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Interprofessional Education and Practice with Implications for Primary Care in Healthcare Reform

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Acknowledgements

The Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL) provides advice and recommendations to the Secretary of Health and Human Services (Secretary) concerning policy, program development, and other matters of significance as authorized under 42 U.S.C. 294f, Section 756(d) of the Public Health Service Act (PHS), as amended. The ACICBL is governed by the Federal Advisory Committee Act (FACA), Public Law 92-463, as amended (5 U.S.C. Appendix 2), which sets forth standards for the formation and use of advisory committees, and Public Law 111-148, the Patient Protection and Affordable Care Act of 2010, Title V – Health Care Workforce, Subtitle B – Innovations in the Health Care Workforce, Section 5103.

Each year, the ACICBL selects a topic concerning a major issue within the healthcare delivery system that is relevant to the mission of the Bureau of Health Professions (BHPr) Title VII – Part D, Interdisciplinary Community-Based Linkages programs. After the ACICBL analyzes the selected topic, it develops recommendations to the Secretary concerning policy and program development. This year, the ACICBL examined *Interprofessional Education and Practice with Implications for Primary Care in Healthcare Reform*.

This report is the culmination of the efforts of many individuals who provided their expertise to the ACICBL during three required formal meetings: the first as a scheduled conference call on January 14, 2009; the second held in Bethesda, Maryland on April 20 and 22, 2009; and the third held in Rockville, Maryland on August 13 and 14, 2009. As noted throughout the report, experts informed the ACICBL and provided their knowledge and consultation on a broad array of issues concerning interprofessional education. ACICBL members had an opportunity to listen to presenters' expert testimony and discuss these issues with them. The ACICBL expresses appreciation to all presenters for their time and knowledgeable expertise.

Finally, this report has benefited from the capable assistance of federal staff from the Health Resources and Services Administration, Bureau of Health Professions, Division of Public Health and Interdisciplinary Education: Dr. Joan Weiss, Designated Federal Official, Director, Division of Public Health and Interdisciplinary Education; Mr. Lou Coccodrilli, Chief, Area Health Education Centers Branch; CAPT Norma J. Hatot, Senior Nurse Consultant, United States Public Health Service; and Mr. Patrick Stephens, Technical Writer. The ACICBL appreciates the hard work and dedication of these individuals in producing this report.

Sincerely,



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The Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL)

In 1998, under the Authority 42USC 294F, Section 756 of the Public Health Service Act, the ACICBL was created. The ACICBL has specific duties which include providing advice and recommendations to the Secretary concerning policy and program development and other matters of significance concerning activities under Section 756, Title VII, Part D of the Public Health Service Act. Additionally, the ACICBL prepares and submits a report to the Secretary; the Committee on Health, Education, Labor and Pensions of the Senate; and the Committee on Energy and Commerce of the House of Representatives that describes its activities, findings, and recommendations. Specifically, Section 756 directs that:

- The Secretary of the Department of Health and Human Services shall establish an advisory committee, known as the Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL).
- The Secretary shall appoint the members of the ACICBL from a pool of qualified applicants who are health professionals from schools of the types described in Sections 751 through 755, inclusive of Area Health Education Centers; Geriatric Training for Physicians, Dentists, and Behavioral/Mental Health Professionals; Quentin N. Burdick Program for Rural Interdisciplinary Training; and Allied Health and Other Disciplines.
- The Secretary shall ensure a fair balance between the health professions. At least 75 percent of the appointments shall be health professionals representing a broad geographic spectrum, a balance between urban and rural members, and an adequate representation of women and minorities.
- The Secretary shall ensure the appointment of members based on their competence, interest, and knowledge of the mission of the professions involved.

The Health Resources and Services Administration (HRSA); Bureau of Health Professions (BHPr); Division of Public Health and Interdisciplinary Education has responsibility for managing all aspects of the ACICBL. The ACICBL is legislatively mandated to convene at least three times annually to discuss relevant issues that impact the Title VII, Part D training programs and associated research. Frequently, this effort involves convening experts and consultants from the field for dialogue, and the public is always invited. The ACICBL was initially chartered on March 24, 1999.

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Interprofessional Education and Practice with Implications for Primary Care in Healthcare Reform

Executive Summary

The Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL) is legislatively mandated to provide advice and recommendations concerning interdisciplinary education. In recent years, the term “interprofessional” has become widely used because it is more inclusive of all health care professionals. Therefore, in this report the term “interprofessional education” is used in lieu of “interdisciplinary education.”

Recent challenges in healthcare delivery in the United States, including escalating costs and increased demand due to changing demographics, have led to calls for healthcare reform. Despite the fact that the United States has higher per capita healthcare costs than other industrialized nations, it does not necessarily have better outcomes (Newhouse & Sinaiko, 2007). While different indicators and metrics have been used in different contexts, based on measures such as infant mortality, life expectancy, and health insurance coverage, the United States has poorer outcomes than many other nations, even when demographics are considered.

Healthcare delivery in the United States is highly fragmented, undermining both efficiency and effectiveness (Reinhardt, Hussey, & Anderson, 2004). There is increasing evidence that interprofessional education and interprofessional practice can provide valuable contributions to improve quality and reduce costs. Effective interprofessional practice can reduce fragmentation and improve coordination that will improve patient outcomes, increase provider satisfaction, and lower costs through more effective utilization of resources. In order to best prepare healthcare providers to practice to achieve these benefits, the education of providers must include core competences in interprofessional practice that will enable them to work collaboratively, with effective coordination and communication.

In recent years, there have been successes at the national, state, and local levels to increase adoption of effective interprofessional education and interprofessional practice. However, these efforts face a number of challenges. The primary obstacles at the national level are related to accreditation standards and reimbursement issues. Issues at the state level are related to scope of practice and practice acts. Challenges at the local or institutional level include, for example, curriculum and scheduling difficulties within institutions and collaboration issues within practice settings.

The Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL) reviewed the issue of how interprofessional education and interprofessional practice can contribute to healthcare reform objectives at its April and August 2009 meetings. Based upon an examination of the challenges and strategies, the ACICBL developed a set of recommendations for policymakers which are listed below. Review of this issue and recommendations by the ACICBL are detailed in this report.

Recommendations

The ACICBL recommends that the United States Department of Health and Human Services implement the following:

1. Convene a summit of major accrediting bodies and educational leaders in the health professions to produce a position statement to guide interprofessional curricula development (classroom and clinical education) and promote concurrence in accreditation requirements across professions.
2. Support the development of interprofessional education (IPE) evaluation tools, including the establishment of a national clearinghouse of IPE research, data, curricula, and best practices to promote the adoption and dissemination of IPE programs in the health professions.
3. Convene a grantee summit on interprofessional faculty development to ensure that faculty can educate and prepare students in the health professions for practice in interprofessional teams.
4. Convene a series of meetings with representatives from the Centers for Medicare & Medicaid Services (CMS), the Agency for Healthcare Research and Quality (AHRQ), and health professions accrediting bodies, to examine Title VII, Part D health professions programs and identify funding opportunities for cross-agency and program collaboration that support interprofessional team training and practice.
5. Provide a mechanism to create a shared set of core interprofessional competencies that can be applied to Title VII, Part D programs.

Discussion

Background

The Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL) is legislatively mandated to provide advice and recommendations concerning interdisciplinary education. In recent years, the term “interprofessional” has become widely used because it is more inclusive of all health care professionals. Therefore, in this report the term “interprofessional education” is used in lieu of “interdisciplinary education.”

Increased demand for services due to demographic shifts, escalating healthcare costs, an aging population, and an increasing number of patients with chronic conditions have driven the need for healthcare reform. Despite the fact that the United States has higher per capita healthcare costs than other industrialized nations, it does not necessarily have better outcomes. While different indicators and metrics have been used in different contexts, based on measures such as infant mortality, life expectancy, and health insurance coverage, the United States has poorer outcomes than many other nations, even when demographics are considered (Docteur, Suppanz, & Woo, 2003; Starfield, Shi, & Macinko, 2005). Meanwhile, our nation’s healthcare costs have been growing faster than overall inflation and the Gross Domestic Product (GDP) (Reinhardt, Hussey, & Anderson, 2004).

There is increasing evidence that interprofessional education (IPE) and interprofessional practice (IPP) can provide valuable contributions to improve quality and reduce costs (Remington, Foulk, & Williams, 2006; Reeves et al., 2008; Hammick, Freeth, Koppel, Reeves, & Barr, 2007). Effective IPP can reduce fragmentation and improve coordination, resulting in improved patient outcomes, increased provider satisfaction, and reduced costs through more effective utilization of resources. In order to best prepare healthcare providers to practice to achieve these benefits, the education of providers must include core competences in IPP that will enable them to work collaboratively, with effective coordination and communication.

In recent years, there have been successes in efforts to establish effective IPE and growing recognition of the benefits of IPE. At the national level, there has been increased adoption of interprofessional competencies in accreditation standards. The American Association of Colleges of Nursing, for example, has a standard devoted to IPE in nursing in their baccalaureate nursing accreditation standards. Similarly, IPE is part of the accreditation standard for clinical laboratory science, health informatics, nuclear medicine, nutrition and dietetics, occupational therapy, pharmacy, physician assistant, and physical therapy students (Royeen, Jensen, & Harvan, 2009). However, the most progress has been made in nursing and pharmacy. At the local and institutional level, students in health professions schools share classes. For example, there are universities where podiatry students and medical students take gross anatomy classes together. Some osteopathic universities provide IPE for chiropractic, podiatric, and pharmacy students.

Efforts to implement more widespread adoption of IPE and IPP face a number of challenges. At the national level, there are obstacles related to the establishment of accreditation standards for IPE and training and reimbursement for team care. Challenges at the state level are related to

scope of practice and practice acts. At the local or institutional level, curriculum and scheduling challenges within institutions and collaboration issues within practice settings abound. For example, at the local level education is often conducted in silos, rather than in an interprofessional manner. A review of common geriatrics content across the health professions showed that more than 60 percent of the content was common across dentistry, medicine, nursing, and pharmacy; however, this education was conducted in silos that resulted in multiple repetitions of the same content (Mezey, Mitty, Burger, & McCallion, 2008).

At its April and August 2009 meetings, the Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL) reviewed how IPE and IPP can contribute to healthcare reform objectives and improve the way primary care is delivered. Based upon our examination of the challenges and strategies for addressing those challenges, the ACICBL developed a set of recommendations for policymakers. Review of this issue and recommendations by the ACICBL are detailed in this report.

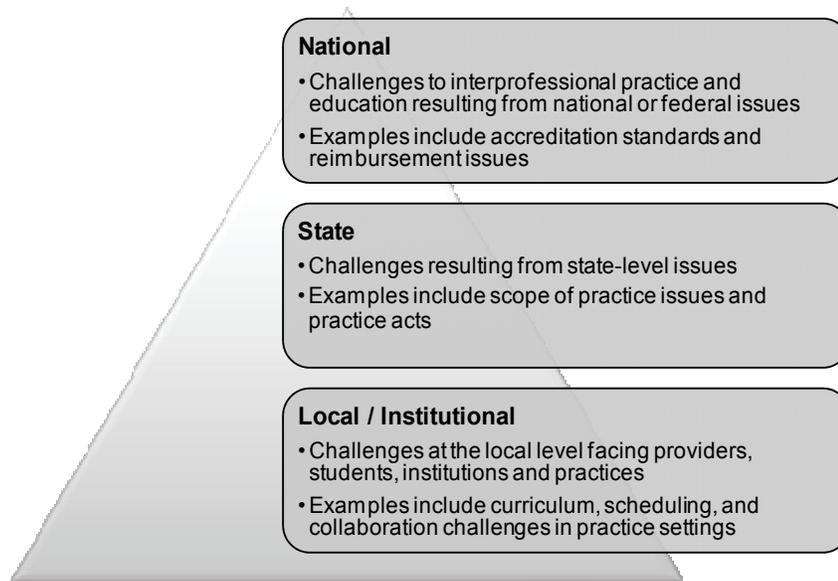
“What interprofessional learning (is) about is interacting with other health professions in ways that we learn together, we learn from each other, and we learn about each other”

Madeline Schmitt, Ph.D., RN
Testimony before ACICBL, April 20, 2009

Challenges

IPE and IPP are difficult to implement as a result of a range of challenges at the national, state, and local/institutional levels. Figure 1 summarizes these types of challenges.

Figure 1: Types of challenges to increasing adoption of IPE/IPP



National Level Challenges

Many of the challenges for implementing IPE and IPP are related to national or federal issues that affect education and practice across the country. Key national-level obstacles are related to accreditation, reimbursement for team practice, lack of interoperable technology, evaluation, and insufficient dissemination of best practices. Addressing these challenges is important for establishing a national foundation for enabling and facilitating a more widespread adoption of IPE and IPP to support healthcare reform objectives. These challenges are discussed below.

Lack of interprofessional accreditation standards

Lack of interprofessional accreditation standards has been a barrier to more widespread adoption of IPE. Although much progress has been made in nursing and pharmacy healthcare education, in other healthcare professions accreditation standards associated with practice licensure and certification do not place sufficient emphasis on the knowledge and skills related to practicing in an interprofessional team. The lack of accreditation standards reduces incentives for incorporation of interprofessional subject matter into curricula and for interprofessional learning by students. The progress made in nursing and pharmacy education is encouraging, but interprofessional accreditation standards are needed in other healthcare professions to ensure that all healthcare providers have the appropriate knowledge and skills to practice as part of an interprofessional team.

Insufficient evaluation of the effectiveness of interprofessional education and practice

In order to clarify the benefits of IPE/IPP and to identify best practices, additional evaluation of education and practice models is needed. There is a perception among healthcare providers and educators that IPE improves team function, but evidence is lacking to support this perception. There are a number of hurdles to conducting the research to establish this evidence. For example, data collection is difficult for a variety of reasons, including the lack of interoperable information systems and the expense incurred in data collection. It may be unreasonable to ask individuals or programs to provide data unless funds are being provided to cover the associated expenses. Also, it is very expensive to track students once they graduate or leave a funded program. This creates difficulty in conducting longitudinal studies and signifies a substantial hurdle because outcomes for these efforts often develop over a period of many years.

Lack of resources for dissemination of best practices

A barrier to adoption of both IPE and IPP is insufficient infrastructure and procedures for dissemination of best practices. There are many scattered and unconnected initiatives in response to recommendations from organizations such as the Institute of Medicine (IOM), the Institute for Healthcare Improvement (IHI), and from the Joint Commission on Accreditation of Hospitals (JCAHO). Compared to countries like Canada and the United Kingdom, there is little national infrastructure within the United States to link, advocate, and integrate IPE efforts.

Reimbursement policies provide disincentives for interprofessional care

Some aspects of U.S. health insurance reimbursement procedures undermine adoption of effective interprofessional primary care. For example, it is sometimes easier for providers to

gain reimbursement from insurance providers for episodic treatment of acute care than interprofessional efforts, which are focused on prevention or treatment of chronic conditions. A significant portion of the population suffers from various chronic conditions. Approximately 45% of the U.S. population has a chronic medical condition; about half of these individuals have multiple chronic conditions (American College of Physicians, 2006; Wu & Green, 2000; Anderson, 2005). The current system does not provide incentives and financial support for providing effective treatment of many chronic conditions, nor does it reimburse for care provided by interprofessional teams. Time allotted to team concepts or team discussions are often not compensated. Fee for service doesn't occur between collaborative aspects of care. As a result, the current reimbursement structure undermines interprofessional care. Even if students are taught how to work in interprofessional teams, they rarely have the opportunity to work as members of a team in clinical practice due to lack of reimbursement for team practice.

Lack of interoperable information technology inhibits communication and collaboration

Another inhibitor to increased adoption of IPP has been the lack of standards for interoperable information systems. Some information systems do not facilitate communication between providers and between practice settings. In order for systems to enable communication that will facilitate increased adoption of interprofessional care, not only must there be compatibility between file formats and software, but also in the definitions used for data elements. Incompatibility in file formats and software means data cannot be readily exchanged among systems and care providers. Inconsistent definitions among data elements means outcome and performance information cannot be aggregated across sites, hindering evaluation of health outcomes.

State Level Challenges

A key issue at the state level relates to scope of practice. Each state publishes its own scope of practice guidelines for each discipline which is consistent with their licensure requirements.

Lack of knowledge regarding scope of practice in other professions

The scope of practice for healthcare professions is regulated at the state level. The regulatory framework includes appropriate practice acts that are enacted by state legislatures, and rules and regulations developed by state regulatory agencies. As a result of shortages in healthcare professionals and interest in reducing the cost in healthcare services, there has been advocacy for changes in scope of practice to accommodate more delegated management by physicians to non-physician providers (Retchin, 2008). In an IPP context, all members of the team must understand the scope of practice of each of the other members of that team. There is support for all healthcare providers to “work at the top of their license” to attain efficiencies and promote better care.

Local Level Challenges

There are a number of challenges at the local and institutional level in facilitating IPE and IPP. These include faculty development challenges, curriculum development, and practice-level issues within teams. These are discussed below.

Interprofessional faculty development is insufficient

Faculty development is important for effective implementation of IPE. Faculty development programs should emphasize (a) key elements underlying the purpose and goals of IPE activities, (b) ideal attributes and characteristics of IPE educators/clinicians, and (c) educational competencies, components, and activities for successful IPE (Buring et al., 2009). This issue poses a significant challenge because faculty members are sometimes skeptical about the value and benefit of IPE (Rafter et al., 2006). This skepticism is due, in part, to the fact that sufficient research has only recently existed to clearly demonstrate the benefits of IPE. In addition, academia is challenged with providing adequate recognition and promotion incentives for those faculties who participate in team teaching and IPE, training, and practice.

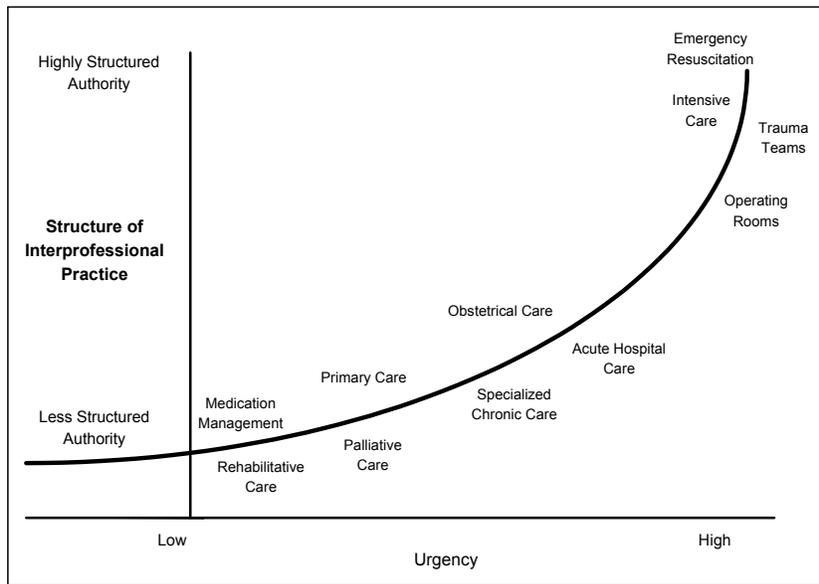
Insufficient curriculum development

Development of interprofessional curricula is challenging because educators are already finding it difficult to meet existing accreditation requirements. This was the most commonly cited barrier to further adoption of IPE in a survey by Rafter et al. (2006). There are also scheduling and logistic challenges in structuring learning opportunities, interactions, and training in clinical practice with multiple professions. Also, educators from different professions bring their own teaching approaches as well as specific expectations regarding performance in their profession.

Practice-level challenges within teams

IPP may be challenging for providers because they often have different understandings of what collaboration means. This may involve differing or changing views of power, status, and authority (Reeves & Lewin, 2004). Because of the overlapping skills among team members, there is a risk of territoriality, especially if responsibilities aren't clearly defined and agreed upon by the team. Among the challenges in establishing effective integrated teams is the lack of mutual understanding of roles and lack of interprofessional training among providers (Brashers et al., 2001). Providers can be a significant obstacle because of the tradition of individualism in medicine. Team members must work collaboratively using an interprofessional approach that integrates the unique approaches of various providers. The urgency of care can influence how different health professionals are involved with the delivery of care. In settings with high urgency, authority is more structured and explicit. As depicted in the chart in Figure 2, low urgency settings may be more amenable to flexible practice models (Retchin, 2008).

Figure 2: Degree of structured authority according to urgency



Strategies for Addressing Changes

The previous section reviewed challenges associated with increasing adoption of IPE and IPP to support healthcare reform objectives. This section discusses strategies for addressing those challenges. To identify strategies, the ACICBL considered input from subject-matter experts and deliberated on the issue during meetings in January, April, and August 2009. A review of the literature was also conducted. A set of strategies was identified to address the issues raised in the *Challenges* section of this report. These strategies, summarized in Figure 3, are outlined in this section. From these strategies, the ACICBL developed a set of recommendations, which are presented in the next section on *Recommendations with Rationale*.

Figure 3: Strategies for addressing changes

	Challenge	Strategy
National	<ul style="list-style-type: none"> Lack of IP accreditation standards Insufficient evaluation of the effectiveness of IP education and practice Lack of resources for the dissemination of best practices Reimbursement policies provide disincentives for IP care Lack of interoperable information technology inhibits communication and collaboration 	<ul style="list-style-type: none"> Adopt accreditation standards for IP education Conduct evaluations to further assess effectiveness of IP education and practice Implement knowledge sharing resources to disseminate best practices Facilitate establishment of reimbursement policies that support IP practice Establish standards for information systems and data elements to facilitate collaboration
State	<ul style="list-style-type: none"> Lack of knowledge regarding scope of practice in other professions 	<ul style="list-style-type: none"> Incorporate IP scope of practice content into basic and continuing education
Local / Institutional	<ul style="list-style-type: none"> IP faculty development is insufficient Insufficient interprofessional curriculum development Practice-level challenges 	<ul style="list-style-type: none"> Provide IP faculty development resources to health professions schools Provide IP curriculum development resources to health professions schools

National Level Strategies

Adopt accreditation standards for interprofessional education

While approximately nine health professions disciplines have made progress in incorporating interprofessional competencies in accreditation, there is still a lack of interprofessional accreditation standards in the majority of health professions, which has been a barrier to more widespread adoption of IPE. Accreditation standards should be adopted in all health professions. Establishment of these standards could be facilitated by convening organizations such as the Council for Higher Education Accreditation and the Department of Education along with the multiple accrediting agencies for healthcare professionals. The Health Resources and Services Administration (HRSA) could serve as a vehicle for uniting accreditation groups to foster changes.

Conduct evaluations to further assess the effectiveness of interprofessional education and practice

While there is increasing evidence of the contribution of IPE and IPP (Remington, Foulk, & Williams, 2006; Reeves, Zwarenstein, Goldman, Barr, Freeth, & Hammick, 2008; Hammick, Freeth, Koppel, Reeves, & Barr, 2007), a need still exists for further research to provide other perspectives on the impact of and best practices for IPE and IPP. Although measures should be developed to include a range of clinical outcomes and education-related outcomes, program evaluation should focus primarily on education-related outcomes. The selection of education-related measures should be informed by published competency models such as the Consultant Group of Interprofessional Professionalism and by review of Canadian evaluation tools to measure outcomes. Funding and technical assistance should be provided to support the evaluation of IPE and IPP initiatives, and data collection to quantify the success of those initiatives.

Implement knowledge sharing resources to disseminate best practices

In the United States, there is currently a lack of resources for identifying and sharing best practices for IPE and IPP. There is a need to improve how the results of various program initiatives are disseminated, in order to facilitate the exchange of information, identify and disseminate best practices, and provide support for organizations implementing IPE and IPP. This type of facilitation has been used in other countries seeking to advance IPE and IPP. For example, Canada's health agency maintains a web site with resources on topics such as best practices, evaluation, and research.

Facilitate establishment of reimbursement policies that support interprofessional practice

Current healthcare insurance reimbursement policies may favor individual healthcare professionals who work independently, thereby providing disincentives for team-based healthcare. A revised reimbursement model that reflects the value of interprofessional primary and community-based care should be promoted. This revised reimbursement model would provide incentives for the increased adoption of interprofessional prevention models of care. An example of an institution that supports a team-based approach is the Mayo Clinic. Instead of a hierarchical approach, the Mayo Clinic's model uses a team approach with different team leaders

at different times. Reimbursement for care is returned to the facility rather than a specific health profession. This supports a team approach and prevents the encouragement of professional silos.

Establish standards for information systems and data elements to facilitate collaboration

As discussed above, there are challenges in providing IPE and IPP, given the disparate information systems and infrastructures that provide team service across the healthcare professions. Standard platforms and data definitions should be established to facilitate communication and collaboration. The transformation from proprietary paper medical records to universal electronic records would improve standardization and records access for team members who provide care for a patient.

State Level Strategies

Incorporate interprofessional scope of practice content into basic and continuing education

There is often ambiguity and differing expectations regarding the roles of various professionals in interprofessional contexts. This can inhibit effective collaboration among providers. Basic and continuing education should address the topic of team member roles by providing content on scope of practice of various professionals.

Case Study from Sports Medicine

Sports medicine is typically practiced by interprofessional teams consisting of physicians, physical therapists, chiropractors, and other health professionals. Key elements of delivery of sports medicine are the emphasis on performance and a client-centered model of practice. Sports medicine during competition has two main dimensions: on-site emergency care in response to incidents, and management of injuries so that athletes can continue to perform. Outside of competition, sports medicine deals more with injury rehabilitation and prevention. Overall primary healthcare related to non-sport specific concerns is important in both settings. Theberge (2008) conducted a study of sports medicine teams which included interviews with 35 healthcare professionals. Highlights from this study include the following:

- When asked to discuss working in these settings, most respondents said they enjoyed the experience, particularly the opportunity to work closely with experts in their own and other professions.
- When asked about challenges to the collaborative approach, most respondents emphasized that when strains occurred, they most often resulted from an individual's inability to work within the team framework. Some respondents also pointed to structural relations between professions as a key influence on interdisciplinary collaborations.
- Respondents typically indicated that working relations generally were collegial and smooth. The main factors that enable this, in addition to the ability to work within a team framework and to keep the athlete's concerns paramount, are the clear boundaries and complementary components in each profession's scope of practice, along with the common agreement that the physician has the ultimate authority.

Theberge (2008)

Local Level Strategies

Provide interprofessional faculty development resources to health professions schools

Faculty development is an important component to establishing effective IPE. Faculty development programs should provide (a) IPE and collaborative patient-centered practice, teaching and learning, and leadership and organizational change; (b) take place in a variety of settings, using diverse formats and educational strategies; (c) model the principles and premises of IPE and collaborative practice; (d) incorporate principles of effective educational design; and (e) consider the adoption of a dissemination model to implementation (Steinert, 2005).

Provide interprofessional curricula development resources to health professions schools

The curricula should emphasize the core competencies that will best prepare providers to practice in an interprofessional context. This includes the IOM-highlighted delivery of patient-centered care, working as part of an interprofessional team, emphasizing evidence-based practice, focusing on quality improvement approaches, and using information technology (Greiner & Knebel, 2003). Reeves and colleagues emphasized learner-focused factors: promote interprofessional interaction, group dynamics, professional balance and stability, and “relevance and status: ensuring IPE is valued to optimize success in their work” (Reeves, Goldman, & Oandasan, 2007). Some curricular topics are better suited to IPE than other subjects. Figure 4 depicts topics that are well suited to IPE.

Figure 4: Curricular topics suited to IPE

- Adherence and persistence (including behavioral modification and medication therapy)
- Biomedical and clinical sciences (e.g., pathophysiology, pharmacology)
- Care for patients with acute illnesses
- Care for patients with chronic illnesses
- Communication skills (including both provider-to-patient and provider-to-provider skills, health literacy)
- Contemporary healthcare systems (including the economics of health and medicine)
- Cultural awareness and international health
- Elements and dynamics of patient management (including electronic/informatics)
- Emergency preparedness (including bioterrorism, natural disasters, CPR, ACLS)
- Evidence-based medicine (including clinical research methods, biostatistics, literature evaluation)
- Professional ethics
- Public health (including nutrition, health promotion, disease prevention)
- Quality assurance and patient safety
- Special patient populations (e.g., patients with disabilities, underserved populations, palliative care, rural populations, patients with HIV/AIDS, and mental illness)
- Interprofessional team roles, responsibilities, and professionalism (including value of each profession, professionalism, team building, conflict negotiation)

Buring et al. (2009)

Recommendations with Rationale

Recommendation 1

The Department of Health and Human Services should convene a summit of major accrediting bodies and educational leaders in the health professions to produce a position statement to guide interprofessional curricula development (classroom and clinical education) and promote concurrence in accreditation requirements across professions.

Background and Rationale

Typically, students in the healthcare professions are taught within academic silos, limiting the development and application of interprofessional learning, interaction, training, and clinical practice. This approach does not adequately prepare students to work within interprofessional teams upon entering the workforce. Furthermore, faculty and educational administrators often perceive accreditation standards as a barrier to interprofessional approaches to curricula development and practice, due to inconsistencies in those standards across the health professions.

Given the importance of accrediting bodies in establishing national standards for health professions education and practice, the ACICBL recommends that HRSA engage major accrediting bodies and educational leaders in setting common or “core” criteria, to integrate IPE and IPP into their health professions educational standards.

“We haven’t done the work on the educational side to prepare our health workforce to work together, and we are now dumping them into practice realities where collaboration is expected.”

Madeline Schmitt, Ph.D., RN
Testimony before ACICBL, April 20, 2009

In addition, all accredited health professions programs should provide evidence of having incorporated interprofessional competencies as outcomes, both in educational curricula and clinical practice experiences. Accrediting bodies should serve as the catalyst for interprofessional approaches in student education, fostering the development of core competencies for IPE and clinical practice in subject matter areas relevant to all healthcare professions.

The basic elements of IPE include establishing a common ethical framework; instilling attitudes, knowledge and skills for working in teams, and training to build readiness for collaborative teamwork. Curricular topics should address core competencies outlined in the IOM’s report “Health Professions Education: A Bridge to Quality” (2003), and feature interprofessional courses relevant to all healthcare professions such as:

- patient-centered care,
- evidence-based practice,
- cultural competency,
- quality improvement approaches,
- health information technology/informatics,
- telemedicine/telehealth,
- interprofessional team dynamics, and
- meeting healthcare disparity challenges.

Shared clinical experiences could include community-based projects for students, such as community health fairs, chronic disease management, or other health promotion projects. Accrediting bodies should develop student learning competency standards and expected outcomes for IPE, including cross-professional subject matter areas that are linked to accreditation.

Recommendation 2

The Department of Health and Human Services should support the development of IPE evaluation tools, including the establishment of a national clearinghouse of IPE research, data, curricula, and best practices to promote the adoption and dissemination of IPE programs in the health professions.

Background and Rationale

From testimony, the ACICBL determined that a number of IPE models exist throughout the United States, but there are few evaluation instruments in place for measuring the effectiveness of IPE approaches to health professions education. Current evaluation instruments consist of the Readiness for Interprofessional Learning Scale (RIPLS) and Interdisciplinary Education Perception Scale (IEPS); however, more evaluation tools must be developed to not only perpetuate IPE best practices but also substantiate the continuing value of IPE. In addition, the establishment of a national clearinghouse would function as a resource center for the collection and dissemination of research methods, data, curricula, evaluation tools, and best practices on IPE and IPP. This would promote the interprofessional educational paradigm and facilitate adoption of best practices by researchers, educators, and practitioners.

Recommendation 3

The Department of Health and Human Services should convene a grantee summit on interprofessional faculty development to ensure that faculty can educate and prepare students in the health professions for practice in interprofessional teams.

Background and Rationale

Evidence reveals that IPE and IPP can contribute to increasing the quality of healthcare while decreasing cost. Health professions students are often taught in discipline-specific silos, unique to their particular areas of study. Discipline-specific environments do not provide the optimal learning experience for students to practice effectively in primary care or in the future healthcare system.

Well-trained faculty members are crucial in the preparation of future healthcare providers for IPP. This summit would provide an opportunity for faculty to (a) interact with experts in IPE and IPP; (b) identify best practices that reflect critical curricular components and prepare students to attain necessary knowledge, attitudes, and skills for IPP;

“As we all know, often health-care professionals work in silos. So we think it is very important that from an early stage in the curriculum, the students learn about the scope and practice of other health-care professionals.”

Kathy McGuinn, MSN, RN, CPHQ
Testimony before ACICBL, August 13, 2009

and (c) acquire innovative and specific teaching and learning strategies for integrating IPP into the education of students.

The summit would prepare faculty to model and facilitate IPE and IPP, and allow dissemination of best practices

involving interprofessional curricula to other colleagues for widespread adoption. This would transform the educational system from encouraging healthcare practice within silos to one that promotes interprofessional, team-based practice and attitudes.

“Our role in accreditation is to respect the diversity of the missions that you have selected for your institutions and to see how the individual health professions link to that larger mission.”

Jennifer Butlin, EdD
Testimony before ACICBL, August 13, 2009

Recommendation 4

The Department of Health and Human Services should convene a series of meetings with representatives from the Centers for Medicare & Medicaid Services (CMS), the Agency for Healthcare Research and Quality (AHRQ), and health professions accrediting bodies, to examine Title VII, Part D health professions programs and identify funding opportunities for cross-agency and program collaboration that support interprofessional team training and practice.

Background and Rationale

The ACICBL, in examining testimony of successful IPE programs, acknowledged that an absence of funding for interprofessional team practice and training has created both fiscal and logistic challenges that inhibit IPE implementation in the current practice setting. Additional work must be funded to prepare faculty and healthcare professionals for their newly emerging roles. This work should include meetings that review, identify, and explore current educational models, successful IPE models, and fiscal models/financial incentives such as Pay for Performance and Patient Centered Health Care Home. These models could serve and potentially support interprofessional, evidence-based practice and new academic partnerships/collaborations for integrated learning, attaining economic efficiencies across schools and institutions.

Creating a collaborative funding mechanism, through a series of demonstration projects supporting education, training and interprofessional clinical practice, has the potential to advance integrated, quality care into healthcare reform efforts. The use of demonstration projects can bridge the gap and support IPP by leveraging the fiscal resources of HRSA, CMS, and AHRQ to develop and support unique, funded models of IPE training.

As state governments and many publicly-funded academic institutions experience continued fiscal pressures, it is time to transition from structures that silo professional identities to new models supporting collaborative health professions training. This would foster a framework of core interprofessional competencies that collectively improve patient quality of care by leveraging the skills of multiple disciplines in a synergistic fashion.

The current clinical environment does not financially support practitioners who are engaged in IPP and the delivery of team care. The ACICBL acknowledges the need to fund IPP and team care through models of care coordination that address building a critical support framework.

Recommendation 5

The Department of Health and Human Services should provide a mechanism to create a shared set of core interprofessional competencies that can be applied to Title VII, Part D programs.

Background and Rationale

There is a growing culture of interprofessional competency-based education and training within and across all of the health professions. Based upon expert testimony, the ACICBL is aware that interprofessional team synergy is, indeed, greater than the sum of each professional's knowledge, and that "interprofessional professionalism" is now a necessary core competency throughout the education, training and practice of a healthcare professional. However, the *language* of interprofessional competency-based education/training terms, in definition and curricula, is not used congruently across all health disciplines. In order to enhance patient safety and quality care, quality education, training, and terminology must be consistent across disciplines. The ACICBL believes there are best practices that can illustrate shared curricula or shared clinical training experiences. Facilitating broader involvement of key faculty from the healthcare disciplines and identifying core, interprofessional competencies and expected outcomes from shared, competency-based curricula will be vital to integrated care delivery programs.

Summary of Recommendations

The ACICBL reviewed the current status, challenges, best practice models, and opportunities for IPE and IPP during the April and August 2009 meetings and has identified a distinct opportunity for Title VII, Part D programs to make a significant contribution to the advancement of healthcare reform objectives. Interprofessional core competencies should be identified to provide a foundation for IPE training curricula. This approach is consistent with recommendations in the Institute of Medicine (IOM) reports "Health Professions Education: A Bridge to Quality" (2003) and "Retooling for an Aging America: Building the Healthcare Workforce" (2008) that encourages improvement in the quality of care and the development of creative educational strategies to address problems/challenges in the current healthcare delivery system. Based on the imperatives of the IOM reports and the growing body of knowledge supporting IPE and training, the ACICBL developed five recommendations for policymakers to consider for preparing the healthcare workforce to practice interprofessionally. Their recommendations focus on advancing IPE and training across the health professions and care continuum.

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Appendix 1: April ACICBL Meeting Presentation Summaries

Is It ALL About Safety? National and International Perspectives on the Rationale for Interprofessional Education: Work Forces Shortages, Access to Care, and Comprehensive Care

Madeline Schmitt, PhD/Professor Emeritus/University of Rochester School of Nursing

Summary:

Dr. Madeleine Schmitt provided a brief review of events in the United States, United Kingdom, and Canada, and a comparison of each country's maturity with interprofessional education (IPE). She identified best practices and underlying factors that can assist in IPE adoption, then discussed the growth of the IPE knowledge base, principles, and best practices with a vision for IPE in the United States. She presented the rationale and definition of IPE. She then proposed a broader set of objectives from IPE, beyond safety, to meet challenges of access to care, workforce shortages, and costly, comprehensive care.

Starting in the late 1940s, medical literature addressed the importance of interprofessional practice (IPP) in primary care, rural care, mental healthcare, geriatrics, critical care, hospice, and palliative care. IPE began in the late 1960s when Henry Silver and Loretta Ford collaborated and created the nurse practitioner role; subsequently, the United States experienced an IPE resurgence in the late 1990s when a series of government/IOM reports on healthcare safety/quality emphasized system redesign and improved interprofessional teamwork and coordination. These efforts culminated in the 2001 IOM report, "Crossing the Quality Chasm: A New Healthcare System for the 21st Century," which stated that patients are adversely affected by insufficient cooperation and teamwork among healthcare professionals, causing redundancy, lack of continuity in care, miscommunication and excess costs (IOM, 2001). Subsequently, the 2003 IOM report, "Bridge to Quality: Health Professions Education," encouraged students and providers to develop/maintain a set of common core competencies, including working in interdisciplinary teams" (Greiner & Knebel, 2003). Leading healthcare organizations have also encouraged increased adoption of interprofessional, team-based models of care such as the Patient Centered Health Care Home, also known as the Patient Centered Medical Home and Patient Centered Medical Dental Home (PCM-DH). As noted by the Utilization Review Accreditation Commission (URAC), these care models can be applied to *all* patients, and not only patients with acute or chronic illness (URAC, 2010).

IPE and IPP in the United Kingdom are more thoroughly integrated into educational curricula and clinical practice. For instance, the United Kingdom established a national IPE organization during the early 1980s and formed a Joint Evaluation Team, which conducted an eight-year, worldwide review of IPE outcomes. In 1997, a major change in national government prompted a new approach to healthcare, resulting in a series of reports during 2000-2001 that recommended linking changes in healthcare to changes in health professions education. Currently, the United Kingdom is rapidly expanding institutionalization of IPE within universities, and in partnerships between universities and employing agencies, to advance large-scale IPE. Their emphasis on quality/safety often parallels efforts in the United States.

While recent, IPE/IPP initiatives in Canada are widespread and adequately funded. Canadian efforts began with local educational initiatives that accelerated after the year 2000, when Canadian reports linked healthcare reform with multi-disciplinary healthcare organizations and primary care areas. Additionally, the Canadian Interprofessional Health Collaborative funds and disseminates information and case studies on IPE/IPP initiatives throughout Canada.

The U.S. health system faces significant challenges in care and cost that demand a new system of healthcare. There is increasing evidence that IPE and IPP among health professionals is crucial to address these challenges and that IPP encourages continuity in care and efficiency in cost.

Dr. Schmitt outlined a number of issues facing IPE in the United States. There is currently “no national network to link, advocate and integrate disparate pieces, including prevention, continuing education, and interprofessional health care design.”

Other IPE issues include a lack of:

- awareness of IPE best practices,
- funding (IPE funded as an ancillary, not base, budget line item),
- faculty IPE skills, and
- educational evaluation and research.

IPE efforts must focus beyond safety objectives and address patient “access to care, workforce shortages, and comprehensive care as the broader picture of IPE.” In addition, Dr. Schmitt recommended that the IPE concept must be extended beyond medicine and nursing to include all healthcare professionals. To face these challenges, a paradigm must be developed to include educational initiatives that enhance learner outcomes and prepare a healthcare workforce for collaborative practice. Significant opportunities exist to identify and share current best practices, and promote integrated, broad-based adoption and implementation of IPE and IPP by:

- implementing national healthcare initiatives for IPE integration,
- maintaining centralized IPE clearinghouses for data/information/best practice dissemination, and
- providing adequate funds, through existing infrastructure and administration, for IPE and practice.

To understand how IPE and IPP can increase the quality of primary care and support healthcare reform objectives, it is important to know the elements comprising IPE and how IPE can provide an opportunity to address current and significant challenges in the U.S. healthcare system. The basic elements comprising IPE are (a) a common ethical framework; (b) acquisition of knowledge, skills and attitudes to work within teams; and (c) teamwork training to build collaborative readiness.

The educational principles of IPE include:

- level, timing, and sequence of training;
- education-based and work-based training;
- a combination of didactic and experiential learning;
- active learning;

- problem-based learning;
- reflective learning;
- situational learning; and
- self-directed learning.

Dr. Schmitt commented that IPE is the key for linking student knowledge, skills, and attitudes with teamwork training to create a positive impact on patient outcomes in organizations and in communities. Furthermore, IPE and IPP is about interacting with other health professions in ways that providers learn together, learn from each other, and learn about each other. In turn, improved communication among healthcare professionals can reduce medical errors and testing redundancy, thereby lowering costs (Morey et al. 2002). Other benefits of improved communication include increased provider satisfaction, patient access to care, lower staff turnover, and lower costs through more effective utilization of resources (Lemieux-Charles & McGuire, 2006). Finally, improved teamwork can reduce precursors to malpractice claims (Barrett, Gifford, Morey, Risser, & Salisbury, 2001).

Interprofessional Education: Past, Present, and Future

Barbara Brandt, PhD/Assistant Vice President for Education and Director, Area Health Education Center Program/University of Minnesota

Summary:

Dr. Barbara Brandt reviewed IPE experiences by various medical schools and organizations in the United States and Canada. For instance, Minnesota has the fourth largest medical school in the United States, but cannot produce sufficient numbers of healthcare professionals to keep up with the growth in population, for the percentage of medical students selecting primary care is declining. Dr. Brandt then discussed benefits from IPE, beyond safety, including shorter and less costly patient care and increased patient/student satisfaction. She also proposed that IPE had the potential to reduce educational costs, given redundant curricula between medical disciplines. Dr. Brandt then noted the need for leadership to link education to the new models of care, noting that bold thinking will be required.

Dr. Brandt provided testimony that the University of Minnesota Medical School has a student-driven health center and center for homeless care as well as a campus infrastructure that supports IPE academically and physically (i.e., buildings interconnected). The Medical University of South Carolina has an academic health center that links IPE to interprofessional healthcare delivery, whereas the University of Texas Medical Branch, Galveston, has IPE programs and collaborative healthcare delivery included in Synergy, a Quality Enhancement Program. Organizational examples include the Association for Prevention Teaching and Research (APTR), a professional organization dedicated to prevention research and IPE within the medical academic and public health communities, and the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services, which provides a multimedia tool called TeamSTEPS to assist organizations with IPE and IPP implementation. In Canada, the Canadian Interprofessional Healthcare Collaborative (CIHC) includes educators, policymakers, health providers, students, and citizens committed to providing a comprehensive IPE model to improve the Canadian healthcare system. Canada also issues the Journal of Research in

Interprofessional Practice and Education, an open-access journal disseminating theoretical perspectives, methodologies, and evidence-based knowledge on IPE, IPP, and research.

Dr. Barbara Brandt stated that the percentage of medical students choosing primary care is declining, and we cannot afford to educate students using the same model. Addressing such factors requires more primary care providers, with emphasis on health promotion, preventive care, early intervention, and treatment of chronic disease across a continuum of healthcare settings (versus providing care within separate health profession “silos”). Improved collaboration can help to manage providers’ workloads, reduce patient wait times, and reduce the likelihood of patients suffering adverse reactions from care they receive (Canadian Health Services Research Foundation, 2006). There is a major opportunity to support high quality, patient-centered care and by addressing education as part of the solution.

Dr. Brandt proposed that IPE and IPP have significant potential because working together as professionals has so much more power to be transformative in both higher education and workforce development. In addition, IPE has potential benefits beyond safety—benefits that involve positive patient care outcomes. One example of the positive effect of IPE and IPP on patient care outcomes was the establishment of an IPP team within the Transitional Care Unit (TCU) of the Walker Methodist Health Center in Minneapolis, Minnesota. The team consisted of a nurse practitioner, a pharmacist, and a geriatric physician. As the result of this team-based approach to healthcare, Walker TCU patients had a lower rehospitalization rate (16.8 percent) than the general population of all Medicare patients (18 percent). In addition, Walker TCU patients experienced an average of seven days less hospital stay than traditional care, resulting in seven less days of reimbursement income per patient. Although the IPP team achieved significant cost savings for the Walker TCU, it was discontinued due to inadequate financial reimbursement.

Dr. Brandt concluded by noting that the term “interdisciplinary” implies a narrow focus within medicine whereas “interprofessional” encompasses a larger scope that includes all layers of healthcare professionals. Therefore, IPE best describes the education of future healthcare providers to work collaboratively, with effective coordination and communication.

Challenges, Opportunities, Best Practices, and Recommendations Specific to Interprofessional Professionalism as a Core Competency for Quality

Jody Gandy, PT, DPT, PhD/Director of Academic/Clinical Education Affairs/American Physical Therapy Association

Summary:

Dr. Jody Gandy represented the Consultant Group on Interprofessional Professionalism Measurement, a consortium of professional associations and members founded in 2006. Dr. Gandy’s testimony focused on common behavioral traits demonstrated by students, faculty, and practitioners in the health professions, as well as evaluation tools to measure these traits. These traits exemplify the collaborative behavior that future healthcare providers would demonstrate as a team. Her testimony also included various university programs that best exemplified IPE.

Dr. Jody Gandy stated that the development of evaluation tools involves a three-step process for measuring interprofessional professionalism when interacting with patients, family, and caregivers: (a) identify and describe terminology associated with IPP, (b) develop a toolkit to evaluate behaviors that depict IPP, and (c) distribute findings through publications such as the *Journal of Interprofessional Care and Academic Medicine*.

The Consultant Group performed a 2008-2009 survey of 205 respondents regarding behaviors depicting IPP. After reviewing a list of 43 interprofessional behaviors, 83% of respondents stated that such behaviors could be assessed. More than 73% of respondents reported they could measure these behaviors in professional students and in students from other health professions as well as other practicing professionals. The Consultant Group is examining future research questions, such as whether the lack of one or more of the 43 IPP behavioral traits could be used to detect potential IPP problems.

Dr. Gandy also mentioned programs at various universities that exemplify best practices in IPE: Western University in California; Saint Louis University in Missouri; East Carolina University in North Carolina; University of Toronto in Canada; Rosalind Franklin University in Illinois; Mayo Clinic in Minnesota; University of Washington; University of Kentucky; and the University of Colorado. To Dr. Gandy, these programs illustrate it is possible to “change the culture from a hierarchical model to one with shared leadership and responsibility.”

In addition to IPE barriers noted by Dr. Brandt, Dr. Gandy observed that reimbursement based upon fee for service perpetuates the “silo” approach in healthcare, for “billing isn’t done as a team. It is only done as an individual discipline or profession.”

Interprofessional Education and Models for Practice: Visions of the Possible

Gail M. Jensen, PhD, PT, FAPTA/Graduate Dean/Associate Vice President/Academic Affairs/Faculty Associate, Center for Health Policy and Ethics/Creighton University

Summary:

Dr. Gail Jensen proposed a systems view that focuses on societal, organizational, and individual aspects similar to the progress underway in Canada and the United Kingdom. The first case presented involved the University of Nebraska, which received two Allied health grants and two Quentin N. Burdick grants to build a physical therapy clinical practice for two Native American rural communities. Building trust and communications were the keys to success. The second case focused on the scholarship of teaching and learning in higher education at the Carnegie Academy of Teaching and Learning, which had an emphasis on application, engagement, and teaching, setting the stage for educational reform. Dr. Jensen then provided comments on why efforts in Canada are successful.

Dr. Gail Jensen proposed a reflective look at IPE and IPP, and its positive impact on individuals, institutions, and society. She commented that both the United Kingdom and Canada have developed IPE from a systems view. Therefore, to move forward, the United States must explore innovative systematic changes to implement, through funding and policy at HRSA, as well as with institutions and colleagues both in practice and in academia.

Dr. Jensen's first case involved an IPE program and its positive impact on a rural and underserved population. The University of Nebraska received HRSA funding for two Allied health grants and two Quentin N. Burdick grants to establish interprofessional clinics in the Winnebago and Omaha Native American communities. During the initial assessment, the program staff evaluated community needs, established a congruent mission, and built interprofessional partnerships with departments such as occupational therapy, physical therapy, and pharmacy at Creighton University and Clarkson College. This led to the development of a clinical practice that included physical and occupational therapists, the establishment of an Office of Interprofessional Scholarship, Service and Education, and the expansion of clinic services to include nursing and medicine.

Dr. Jensen's second case focused on the scholarship of teaching and learning in higher education at the Carnegie Academy of Teaching and Learning (CASTL). Carnegie provides a strong model of leadership transformation, and CASRL offers a variety of programs that address all the three system levels: societal, organizational, and individual. The value of these programs is in building leaders, disseminating information through national and regional programs, and building affiliations with other professional associations and societies. CASTL also supports comparative studies of education across professions, including concepts in doctoral education and assessment of common, core educational concepts shared across professionals. A key finding has been that "professional education lacks a kind of moral compass" that considers the broader context of healthcare practice delivery beyond the clinical profession.

Because these IPE programs provided a positive impact, it is important to understand the barriers to the establishment of IPE at institutions and universities. Within the United States, there is significant variation in the language used in accreditation standards across the health professions, which makes it difficult to articulate IPE outcomes. Part of the success of the IPE efforts in Canada is the adoption of a global definition of IPE that could encompass every health discipline, including a common set of goals and core competencies. Given these contexts, standard definitions of IPE student learning competencies and outcomes are needed that cross professions and link to accreditation. In parallel, the need for faculty development is essential to ensure requisite knowledge and skills to support the progression of IPE.

Appendix 2: August ACICBL Meeting Presentation Summaries

Thomas Jefferson University Jefferson InterProfessional Education Center (JCIPE)

Molly Rose, PhD, RN/Professor of Nursing/Co-Director, Jefferson Inter-professional Education Center/Thomas Jefferson University

Summary:

Dr. Molly Rose described the Jefferson Inter-professional Education Center (JCIPE) and its Health Mentor and Mini-Grant faculty development programs, which provide a valuable example of IPE working models. She also detailed evaluation results from JCIPE.

Dr. Molly Rose provided testimony about the Jefferson InterProfessional Education Center (JCIPE) in Philadelphia, Pa., whose mission is “to promote excellence in health through IPE and scholarship.” JCIPE programs, such as the Health Mentor Program, offer great potential for meeting the critical health needs that arise from our rapidly aging population and the increase in chronic conditions—factors that contribute to escalating healthcare costs. The programs encourage faculty and future healthcare providers to work together in providing patient-centered care. The web site is: <http://jeffline.jefferson.edu/jcipe>

Dr. Rose spoke about JCIPE programs, particularly the Health Mentor and Mini-Grant Programs, that provide curricula and faculty integration of IPE and practice for healthcare professionals. The Health Mentor Program matches a team of three to five students from different health professions with a health mentor (i.e., an adult volunteer from the community) who has one or more chronic conditions or disabilities. Students meet with the health mentor and complete curricula assignments, built around the Wagner Chronic Care Model, over a two-year period. At the start of the program and at the end of their first year, students complete a “Perception of Health Evaluation” in which they are instructed to answer “as if” they are a patient with a chronic condition. Student answers are then compared with answers from actual patients. Dr. Rose stated that after one year in the Health Mentor Program, *student answers moved closer to patient scores in all healthcare disciplines.* In addition, the Mini-Grant Program encourages IPE and development for faculty, providing seed research money of up to \$5,000 to conduct interprofessional projects. This program has resulted in a nine-month interprofessional fellowship, two interprofessional projects, and an IPE evaluation/research seminar series. These effective programs at JCIPE are the result of a comprehensive effort at IPE implementation.

IPE Evaluation

Carolyn Giordano, MA/Senior Research Analyst, Center for Collaborative Research/Thomas Jefferson University

Summary:

Ms. Carolyn Giordano described measuring students’ attitudes towards and readiness for IPE and their perceptions of their own and other health professions at Thomas Jefferson University. She used surveys and focus groups, then asked students to write reflection papers summarizing their experiences. Ms. Giordano subsequently analyzed results of this feedback.

Ms. Carolyn Giordano described efforts to measure students' attitudes toward IPE using the Readiness for Interprofessional Learning Scale (RIPLS). Her study also used the Interdisciplinary Education Perception Scale (IEPS), designed to measure the perception of students in interdisciplinary settings about their own and other professions. Both tools use five point scales, i.e., scale of 1 is "strongly disagree," scale of 5 is "strongly agree." Students were surveyed to determine if there were any (a) differences among health professions in IPE readiness, and (b) changes in IPE attitudes from pre-participation in JCIPE's Health Mentor Program to the end of year one in the program. The web site for the Health Mentor Program is: <http://jeffline.jefferson.edu/jcipe/hmp>

Ms. Giordano's results showed that the "understanding others" (i.e., patient) value significantly increased from pre-participation to the end of year one. Students liked IPE and understood that it will help them in the future. They appreciated learning how to act as a team, and enjoyed learning about the roles of others. However, many new students found it difficult to teach others about their professional role because they were still learning about their own health profession. To address this issue, future iterations of this program may describe health profession roles more clearly during orientation.

In this program, students were also asked to write reflection papers. When Ms. Giordano analyzed their feedback, seven themes emerged. Students had:

- ability to see the patient-mentor as an individual,
- increased positive attitudes toward chronic conditions,
- increased positive attitudes toward elderly and the aged,
- broader understanding of the healthcare provider's role,
- increased understanding of the importance of communication between healthcare provider and patient,
- realized the importance of patient-centered care, and
- a more thorough understanding of the healthcare system.

The University's next steps will include refining the program based on evaluation data, increasing the number of interprofessional programs, evaluating the program's impact on Health Mentors, continuing to develop a model to assess patient outcomes related to IPE, and assessing the long term impact on practice outcomes and choices by students.

Integrating Interprofessional Education: The MUSC Experience

Amy V. Blue, PhD/Assistant Provost for Education/Professor of Family Medicine/Medical University of South Carolina

Summary:

Dr. Amy Blue detailed the mission, goals, and implementation of IPE through the Creating Collaborative Care (C3) program at the Medical University of South Carolina (MUSC). She then described the collaborative domains that function under the C3 program.

Dr. Amy Blue defined MUSC as a "free-standing academic health center" composed of six colleges: dentistry, graduate studies, health professions, medicine, nursing, and pharmacy. She

described the university's approach to IPE implementation. The web site is:
<http://www.musc.edu>

The IPE mission of the MUSC is Creating Collaborative Care (C3). Beginning in 2007, C3 assists students in developing the skills and abilities to collaborate as effective team members in interprofessional healthcare delivery practice or research.

C3's goals are for students to:

- acquire teamwork competencies;
- acquire knowledge, values, and beliefs of health professions different from their own;
- apply their teamwork competencies in a collaborative, interprofessional learning context; and
- demonstrate teamwork competencies in their future practice.

To put their IPE plan into action, MUSC developed four collaborative domains: curricular, extracurricular, healthcare simulation, and faculty development. Curricular collaboration consists of an Interprofessional Service Learning Project (ISLP), an Interprofessional Education Fellowship, and a core IPE course. The Presidential Scholars Program and Junior Doctors of Health Program comprise extracurricular collaboration, and a Simulated Interprofessional Rounding Experience (SIRE) provides healthcare simulation. An IPE Faculty Institute, as well as inclusion of interprofessional collaboration as faculty evaluation criteria, completes the faculty development domain.

Integrating Interprofessional Education: The Role for the Nation's AHECs and Other Organizations

David R. Garr, MD/Executive Director, South Carolina Area Health Education Center/
Associate Dean for Community Medicine and Professor of Medicine, Medical University of
South Carolina

Summary:

Dr. David Garr described how Area Health Education Centers (AHECs) in South Carolina, New York, Massachusetts, and Florida are supporting IPE. He also described another IPE initiative, sponsored by the Association for Prevention Teaching and Research (APTR).

Dr. David Garr began by describing the role of South Carolina's Area Health Education Centers (AHEC) Program in supporting IPE. A five-week program, with initial funding from the Quentin N. Burdick Program, was established in 1996 for interprofessional student teams to work in rural communities. This program grew to include dental, health administration, medical, undergraduate and advanced practice nursing, nutrition, occupational therapy, pharmacy, physical therapy, physician assistant, public health, social work, and speech therapy students from the Medical University of South Carolina (MUSC) and from six other academic institutions across the state. Offered in all four of the state's AHEC regions beginning in 2000, this program has evolved into a year-round program for MUSC students—a joint effort involving campus faculty, community-based preceptors, and health professions student coordinators from each AHEC Center. Students, initially skeptical about the program, have been very satisfied and

enthusiastic about the experience, for they enjoyed working with and learning from students in other disciplines.

In New York, the University of Buffalo sponsors the Interprofessional Care of Underserved Populations, a semester-long course for graduate and undergraduate health profession students, and a Summer Rural Experience, where students participate in an eight-week rotation in healthcare settings such as nursing homes, assisted living facilities, and a home health agency. Also, the university conducts an Interdisciplinary Interest Group on Health Disparities. In Massachusetts, the University of Massachusetts sponsors The Rural Health Scholars Program for students interested in rural practice, and a Community Health Clerkship, where second year medical and nurse practitioner students work with community-based agencies to learn about population health. In Florida, the University of South Florida sponsors an Interdisciplinary Community Health Scholars Program, where students work in four-person interprofessional teams to address a specific health need in the community.

Dr. Garr also described another IPE initiative sponsored by the Association for Prevention Teaching and Research (APTR). APTR, a professional organization for the academic medical and public health community, hosted a two-day program during 2007 and 2008 called the Institute for Interprofessional Prevention Education. This program consisted of 28 teams, each team consisting of at least three members from different health professions. This program enabled faculty to describe a proposed IPE project and receive insightful feedback from other members.

Interprofessional Communication & Collaboration for Improving Patient Health Outcomes

Kathy McGuinn, MSN, RN, CPHQ/Director of Special Projects, American Association of Colleges of Nursing (AACN)

Summary:

Ms. Kathy McGuinn detailed the steps involved in compiling a new series of AACN Essentials documents for graduates of Baccalaureate, Masters, and Doctor of Nursing Practice (DNP) programs. These documents integrated recommendations from the IOM 2003 report for the education of healthcare professionals. She also listed exemplary programs at the University of Minnesota (BSN), St. Louis University, University of Kentucky (DNP), and University of Tennessee (DNP).

Ms. Kathy McGuinn noted that the American Association of Colleges of Nursing (AACN) is the nation's recognized leader in setting educational standards for professional nursing programs, and she outlined the steps necessary to compile a new series of AACN Essentials documents. A two-year consensus-building process began with assembling a task force of national experts to develop curriculum content and three to five required competencies. Afterwards, regional meetings were held throughout the United States, and feedback during these meetings was posted on AACN's web site for additional comment. Finally, competencies were submitted to the AACN board, then to the membership for a vote of approval and endorsement. This resulted in a series of Essentials documents that outlined required curriculum content and expected

competencies for graduates of Baccalaureate, Masters, and Doctor of Nursing Practice (DNP) programs. Documents available include:

- The Essentials of Doctoral Education for Advanced Nursing Practice, October 2006;
- The Essentials of Baccalaureate Education for Professional Nursing Practice, October 2008; and
- The Essentials of Masters Education in Nursing, October 2010 (Draft).

All documents in the new Essentials series integrated the IOM 2003 recommendations for the education of all healthcare professionals, including patient-centered care, evidence-based practice, quality improvement, informatics, and teamwork and collaboration (Greiner & Knebel, 2003). For example, Ms. McGuinn outlined the six competencies for a Bachelor's Degree in Nursing, according to the Essentials of Baccalaureate Education for Professional Nursing Practice:

1. Compare/contrast the roles and perspectives of the nursing profession with other care professionals on the healthcare team (i.e., scope of discipline, education, and licensure requirements).
2. Use inter- and intraprofessional communication and collaborative skills to deliver evidence-based, patient-centered care.
3. Incorporate effective communication techniques, including negotiation and conflict resolution to produce positive professional working relationships.
4. Contribute the unique nursing perspective to interprofessional teams to optimize patient outcomes.
5. Demonstrate appropriate teambuilding and collaborative strategies when working with interprofessional teams.
6. Advocate for high quality and safe patient care as a member of the interprofessional team.

Ms. McGuinn commented that AACN provides sample content and toolkits to assist faculty in revising curricula because "...there is an urgent need for faculty development regarding these new competencies."

In addition, she provided examples of universities that integrated Essentials content into their IPE programs:

- University of Minnesota has teams of students that solve a quality/safety issue from a case (CLARION, or Clinician Administrator Relationship Improvement Organization). Student teams operate an interprofessional neighborhood clinic, and an "Interprofessional Ethics" course is offered for undergraduate nursing students. Two disciplines, nursing and pharmacy, provide flu shots across campus.
- St. Louis University has an IPE Certificate Program that incorporates students from nursing, physical therapy, athletic training, occupational therapy, health information and informatics management, clinical laboratory science, investigative medical science, nutrition, and dietetics. The program consists of five courses in interprofessional healthcare, such as evidenced-base practice, as well as attendance in interprofessional grand rounds two times each semester.

- University of Kentucky has a Doctorate of Nursing Program (DNP) that includes courses in applying leadership, communication, and collaborative skills within the clinical component of the course. This program entails interviewing nursing and healthcare leaders to determine system-wide issues, and collaborating in small interprofessional teams to resolve such issues.
- University of Tennessee has a DNP that includes close working relationships with multiple disciplines. The Health Memphis Common Table involves students working with community health organizations and the food service industry to assist and assess in the analysis of obesity programs in Memphis. The university also sponsors a Coordinated Community Response to Elder Abuse, which matches a DNP student with law enforcement, prosecutors, and advocates for the elderly to develop a coordinated community response to elder abuse.

Commission on Collegiate Nursing Education (CCNE): An Update

Jennifer Butlin, EdD/Director, Commission on Collegiate Nursing Education/American Association of Colleges of Nursing

Summary:

Dr. Jennifer Butlin provided background on the Commission on Collegiate Nursing Education (CCNE), listed the Commission's goals, and reviewed the CCNE-revised standards for accreditation of Baccalaureate and Graduate degree nursing programs.

Dr. Jennifer Butlin testified that the Commission on Collegiate Nursing Education (CCNE), an autonomous arm of the American Association of Colleges of Nursing, has goals to evaluate the success of nursing programs in meeting their missions, assess which nursing programs meet standards, and hold nursing programs accountable.

Dr. Butlin described CCNE's ongoing work, which includes accreditation of 883 nursing programs at 526 institutions; new applicants include 48 nursing programs at 40 institutions. CCNE began to review Doctorate of Nursing Programs (DNPs) for accreditation in Fall 2008. The CCNE Board accredited four DNPs in Spring 2009, and revised standards for Baccalaureate and Graduate degree accreditation. Standards were revised for clarity and consistency, definitions were added, and details provided to define expectations and enhance understanding. Additional revised documents were incorporated, including:

- The Essentials of Baccalaureate Education for Professional Nursing Practice (American Association of Colleges of Nursing, 2008);
- The Essentials of Doctoral Education for Advanced Nursing Practice (American Association of Colleges of Nursing, 2006); and
- Criteria for Evaluation of Nurse Practitioner Programs (National Task Force on Quality Nurse Practitioner Education, 2008).

Curricula are developed, implemented, and revised to reflect relevant professional nursing standards and guidelines that include an interprofessional component. Each degree program and specialty area incorporates professional nursing standards and guidelines relevant to that

program/area, and clearly demonstrates where and how content, knowledge, and skills are incorporated into the curriculum.

Dr. Butlin explained that although the revised Standards for accreditation is a new document, CCNE maintains the same commitment to quality nursing education. In addition, CCNE has a new commitment to accredit DNP programs, and a more explicit focus on distance education.

Emerging Technologies for Interprofessional Health Education

Ronald Weinstein, M.D./Director, Arizona Telemedicine Program/College of Medicine, University of Arizona

Summary:

Dr. Ronald Weinstein presented testimony about the Institute for Telemedicine and Telehealth, created in 1996 and located within the College of Medicine at the University of Arizona. He described the Institute's background and discussed success stories, demonstrating that technology enables healthcare and education that can be conducted not only across different health disciplines but also across geographic distance.

Dr. Ronald Weinstein presented testimony on the Institute for Telemedicine and Telehealth, providing IPE and telemedicine through broadband access to patients at 160 sites in 71 communities in Arizona. In total, there have been "...almost a million telemedicine cases" in Arizona. Created in 1996, the Arizona Telemedicine Network received initial funding for a telemedicine pilot program; however, broadband infrastructure statewide did not exist. Therefore, the Institute created its own telecommunications company, subcontracted telecom companies to place wires in the ground, and employed its own engineers at the network to monitor telecommunication switches and devices. In operation since 1998, this secure network exists strictly for telemedicine and e-learning.

Dr. Weinstein shared the following details regarding telemedicine. The telemedicine program has a diverse group of patients, ranging from Native Americans to private patients to prisoners (once telemedicine was in place with prisoners, the number of filed grievances plummeted from 250–300 a year to almost zero, for patients felt "heard" when using the network). Services mostly cover radiology, pathology, telepsychiatry, and dermatology. However, Dr. Weinstein commented that approximately 61 specialty healthcare providers have used the telemedicine service. Telemedicine also offers quality of life improvements, for recuperating patients can stay with relatives while having an examination remotely. Conversely, patients staying in the hospital can connect with family from another state. On-site nurses can monitor pediatric patients, yet confer with pediatricians remotely to determine if infants require helicopter evacuation to a larger medical center.

During testimony, Dr. Weinstein also mentioned his involvement with the creation of rapid through-put breast health clinics, offering mammography results in 45–90 minutes to patients in the Navajo nation. Based upon favorable patient feedback with the Navajo nation, Dr. Weinstein investigated offering a similar service in an urban environment, where patients would receive a mammogram in the morning, then talk with a cancer specialist three hours later. Subsequently, a survey was conducted using the rapid through-put model. One hundred fifty two patients

participated in the survey, and thirty to thirty-five had positive biopsies. All women with positive biopsies stated that they would rather be informed of their results by cell phone than return to the clinic for their results and speak with a specialist. Dr. Weinstein wondered if “we are moving toward a generation that just wants to know the facts.” Therefore, it appears that evaluation is always paramount in gauging the needs of a patient population.

Dr. Weinstein noted that, to his knowledge, no single insurance company has raised rates because of telemedicine. He commented, “there hasn’t been a single case out of 20 million telemedicine cases where the physician turned out to be at greater risk because he/she had done telemedicine.” In fact, he explained that healthcare providers appear to be better prepared when consulting with a telemedicine patient, because they need to review patient information first before engaging with a patient during a telemedicine appointment.

Dr. Weinstein pointed out that every state approaches telemedicine differently. For instance, in California, a physician can obtain a telemedicine license *provided* he/she does not have a physical office in California. In addition, Medicare has been slow to authorize reimbursement for telemedicine yet Medicaid will reimburse—provided it is categorized as an academic topic. Such lack of consistency illustrates that the challenges of telemedicine appear to mirror the current state of IPE implementation in our nation.

In addition, Dr. Weinstein provided the following details regarding e-learning. The Institute built a 17-person T-Health amphitheatre for interprofessional student e-groups and decentralized distance learning. Queuing management tools have been developed, such as Interprofessional Health Education (IPHE) e-Stacks, IPHE e-Swaps, and IPHE Student Queue, to enable IPE and conferencing technologies while ensuring etiquette tools are in place. Also, e-learning technologies are optimal for engaging in “Jeopardy-style,” game-based learning for students. Future plans for the Institute include team-focused educational pathways; interprofessional team research; patient-centric healthcare training, simulation, and virtual reality programs; and distance learning.

