



Getting to Solutions in Interprofessional Education Report of the 2006-07 Professional Affairs Committee

Patricia Kroboth^a, Lynn M. Crismon^b, Charles Daniels^c, Michael Hogue^d, Lydia Reed^e, Linda Johnson^f, Daniel Robinson^g, Steven Scott^h, Marie Smithⁱ, Lucinda L. Maine^j

^aSchool of Pharmacy, University of Pittsburgh, Chair

^bCollege of Pharmacy, University of Texas – Austin

^cSkaggs School of Pharmacy and Pharmaceutical Sciences, University of California – San Diego

^dMcWhorter School of Pharmacy, Samford University

^eAssociation of University Programs in Health Administration

^fOffice of Academic Affiliations, Veterans Administration

^gCollege of Pharmacy, Western University

^hSchool of Pharmacy and Pharmaceutical Sciences, Purdue University

ⁱSchool of Pharmacy, University of Connecticut

^jAmerican Association of Colleges of Pharmacy

INTRODUCTION

According to the Bylaws of the AACCP, the Professional Affairs Committee is to study:

Issues associated with professional practice as they relate to pharmaceutical education, and to establish and improve working relationships with all other organizations in the field of health affairs. The Committee is also encouraged to address related agenda items relevant to its Bylaws charge and to identify issues for consideration by subsequent committees, task forces, commissions, or other groups.

Goal VII of the 2004 AACCP Strategic Plan states that AACCP will provide leadership for the development of inter-professional and multidisciplinary education, research, and patient care opportunities for faculty and students at all colleges and schools of pharmacy. President Marilyn Speedie specifically charged the 2006-07 AACCP Professional Affairs Committee to study and offer recommendations on strategies that can advance the goals of our academy to significantly improve interprofessional education and practice. The Committee was asked specifically to explore the political and collaborative relationships across professional boundaries that are necessary if we are to accomplish our goals in this area.

The Committee conducted its work with one face-to-face meeting in Washington, DC in October and subsequent conference calls and electronic communications. Prior to the meeting each committee member was asked to prepare a brief presentation of an experience in their own career where they designed and/or participated in an interprofessional education or practice initiative. The meeting began with these presentations and discussion of the lessons learned from each distinct activity. Two liaison members were invited to participate on the Committee to bring interprofessional perspectives to the discussion. Linda Johnson, RN, PhD, serves in the Office of Academic Affiliations for the US Department of Veterans

Affairs. Lydia Reed, MBA, is President and CEO of the Association of University Programs in Health Administration.

DEFINITIONS

The definition of interprofessional education (IPE) should not be overly prescriptive. Committee members agree that IPE is more than students from different professions sharing the same classroom experience, though that experience may be of some value. Existing and future educational strategies should be guided by improvements in interprofessional competence as a result of interprofessional student interaction. This may take place in classrooms, laboratories, introductory practice experiences, advanced practice experiences, and in settings where mentoring is provided by pharmacists, nurses, physicians or other health care providers. IPE should continue through post graduate education and training and as part of continuous professional development.

Stated simply, IPE can be defined as “occasions when two or more professions learn with, from and about each other to improve collaboration and the quality of care.”¹

To demonstrate interprofessional competence students should:

1. Share a common language that facilitates communication among health care professionals.
2. Demonstrate an understanding of the health professions – understanding the value that each profession adds to the delivery of health care.
3. Learn how to work effectively as a team that utilizes the unique and complementary talents of each member through interprofessional courses, seminars, activities, clinical experiences and research projects.
4. Be able to promote the interprofessional delivery of health care in all practice settings.

In contrast, uni-professional education occurs when members of a single profession learn together in the absence of other health professionals. Multi-professional education is defined as members of two or more professions learning alongside one another in parallel rather than interactive learning.¹

BACKGROUND

This is certainly not the first time an AACP committee has been charged with examining one or more aspects of interprofessional education or practice and many AACP member faculty have led and are currently engaged in interprofessional programs. Yet most health professions educators acknowledge that it is still an elusive goal to create and deliver sustainable efforts to afford all of our graduates meaningful learning opportunities to help them succeed as members of patient-centered health professions teams.

The then president of AACP, Milap Nahata, charged the 2001-02 Professional Affairs Committee to explore the changing healthcare environment and consider academic pharmacy’s role in practitioner preparation and continuing development for an envisioned future practice that most effectively uses pharmacists to enhance public health and ensure safe medication use.² Interprofessional education was specifically identified by the committee as a topic meriting curricular emphasis to enable pharmacists active participation in patient care teams that deliver pharmaceutical care. The Committee offered a policy statement that was subsequently adopted by the AACP House of Delegates. That statement asserts the academy’s support for interprofessional education as follows:

AACP supports interdisciplinary and interprofessional education for health professions education.
(Source: *Professional Affairs Committee, 2002*)

The Institute of Medicine published *Health Professions Education: A Bridge to Quality* in 2003 as part of its landmark quality initiative.³ This analysis of needed reforms in health professions education stated a new vision that “all health professionals should be educated to deliver patient-centered care as members

of an interdisciplinary team, emphasizing evidence-based practice, quality improvement approaches, and informatics.” This goal statement is included in the accreditation standards for pharmacy education that will be effective in July 2007, affirming the acceptance of the IOM goal by pharmacy educators and practitioners.

The more recent IOM report, *Preventing Medication Errors*, presents a compelling agenda for reform of medication use to address the overwhelming societal need for safer and more effective drug therapy.⁴ Changes in pharmacy education in the last decade have all been oriented toward the need to deploy the knowledge and skills of pharmacists more effectively to affect optimal medication use outcomes. However medication use is part of the responsibility of many health professions and can best be improved by the work of functional interprofessional teams.

A number of collaborations, all including pharmacy and involving multiple health professions, began as a result of the publication of the IOM *Quality Chasm* report.⁵ The Joint Commission for the Accreditation of Healthcare Organizations (JCAHO) convened a roundtable with representatives from health care administration, medicine, nursing, and pharmacy and sought input on how its accreditation programs could support interprofessional education and practice and accelerate its maturation across healthcare systems. The organizations invited represented major practitioner groups for each profession along with educators, accreditors, and regulators. A whitepaper was drafted as background for the roundtable and its publication is still anticipated.

The leadership of academic medicine invited its counterparts in nursing, pharmacy and public health to consider what the organizations could do together to stimulate new interprofessional learning initiatives. It was determined that studying the attributes of existing programs might lend important information regarding both the success of and struggles associated with interprofessional education. Four diverse programs were identified at member institutions and site visits were made by representatives of the collaborating organizations. Association of American Medical Colleges (AAMC) staff member Linda Lesky prepared a paper summarizing the major lessons learned from the programs. At this time there is no on-going collaboration among these four organizations related to furthering interprofessional learning though all articulate the commitment to expand interprofessional programs.

The most significant national initiative related to interprofessional education began as an effort to reform medical education to enhance physicians’ understanding of and participation in quality improvement initiatives. The effort was stimulated by a report of the AAMC on needed reforms in medical education and operates under the auspices of the Institute for Healthcare Improvement (IHI). The IHI Health Professions Education Collaborative (HPEC) currently involves representatives from 18 US medical schools, their co-located schools of nursing, pharmacy and programs in healthcare administration, and three international collaborators. The national education associations for each discipline (e.g., AACP, AAMC) participate in the Collaborative as well.

There are eight co-located schools and colleges of pharmacy working with the HPEC as this time. In virtually all instances there are one or more schools of pharmacy geographically aligned with the other medical schools and it is a stated goal of AACP to work to build or strengthen relations between institutional members of AACP and HPEC participating medical schools to advance the objectives of increasing IPE opportunities for pharmacy students and faculty. Disseminating the learning related to teaching and practicing quality improvement in health care is another important goal for pharmacy’s and AACP’s participation in the HPEC.

Perhaps these studied approaches to identifying strategies to accelerate interprofessional learning and practice have overlooked “the obvious”. The Committee identified that extraordinary examples of successful interprofessional learning and practice have occurred when practitioners are confronted by the

overwhelming and compelling needs of patients. It is the opinion of the Committee that when the patient becomes the focus of establishing new services, as is the case in dealing with the needs of underserved patients or in emergencies, obstacles disappear and wonderful team-delivered care can happen much more fluidly than under less stressful circumstances. University of Connecticut and University of Pittsburgh, for example, have interprofessional experiences with underserved patients (e.g., urban clinics, migrant farms, homeless shelters, free clinics) that involve pharmacy students and medicine students and residents.

The case study of public health response to the needs of Hurricane Katrina evacuees is an example of how focus on incredible patient need brings the health professions into collaborative practices:

Case Study – “Pharmacy Faculty Respond to Katrina Evacuees” Samford University

Committee member Michael D. Hogue, Assistant Professor of Pharmacy Practice at the McWhorter School of Pharmacy in Birmingham, AL, began the presentation by describing his clinical practice at the Jefferson County Department of Public Health which serves the broader Birmingham metropolitan area. Over the past several years this clinical practice and experiential learning site had developed patient-centered services in chronic disease management and immunization delivery in collaboration with the clinicians at the county public health clinics.

Days prior to and soon after the landfall of Hurricane Katrina which devastated the Gulf Coast and flooded New Orleans thousands of evacuees made their way to Birmingham. One of the first signals that these arrivals came with unmet health care needs was calls received from emergency departments (ED) in area hospitals. Physicians reported their EDs were so full of evacuees seeking replacement medications for those left behind that seriously ill patients could not be treated in a timely fashion. The physicians wondered if the public health department could offer any solution. Samford pharmacy faculty and the lead public health physician recognized that pharmacists in the community were empowered by law to provide emergency supplies for 72 hours of non-controlled substance medications and quickly devised a process for channeling evacuees in need of replacement medications to those area pharmacists who expressed a commitment to cooperate in meeting this emergency need.

As the numbers of area evacuees rose to many thousands in the days following the hurricane new health care issues emerged. The chief of public health had been deployed to the coastal area along with other area public health personnel and so physician resources to attend to the needs of those in shelters were quite limited. Dr. Michael Fleenor, Chief Health Officer, signed an emergency prescriptive protocol giving authority to the faculty and to JCDH pharmacists to write prescriptions for 30-day supplies of non-controlled substance medications needed for chronic conditions. Additionally, the faculty members were asked to enter the Red Cross facilities and perform basic patient needs assessments in a bed-to-bed fashion. Several hundred patients were assessed by the pharmacist faculty members over a 4 week period. The pharmacists were able to issue approximately 350 prescriptions, and provided countless over-the-counter products to evacuees to resolve minor illness. Student pharmacists accompanied the faculty members in every step, and were allowed to interview patients, check blood pressures, perform blood glucose finger sticks, and assist patients with identifying resources for obtaining their prescription medications.

Delivery of care in crisis is not an ideal patient care or teaching situation, however when all providers truly focus on the primary unmet needs of the target patient population many of the obstacles to collaboration disappear. Examples such as the Katrina case and other outreach to underserved populations can inform our more studied and deliberate efforts to design and deliver interprofessional practice and education experiences for our students.

The last significant AACP initiative in IPE is the work of a Council of Faculties task force charged in 2005-06 to provide definitions and principles for interprofessional education; develop outcomes and competencies for interprofessional education in a vertical curricular thread or map (i.e., progressive development of skills and knowledge); and, identify issues that are unique (good and bad) for the varied types of colleges and schools of pharmacy in providing education to achieve the competencies.

The task force conducted its work initially by conference calls and then met for a full day of discussion in March 2006. They produced an initial report that offers definitions and competency statements as well as a framework for threading IPE throughout the PharmD curriculum.⁶ They also examined the opportunities and challenges to doing so based on the type of academic institution at which a college or school of pharmacy might be located (e.g., academic health center, liberal arts campus with no medical school). Publication of the initial work of the task force is forthcoming. The task force continues its work in 2006-07 with an emphasis on offering more specific recommendations on curricular content and strategies for introducing meaningful IPE activities into pharmacy education. Given the work of this task force, the Professional Affairs Committee did not need to examine curricular issues in as great a depth as would otherwise have been productive.

AACP also participates in a multidisciplinary networking organization known as the Federation of Associations of Schools of the Health Professions (FASHP). Staff members of associations representing ten different health professions degree programs and the Association of Academic Health Centers meet regularly for discussions covering a wide range of policy, education and administrative issues. Interprofessional education and practice issues are included among the current FASHP priorities.

REVIEWS OF THE LITERATURE

A recent publication from the Cochrane Collaborative summarized the attempt by this organization to systematically evaluate the literature on IPE.⁷ Despite finding over 1,000 citations related to interprofessional education in the literature the authors' conclusion stated that "despite finding a large body of literature on the evaluation of IPE, these studies lacked the methodological rigor needed to begin to convincingly understand the impact of IPE on professional practice and/or health care outcomes." The Collaborative could therefore not provide a summary finding related to the effectiveness of IPE on learners directly or on patient care.

Remington and colleagues from the University of Michigan published their evaluation of the evidence for interprofessional education in the *American Journal of Pharmaceutical Education*.⁸ Finding a limited number of studies meeting their inclusion criteria, the authors similarly concluded that "there is little evidence from controlled trials ... to guide rapidly changing educational models [for IPE] and clinical practice." They did find evidence that appropriately designed training can produce changes in attitudes, knowledge, skills and behaviors of clinicians. They called for substantive future research utilizing prospective controls and objective outcomes measures.

A major contribution to the literature on IPE can be found in a book series published in 2005 by Blackwell Publishing.^{1,9,10} A group of collaborators from the United Kingdom affiliated with the Centre for the Advancement of Interprofessional Education began working together in 1997 to systematically study the literature on IPE in health and social care and summarized the learnings in three texts. The first makes the case that effective interprofessional teams do provide better quality health care services in actual practice, affirming the "why?" in the argument for IPE. The second book in the series reviews the literature on IPE specifically and provides numerous examples of models of IPE in both pre-qualification studies and postgraduate education and training and describes evaluations of IPE effectiveness. The third book in the series delves in depth into the organization, delivery and evaluation of IPE in health and social care.

These texts synthesize available evidence related to interprofessional education and practice, documenting what has been done and offering clear strategies for design, delivery and evaluation of IPE. The Committee strongly recommends this series to those in the academy interested in learning from the earlier efforts of educators from across the world to develop, deliver and evaluate interprofessional education and the impact that highly functional teams can have on the quality of patient care. Barr, a leader in the literature synthesis project resulting in these books, also serves as Editor of the Journal of Interprofessional Care, published by Informa Healthcare in the United Kingdom. Faculty interested in the development and evaluation of IPE may benefit from the contributions of this focused journal.

POLICY STATEMENT

The 2006-07 Professional Affairs Committee accepts the premise that team-delivered care results in better health outcomes. The committee therefore recommends that the 2002 policy statement adopted by the AACP House of Delegates be augmented with the following stronger statement:

AACP endorses the competencies of the Institute of Medicine for health professions education and advocates that all colleges and schools of pharmacy provide faculty and students meaningful opportunities to engage in interprofessional education, practice and research to better meet health needs of society.

Recommendation 1: The committee encourages AACP to advocate the adoption of a parallel statement by other Federation of Associations of Schools of the Health Professions (FASHP) member organizations.

Recommendation 2: AACP should work collaboratively with FASHP to advocate for increased resources to support interprofessional education and research to evaluate its impact on learners and patient outcomes.

ADMINISTRATIVE AND LEADERSHIP ISSUES

The Committee concluded that interprofessional education and practice can only be meaningfully delivered and sustained if the commitment to doing so begins as a high priority of upper administration. It is essential that the priority is shared by the deans of each health professions school, the administrator with responsibility for all health professions education (e.g., vice president for health sciences), and other top administrative officials of the university. These administrators must recognize the unique demands on faculty and students required to introduce IPE into didactic, clinical and extra-curricular programs, set policies that facilitate IPE, and allocate resources sufficient to build and sustain quality programs.

In addition to administrative support, effective IPE requires champions from each discipline willing to commit the time needed for planning and execution of IPE courses and activities. These champions should in turn cultivate and mentor others, both within and out of their discipline, so that when they retire, move or direct their focus elsewhere the IPE program can continue.

Case Study – “Creating an Academic Culture for Interdisciplinary Competence” Northeastern University

The Bouve College of Health Sciences offers degrees in pharmacy, nursing, and several allied health disciplines, as well as a baccalaureate degree in health sciences. In 1998, the president of Northeastern University communicated with the faculty and administration his strong commitment to providing all health professions students [and faculty] opportunities to learn and develop interprofessional competencies that they would utilize in their future health care teamwork. The faculty of NU adopted an interdisciplinary mission statement utilizing the IOM

core competences. With administrative leadership from pharmacy dean Dan Robinson, the Bouve College embarked on planning efforts to offer core and elective courses, interdisciplinary campus activities, and interdisciplinary student organization programs targeted to all health professions students. While scheduling issues, class size and creating meaningful interactive learning exercises have been challenges, the planning and delivery of interdisciplinary education at NU continues with new course development and plans to develop a certificate or minor in Interdisciplinary Health.

Recommendation 3: AACP should collaborate with health professions and education organizations to increase awareness and promote the value of interprofessional education among education and practice leaders.

Recommendation 4: AACP, jointly with other FASHP organizations, should convene an invitational leadership summit attended by teams of administrators and faculty from member institutions. Programming should provide time for each team to work together to create a work plan for implementing IPE in the year following the summit.

CURRICULAR ISSUES

Although curricular issues were not the primary focus of the Committee's charge, a variety of curriculum and accreditation-related topics perfused the discussions and case studies. The unanimous position of the Committee was that the ultimate objective for efforts to build IPE is to thread meaningful interprofessional coursework and experiences from the earliest opportunity and throughout the course of study with all relevant disciplines. The focus on interprofessional learning should then be sustained in postgraduate education and training as a continuous professional development priority. That said and notwithstanding the obvious limitations, if a single isolated experience with interprofessional learning is all that is feasible given the circumstances for a particular college or school of pharmacy then certainly it is better than not having any experience at all.

Accreditation was acknowledged as the most significant potential driver for curricular change. The Committee endorsed the recommendation from the IOM "*Bridge to Quality*" report that urged the accrediting bodies of health professions education programs to coordinate their efforts and revise their standards "so that programs are required to demonstrate—through process and outcome measures—that they educate students in both academic and continuing education programs in how to deliver patient care using a core set of competencies."³

In revising the Standards and Guidelines for Accreditation for Doctor of Pharmacy degree programs, the Accreditation Council for Pharmacy Education (ACPE) took to heart the IOM recommendations and included the core competency statement verbatim in Standards 2007.¹¹ The term "interprofessional" is threaded throughout the standards in no less than nine specific references related to curriculum, core values, administration and other aspects of the degree program. As part of its commitment to enhance interprofessional education, ACPE has begun reaching out to other health professions' accreditation programs to explore opportunities for collaboration and synergy.

Recommendation 5: AACP, members and colleague organizations should strongly advocate for accreditation standards revision to accelerate the evolution of IPE in health professions education programs.

The Committee learned a great deal from other members' diverse experiences in building required and elective IPE courses. In the case of the University of California at San Diego, pharmacy and medicine students share a substantive amount of required coursework. This occurs primarily across all three quarters of the second professional year of the PharmD program and the first year of the medical school

curriculum. Courses covered include cell biology and biochemistry, organ physiology, microbiology and infectious disease, and principles of pharmacology. Pharmacy and medicine faculty share course planning responsibility, contribute proportionally to the teaching load, and share responsibility for oversight of student issues and quality assurance. Courses provide classic didactic and small group opportunities for learning and interaction with joint laboratory sessions and identical grading scales and expectations. While there are clearly a range of issues that need to be addressed in planning and executing such an integrated array of required courses there is no doubt that the experience enriches the appreciation of each group of students for the other and sets the stage for more effective clinical interactions in the experiential learning environment.

The Committee identified a number of curricular strategies to thread IPE into the curriculum, dividing the suggestions into didactic and experiential categories as follows:

Didactic Curricular Strategies

- Use student teams and problem-based learning as the organizational driver
- Integrate IPE into courses on ethics, communications, statistics and research methods, biopsychosocial content, introduction to patient-centered care delivery, e-health and health informatics, professional socialization activities
- Make available opportunities for IPE in advanced didactic courses on patient safety and in health policy courses

Experiential Learning Strategies

- Design experiential learning in a stepwise progression from simulation to observation of functioning teams to participation as a contributing member of an interprofessional team
- Focus on underserved populations and other pockets of need in introductory experiences using service learning and by connecting with existing programs designed to address unmet public health needs; student-driven interprofessional teams and activities to create opportunities for learning about other disciplines
- Challenge students in more advanced experiential learning to progressively accept responsibility and accountability in contributing to patient-centered and team delivered care that provides real value to the site/institution
- Develop stronger outcome measures to refine course expectations as well as accreditation expectations related to IPE.

Perhaps the greatest driver for curricular change apart from accreditation is the movement in health care delivery to become increasingly patient-centered. Patient-centered care requires a functioning team of health professionals working together with access to relevant patient data for quality and accountability. In addition to problem-based learning as a valuable approach to advancing IPE, the Committee recommends other small group learning activities, gaming tools and simulation. The integration of consumers into didactic, laboratory and, of course, clinical education adds valuable patient perspectives to IPE groups and classes. By working with individual consumers and consumer advocacy groups the professions should benefit from enhanced recognition and possibly even more supportive and progressive regulation of team-delivered care.

FACULTY DEVELOPMENT ISSUES

Most faculty have been trained in disciplinary silos and have historically been rewarded for independent achievement in teaching and research. Fortunately a number of forces (e.g., accreditation, research

priorities for translational research) are in play to increase the incentives for more collaborative approaches to all aspects of faculty responsibility. However, the enormity of the effort needed to prepare faculty for this new reality should not be underestimated. The Committee has already noted the importance of strong leadership support from the administration and the development and support of champions of interprofessional education, practice and research in all disciplines.

Focused development activities at the campus level are essential to the future success of interprofessional programs. Champions should receive both encouragement and tangible resources to lead IPE planning and evaluation activities. It has been estimated that planning for a course or activity that is purposefully interprofessional may take as much as three times the amount of time of traditional course planning. Champions and others involved in planning and delivering IPE should also be granted appropriate authority to challenge policies and practices that impede the introduction and effective functioning of IPE courses and activities.

Recommendation 6: AACCP, through its meetings, publications, and programs, should identify and share exemplary practices in faculty development for interprofessional education, service and research and encourage the implementation of such programs at all member schools.

SCHOLARSHIP AND PUBLICATION STRATEGIES

The review of the literature on IPE reveals that despite a great number of publications in the field definitive work remains to be done using rigorous methodologies and controls. Recommendation 1 in this report emphasizes the importance of effective advocacy for new and expanded resources to support such research, especially given the attention to patient-centered, evidence-based care to improve the safety and effectiveness of health services.

The Committee offers several additional recommendations related to this strategic area of IPE development.

Recommendation 7: AACCP and its partner organizations should stimulate development and dissemination of a white paper on interprofessional education explaining the essentials of medicine, nursing, pharmacy and other health disciplines' educational programs (basic core training and skill sets).

Recommendation 8: *American Journal of Pharmaceutical Education* should establish a regular series on interprofessional education including course descriptions and evaluations and educational pearls with preference in accepting manuscripts given to papers submitted by authors from multiple disciplines.

STRENGTHENING ALLIANCES

It is clear that AACCP has made a commitment to leading the way to assisting members in their efforts to create sustainable opportunities for interprofessional education and practice. Numerous alliances currently exist and can no doubt be strengthened through FASHP and other partnerships.

The Committee felt that AACCP should continue and perhaps even accelerate its efforts through organizations like the Association of Academic Health Centers and projects like the IHI Collaborative to help make connections between medical schools without pharmacy programs on campus and geographically co-located pharmacy partners. The Committee also encouraged AACCP to seriously explore developing national collaborations with organizations like the US Department of Veterans Affairs where new opportunities to build collaborative practices for interprofessional education and practice might be found with relative ease.

CONCLUDING COMMENTS

The proposed policy statement and recommendations offered by the Committee establish a fairly high bar in regard to administrative support, the level of faculty and student effort devoted to IPE and the direct financial support that will be required to make sustainable progress. To those with limited programs to date the Committee suggests taking small steps and hopes that this report will motivate all colleges and schools of pharmacy to establish a vision and a roadmap for forward progress on IPE.

To those with programs that have overcome the obvious impediments and evolved to a meaningful level of activity overtime the Committee recommends strongly that the work and lessons learned be disseminated to the benefit of the broader community. The Committee hopes that by sharing best practice examples and recommendations based on the actual experience of selected academic programs that it will make it easier for pharmacy educators and their partners from other disciplines to make strong and sustainable progress toward the ultimate goal of achieving competence in team delivered care in all graduates of health professions education programs.

REFERENCES

1. Freeth et al. *Effective Interprofessional Education: Development, Delivery & Evaluation* Blackwell Publishing, Oxford, UK, 2005.
2. 2001-02 Professional Affairs Committee Report, *AJPE*, 2002 Supplement
3. *Health Professions Education: A Bridge to Quality* Institute of Medicine, Washington, DC, 20003
4. Committee on Identifying and Preventing Medication Errors, Philip Aspden, Julie Wolcott, J. Lyle Bootman, Linda R. Cronenwett, Editors "*Preventing Medication Errors*", National Academies Press, Washington, DC 2006.
5. Committee on Quality of Health Care in America, Institute of Medicine, "*Crossing the Quality Chasm: A New Health System for the 21st Century*" National Academies Press, Washington, DC 2001.
6. Report of the 2005-06 AACP Council of Faculties Interprofessional Education Task Force, http://www.aacp.org/Docs/AACPFunctions/Governance/7371_FinalReportof2005-, accessed on April 26, 2007.
7. Zwarenstein M, Reeves S, Barr H, Hammick M, Koppel I, Atkins J. Interprofessional education: effects on professional practice and health care outcomes *The Cochrane Database of Systematic Reviews* 2006 Issue 4 The Cochrane Collaboration. John Wiley and Sons, Ltd.
8. Remington TL, Foulk MA and Williams BC. Evaluation of Evidence for Interprofessional Education, *AJPE* 2006; 70(3) Article 66.
9. Meads et al. *The Case for Interprofessional Collaboration*. Blackwell Publishing, Oxford, UK, 2005.
10. Barr et al. *Effective Interprofessional Education: Argument, Assumption and Evidence*. Blackwell Publishing, Oxford UK, 2005.
11. Accreditation Council for Pharmacy Education. Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree (adopted January 15, 2006) and accessed on April 26, 2007 at http://www.acpe-accredit.org/pdf/ACPE_Revised_PharmD_Standards_Adopted_Jan152006.DOC.