that are patient-centered for community pharmacy practice to support systems which would foster the safe and effective use of medications.

**Recommendation 6.** Existing and emerging technology to enhance medication safety should be developed from drug selection to health outcomes assessment including all steps in the process.

**Recommendation 7.** Practitioner-driven advocacy is needed for realistic financial compensation models for pharmacist-provided medication therapy management services regardless of payer.

**Suggestion 5.** Colleges/schools of pharmacy should assist all preceptors to develop and implement medication therapy management service models that ensure medication safety and optimal medication use as a standard of care in all settings.

**Suggestion 6.** At the state level, colleges/schools of pharmacy should work with practitioners and regulators to advocate legislative change for practice regarding regulation of technicians to include appropriate requirements for technician training and utilization.

### **Research**

The literature on medication safety is lacking impactful pharmacy-driven studies. The pharmacy literature on medication safety did not meet parameters of significance to be included in the IOM report. Yet this is an important area of research for which pharmacy faculty have unique expertise and are uniquely situated. The Commission acknowledged that medication safety is a complex issue and that solutions will come from collaborations and individual campus/community partnerships. Areas for investigation include, among other issues, why people don't take their medications; how to identify and manage medication safety problems; protocol development for monitoring effectiveness and safety of drug therapy in community-based patients; and quality of drug information resources at the point of care.

At a national level, the academy through AACP should provide leadership for a national collaborative approach to medication safety research by facilitating research partnerships across institutions to enable large national multi-institutional research projects; identifying opportunities for faculty development to enhance research skills; advocating for federal funding; and giving visibility to this research agenda. AACP recognizes the need to align financial incentives and regulatory oversight to help providers and patients engage in those activities that will improve medication use safety.

The researchers of the future in this area of improving the safety of medication use should be drawn from multiple disciplines. Interdisciplinary research collaborations across multiple institutions between social and administrative science and practice disciplines in pharmacy with medicine, nursing and public health faculty should be encouraged and funded. Masters level training in public health is seen as one way to prepare pharmacy practice faculty for expertise in this research agenda. Partnerships with government agencies, pharmacy benefits managers (PBMs) and other health professions are means to set the research agenda and prepare faculty to carry out meaningful investigations.

The IOM committee identified "...serious resource constraints that weaken the quality and quantity of the science that is brought to bear on drug safety; an organizational culture in Center for Drug Evaluation and Research (CDER) that is not optimally functional; and unclear and insufficient regulatory authorities particularly with respect to enforcement."<sup>6</sup> Through AACP leadership, faculty are currently undertaking discussions and analyses that are expected to lead to the development of practice-based research networks (PBRN). These PBRNs are seen as an expeditious and efficient mechanism for improving drug safety initiatives such as post-marketing surveillance research of drug safety and effectiveness during its use in

large numbers of patients under realistic conditions. “Practice-Based Research Networks (PBRN) are an example of an academic-practice partnership focused on practice research. The development of PBRNs should be considered an opportunity to strengthen the quality and quantity of the science that is brought to bear on drug safety.”<sup>7</sup>

AACP strongly supports the call for additional funding for research to better understand the underlying issues and the most effective strategies to employ in preventing and resolving medication safety issues. The Agency for Healthcare Research and (AHRQ) is probably the federal agency most focused in medication safety and error prevention (<http://www.ahrq.gov/qual/errorsix.htm>). A new round of submissions for Perspectives on Safety (<http://webmm.ahrq.gov>) will be solicited. These are opportunities for pharmacy faculty to serve as research resources. Faculty development as researchers in this area can be enhanced by participation in organizations such as International Society for Pharmacoeconomics and Outcomes Research (ISPOR), Academy Health and other discipline-specific organizations. AACP could sponsor faculty development activities in cooperation with groups that have the desired expertise in health services research thus possibly opening avenues for preparation and interdisciplinary collaborations.

Members and leadership are working on strategies to define and encourage research and researchers in this critical area. Specifically the AACP clinical scientist task force and work group on practice-based research networks aim to enhance the capability of pharmacy educators and clinicians to contribute to practice-relevant research on medication use. To foster dialog among those engaged in research aimed at improving medication-use safety and outcomes, as well as those who may seek to become involved in this area of research in the future, the Association in conjunction with the Pharmacy Practice Research Alliance (PPRA), has issued a call for authors for a series of analytical papers directed toward improvements in research on medication errors and medication-use outcomes. It is intended that these papers, collectively, will review the state of the art of research in this area, address major gaps in existing research, and propose the use of standard terminology and research methodology in conducting future research. The critical analyses provided in these papers should encourage the use of standard research methods in the future, thereby allowing for stronger reliance on meta-analysis and, ultimately, more effective monitoring of the quality of medication-use outcomes. A conference will convene in late 2007 to provide a platform for setting the research agenda and facilitating partnerships across institutions and researchers.

**Recommendation 8.** AACP members should provide leadership through collaborations with other health professions and with federal agencies and professional associations to define and complete research agendas around medication safety and effective medication use in all healthcare settings.

**Recommendation 9.** Pharmacy faculty should lead a national collaborative approach to medication safety research which extends beyond measuring accuracy to investigate the components of a broader definition of errors.

**Recommendation 10.** AACP members should engage in existing research agendas and should seek opportunities to serve as a vital research resource to federal agencies (FDA, AHRQ, etc.) as they address issues related to safe and effective use of medication.

**Recommendation 11.** AACP should facilitate faculty development to conduct research on medication safety/health services.

**Recommendation 12.** AACP should continue to advocate for increased appropriations to federal agencies (e.g., AHRQ, FDA, NIH) for the purpose of studying medication safety and implementing processes to enhance the safe and effective use of medications.

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