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Core Competencies for Interprofessional Collaborative Practice

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Report of an Expert Panel

May 2011

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Core Competencies for Interprofessional Collaborative Practice

Report of an Expert Panel

This report is inspired by a vision of interprofessional collaborative practice as key to the safe, high quality, accessible, patient-centered care desired by all. Achieving that vision for the future requires the continuous development of interprofessional competencies by health professions students as part of the learning process, so that they enter the workforce ready to practice effective teamwork and team-based care. Our intent was to build on each profession's expected disciplinary competencies in defining competencies for interprofessional collaborative practice. These disciplinary competencies are taught within the professions. The development of interprofessional collaborative competencies (interprofessional education), however, requires moving beyond these profession-specific educational efforts to engage students of different professions in interactive learning with each other. Being able to work effectively as members of clinical teams while students is a fundamental part of that learning.

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Organization of Report

This report is organized in the following fashion: first, we provide key definitions and principles that guided us in identifying core interprofessional competencies. Then, we describe the timeliness of interprofessional learning now, along with separate efforts by the six professional education organizations to move in this direction. We identify eight reasons why it is important to agree on a core set of competencies across the professions. A concept- interprofessionality- is introduced as the idea that is foundational to the identification of core interprofessional competency domains and the associated specific competencies. Interprofessional education has a dynamic relationship to practice needs and practice improvements. In the concluding background section, we describe three recently developed frameworks that identify interprofessional education as fundamental to practice improvement.

Then, the competency approach to learning is discussed, followed by what distinguishes *interprofessional* competencies. We link our efforts to the five Institute of Medicine (IOM) core competencies for all health professionals (IOM, 2003). The introduction and discussion of the four competency domains and the specific competencies within each form the core of the report. We describe how these competencies can be formulated into learning objectives and learning activities at the pre-licensure/pre-certifying level, and name several factors influencing choice of learning activities. Educators are now beginning to develop more systematic curricular approaches for developing interprofessional competencies. We provide several examples. We conclude the report with discussion of key challenges to interprofessional competency development and acknowledge several limitations to the scope of the report. An appendix describes the goals of the IPEC group that prompted the development of this report, the panel's charge, process and participants.

Setting the Parameters

Preliminary work to review previously identified interprofessional competencies and related frameworks, along with core background reading on competency development, preceded our face-to-face, initial meeting. Consensus working definitions of interprofessional education and interprofessional collaborative practice were agreed to at that meeting. The need to define the difference between teamwork and team-based care as different aspects of interprofessional collaborative practice, and agreement on competency definitions came later in our work. The definitions we chose for interprofessional education and interprofessional collaborative practice are broad, current, and consistent with language used widely in the international community. Teamwork and team-based care definitions distinguish between core processes and a form of interprofessional care delivery. Competency definitions are consistent with the charge given to the expert panel by the Interprofessional Education Collaborative.

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Operational Definitions

Interprofessional education: "When students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes" (WHO, 2010)

Interprofessional collaborative practice: "When multiple health workers from different professional backgrounds work together with patients, families, carers [sic], and communities to deliver the highest quality of care" (WHO, 2010)

Interprofessional teamwork: The levels of cooperation, coordination and collaboration characterizing the relationships between professions in delivering patient-centered care

Interprofessional team-based care: Care delivered by intentionally created, usually relatively small work groups in health care, who are recognized by others as well as by themselves as having a collective identity and shared responsibility for a patient or group of patients, e.g., rapid response team, palliative care team, primary care team, operating room team

Professional competencies in health care: Integrated enactment of knowledge, skills, and values/attitudes that define the domains of work of a particular health profession applied in specific care contexts

Interprofessional competencies in health care: Integrated enactment of knowledge, skills, and values/attitudes that define working together across the professions, with other health care workers, and with patients, along with families and communities, as appropriate to improve health outcomes in specific care contexts

Interprofessional competency domain: A generally identified cluster of more specific interprofessional competencies that are conceptually linked, and serve as theoretical constructs (ten Cate & Scheele, 2007)

We agreed that the competency domains and specific competencies should remain general in nature and function as guidelines, allowing flexibility within the professions and at the institutional level. Faculty and administrators could access, share, and build on overall guidelines to strategize and develop a program of study for their profession or institution that is aligned with the general interprofessional competency statements but contextualized to individual professional, clinical, or institutional circumstances. We identified desired principles of the interprofessional competencies:

- Patient/family centered (hereafter termed "patient centered")
- Community/population oriented
- Relationship focused
- Process oriented
- Linked to learning activities, educational strategies, and behavioral assessments that are developmentally appropriate for the learner
- Able to be integrated across the learning continuum
- Sensitive to the systems context/applicable across practice settings
- Applicable across professions
- Stated in language common and meaningful across the professions
- Outcome driven

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Why Interprofessional Competency Development Now?

> *"Why do we need to educate teams for the delivery of health care? Who should be educated to serve on health delivery teams? How should we educate students of health professions in order that they might work in teams (emphasis on classroom and basic behavioral and biological sciences curriculum)? How should we educate students and health professionals in order that they might work in teams (emphasis on clinical training)? What are the requirements for educating health professionals to practice in health care delivery teams? What are the obstacles to educating health professionals to practice in health care delivery teams?"*
>
> (IOM, 1972, pp. 1-2)

Currently, the transformation of health professions education is attracting widespread interest. The transformation envisioned would enable opportunities for health professions students to engage in interactive learning with those outside their profession as a routine part of their education. The goal of this interprofessional learning is to prepare all health professions students for ***deliberatively working together*** with the common goal of building a safer and better patient-centered and community/population oriented U.S. health care system.

Interest in promoting more team-based education for U.S. health professions is not new. At the first IOM Conference, "Interrelationships of Educational Programs for Health Professionals," and in the related report "Educating for the Health Team" (IOM, 1972), 120 leaders from allied health, dentistry, medicine, nursing, and pharmacy considered key questions at the forefront of contemporary national discussions about interprofessional education.

The move to encourage team-based education at that time grew out of several assumptions made by that IOM Committee: that there were serious questions about how to use the existing health workforce optimally and cost-effectively to meet patient, family, and community health care needs; that educational institutions had a responsibility not only to produce a healthcare workforce that was responsive to health care needs but also to ensure that they could practice to their full scope of expertise; that optimal use of the health professions workforce required a cooperative effort in the form of teams sharing common goals and incorporating the patient, family, and/or community as a member; that this cooperation would improve care; and that the existing educational system was not preparing health professionals for team work. Almost 40 years later, these issues are still compelling.

The 1972 Conference Steering Committee recommendations were multilevel: organizational, administrative, instructional, and national. At the organizational and instructional levels, they cited the obligation of academic health centers to conduct interdisciplinary education and patient care; to develop methods to link that education with the "practical requirements" of health care; to use clinical settings, especially ambulatory settings, as sites for this education; to integrate classroom instruction in the humanities and the social and behavioral sciences; and to develop new faculty skills in instruction that would present role models of cooperation across the health professions. At the national level, the recommendations called for developing a national "clearinghouse" to share instructional and practice models; providing government agency support for innovative instructional and practice models, as well as examining obstacles to such efforts; and initiating a process in the IOM to foster interdisciplinary education in the health professions. These recommendations have currency today.

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The IOM report encouraged funding for educational demonstrations of interdisciplinary professional education in the Health Resources and Services Administration (HRSA), and the effort garnered substantial foundation support. However, such programs remained largely elective, dependent on this external support, and targeted small numbers of students. Several intra- and interprofessional factors limited "mainstreaming" of interprofessional education during this time (Schmitt, Baldwin, & Reeves, forthcoming).

Reports between then and now (e.g., O'Neil & the Pew Health Professions Commission, 1998) have made similar recommendations, and interprofessional care has found traction in numerous specialized areas of health care. However, with the isolation of health professions education from the practice of health care, practice realities have not been sufficient to motivate fundamental health professions' educational changes. Compelling larger-scale practice issues that emerged in the past decade have prompted broad-based support for changes in health professions education, including interactive learning to develop competencies for teamwork and team-based care.

Widespread patient error in U.S. hospitals associated with substantial preventable mortality and morbidity, as well as major quality issues, has revealed the inadequacies in costly systems of care delivery (IOM, 2000, 2001). It is clear that ***how*** care is delivered is as important as ***what*** care is delivered. Developing effective teams and redesigned systems is critical to achieving care that is patient-centered, safer, timelier, and more effective, efficient, and equitable (IOM, 2001). Equipping a workforce with new skills and "new ways of relating to patients and each other" (IOM, 2001, p. 19) demands both retraining of the current health professions workforce and interprofessional learning approaches for preparing future health care practitioners.

The focus on workforce retraining to build interprofessional teamwork and team-based care continues, particularly in the context of improving institutional quality (effectiveness) and safety (Agency for Healthcare Research and Quality, 2008; Baker et al., 2005a, 2005b; King et al., 2008). Growing evidence supports the importance of better teamwork and team-based care delivery and the competencies needed to provide that kind of care.

The passage of the Recovery and Reinvestment Act of 2009 (Steinbrook, 2009) and the Patient Protection and Affordable Care Act of 2010 (Kaiser Family Foundation, 2010) has stimulated new approaches, such as the "medical home" concept, to achieving better outcomes in primary care, especially for high-risk chronically ill and other at-risk populations. Improved interprofessional teamwork and team-based care play core roles in many of the new primary care approaches.
The idea of primary care and its relationship to the broader context of health is itself being reconsidered. First, in primary care there is a focus on expanded

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accountability for population management of chronic diseases that links to a community context. Second, health care delivery professionals jointly with public health professionals share roles and responsibilities for addressing health promotion and primary prevention needs related to behavioral change. Third, health care professionals and public health professionals work in collaboration with others on behalf of persons, families and communities in maintaining healthy environments, including responding to public health emergencies. All of these elements link direct health care professionals more closely with their public health colleagues. Therefore, the principles from which we worked included both patient-centeredness and a community/population orientation.

Teamwork training for interprofessional collaborative practice in health professions education has lagged dramatically behind these changes in practice, continually widening the gap between current health professions training and actual practice needs and realities. To spur educational change, after releasing the two reports on safety and quality (IOM, 2000, 2001), the IOM sponsored a second summit on health professions education. Attendees at the summit identified five competencies central to the education of all health professions for the future: provide patient-centered care, apply quality improvement, employ evidence-based practice, utilize informatics, and work in interdisciplinary teams (IOM, 2003). It was noted that many successful examples of interprofessional education exist but that "interdisciplinary education has yet to become the norm in health professions education" (IOM, 2003, p. 79).

Recognizing that health professions schools bear the primary responsibility for developing these core competencies, considerable emphasis also was placed on better coordinated oversight processes (accreditation, licensure, and certification) and continuing education to ensure the development, demonstration, and maintenance of the core competencies. The report indicated that although the *accrediting* standards of most professions reviewed contained content about interdisciplinary teams, few of these were outcomes-based competency expectations.

Interprofessional education, by profession

Policy, curricular, and/or accreditation changes to strengthen teamwork preparation are at various stages of development among the six professions represented in this report. The American Association of Colleges of Nursing, for example, has integrated interprofessional collaboration behavioral expectations into its "Essentials" for baccalaureate (2008) master's (2011) and doctoral education for advanced practice (2006). Leaders within nursing have drawn from the IOM framework of the five core competencies for all health professionals to compose pre-licensure and graduate-level competency statements geared toward quality and safety outcomes, which integrate teamwork and team-based competencies (Cronenwett et al., 2007, 2009).

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The Association of American Medical Colleges (AAMC) formally identified interprofessional education as one of two "horizon" issues for action in 2008, although calls for attention to interprofessional education can be traced back through a series of AAMC reports, including its landmark 1965 Coggeshall Report. An initial survey was conducted of interprofessional education in U.S. medical schools in 2008 and serves as a current benchmark (Blue, Zoller, Stratton, Elam, & Gilbert, 2010). The Accreditation Council on Graduate Medical Education (ACGME) Outcomes Project is being used as a competency guide by many undergraduate programs in medicine. It incorporates general competencies of professionalism, interpersonal and communication skills, and systems-based practice, along with an expectation that residents are able to work effectively as members or leaders of health care teams or other professional groups, and to work in interprofessional teams to enhance patient safety and care quality (ACGME, 2011). Analysis of data from a 2009 ACGME multispecialty resident survey showed that formal team training experiences with non-physicians was significantly related to greater resident satisfaction with learning and overall training experiences, as well as to less depression, anxiety, and sleepiness, and to fewer reports by residents of having made a serious medical error (Baldwin, 2010). Pilot work is ongoing by the American Board of Internal Medicine to evaluate hospitalist teamwork skills (Chesluk, 2010).

> *"Enhancing the public's access to oral health care and the connection of oral health to general health form a nexus that links oral health providers to colleagues in other health professions."*
>
> (Commission on Dental Accreditation, 2010, p. 12)

Dentistry has been developing competencies for the new general dentist. Among those competencies is "participate with dental team members and other health care professionals in the management and health promotion for all patients" (American Dental Education Association, 2008). Interprofessional education has been identified as a critical issue in dental education. Authors of a position paper have explored the rationale for interprofessional education in general dentistry and the leadership role of academic dentistry and organized dentistry in this area (Wilder et al., 2008). Accreditation standards for dental education programs adopted in August 2010 for implementation in 2013 contain language promoting collaboration with other health professionals (Commission on Dental Accreditation, 2010).

National pharmacy education leaders completed intensive study of interprofessional education and its relevance to pharmacy education (Buring et al., 2009). Curricular guidance documents (American Association of Colleges of Pharmacy, 2004), a vision statement for pharmacy practice in 2015 (Maine, 2005), and accreditation requirements (Accreditation Council for Pharmacy Education, 2011) now incorporate consistent language. Phrases such as "provide patient care in cooperation with patients, prescribers, and other members of an interprofessional health care team," "manage and use resources in cooperation with patients, prescribers, other health care providers, and administrative and supportive personnel," and "promote health improvement, wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an interprofessional team of health care providers" appear throughout those documents.

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The Association of Schools of Public Health (ASPH) recently released draft undergraduate learning outcomes relevant to all two- and four-year institutions. The most explicit of the four learning outcomes relevant to interprofessional education is: "Engage in collaborative and interdisciplinary approaches and teamwork for improving population health" (Association of Schools of Public Health, 2011, p. 5-6). At the master's level, 10 competencies create opportunities related to interprofessional education (Association of Schools of Public Health, 2006).

Interprofessional education has received some attention in the osteopathic medical literature (e.g., Singla, G. MacKinnon, K. MacKinnon, Younis, & Field, 2004). An exploratory analysis of the relationship between the principles of osteopathic medicine and interprofessional education is in press, as part of a description of a three-phase interprofessional education program underway involving one osteopathic medical school and eight other health professions (Macintosh, Adams, Singer-Chang, & Hruby, forthcoming, 2011). Interprofessional competencies developed for this program at Western University of Health Sciences anticipated the development of the expert panel's work.

> *"Many of our [osteopathic medical] colleges are moving into IPE with major initiatives, taking advantage of the environments offered by their colleagues in the other health professions within their universities or affiliates…"*
>
> (Shannon, 2011)

These educational changes suggest individual health professions' movement toward incorporating competency expectations for interprofessional collaborative practice. However, the need remains to identify, agree on, and strengthen core competencies for interprofessional collaborative practice across the professions.

Core competencies are needed in order to:

1) create a coordinated effort across the health professions to embed essential content in all health professions education curricula,

2) guide professional and institutional curricular development of learning approaches and assessment strategies to achieve productive outcomes,

3) provide the foundation for a learning continuum in interprofessional competency development across the professions and the lifelong learning trajectory,

4) acknowledge that evaluation and research work will strengthen the scholarship in this area,

5) prompt dialogue to evaluate the "fit" between educationally identified core competencies for interprofessional collaborative practice and practice needs/ demands,

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6) find opportunities to integrate essential interprofessional education content consistent with current accreditation expectations for each health professions education program (see University of Minnesota, Academic Health Center, Office of Education, 2009),

7) offer information to accreditors of educational programs across the health professions that they can use to set common accreditation standards for interprofessional education, and to know where to look in institutional settings for examples of implementation of those standards (see Accreditation of Interprofessional Health Education: Principles and practices, 2009; and Accreditation of Interprofessional Health Education: National Forum, 2009), and

8) inform professional licensing and credentialing bodies in defining potential testing content for interprofessional collaborative practice.

The Concept of Interprofessionality

Clear development of core competencies for interprofessional collaborative practice requires a unifying concept. D'Amour and Oandasan (2005) delineated the concept of interprofessionality as part of the background work for initiatives by Health Canada to foster interprofessional education and interprofessional collaborative practice. They defined ***interprofessionality*** as

> "the process by which professionals reflect on and develop ways of practicing that provides an integrated and cohesive answer to the needs of the client/family/population… [I]t involves continuous interaction and knowledge sharing between professionals, organized to solve or explore a variety of education and care issues all while seeking to optimize the patient's participation… Interprofessionality requires a paradigm shift, since interprofessional practice has unique characteristics in terms of values, codes of conduct, and ways of working. These characteristics must be elucidated" (p. 9).

The competency domains and specific competencies associated with them identified in this report represent our efforts to define those characteristics.

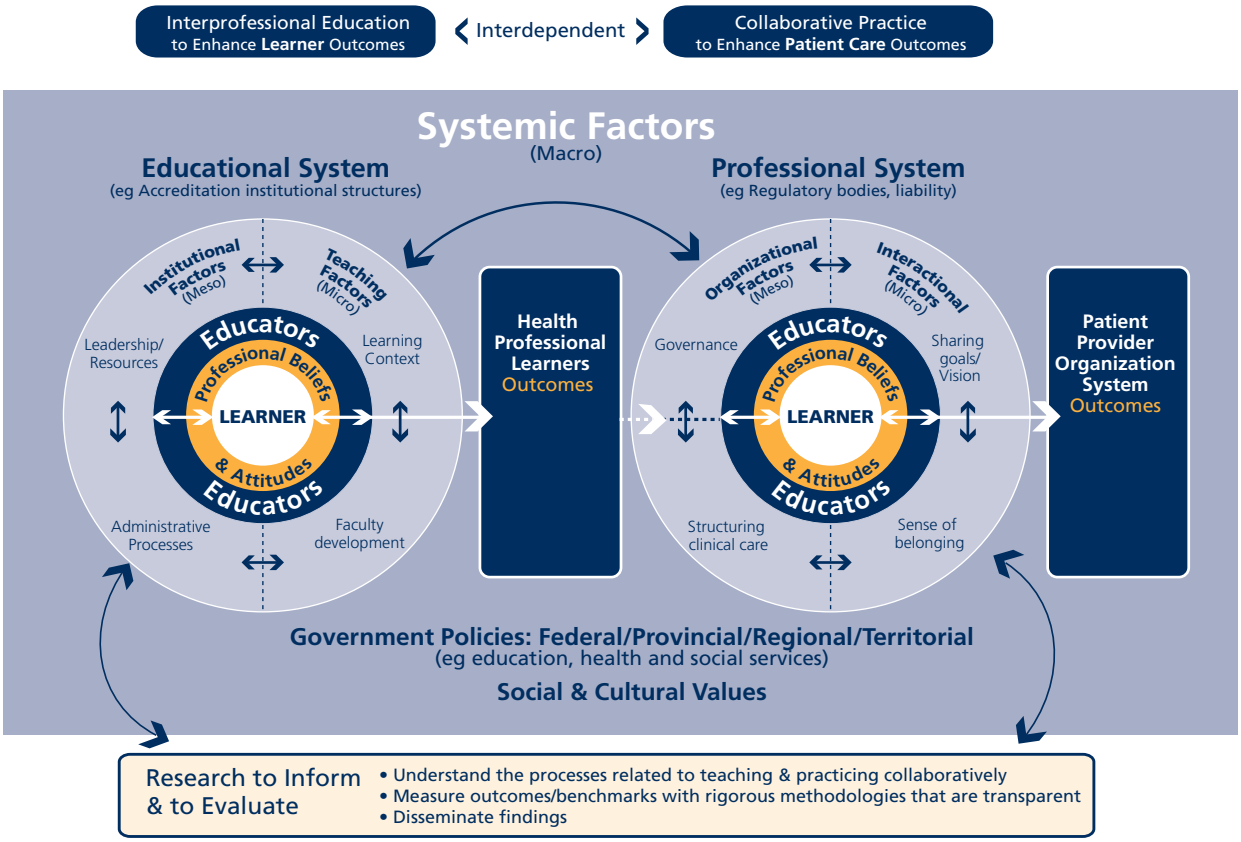
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Frameworks Reflective of the Interdependence between Health Professions' Education and Practice Needs

> *"Change professional training to meet the demands of the new health care system."*
>
> (O'Neil & the Pew Health Professions Commission, 1998, p. 25)

Until recently, no framework captured the interdependence between health professions' education competency development for collaborative practice and practice needs. Three frameworks now capture this interdependency, two of which arose specifically from an interprofessional context. D'Amour and Oandasan (2005) constructed a detailed graphic to illustrate interdependencies between health professional education and interprofessional collaborative practice, in the service of patient needs and community-oriented care [see figure 1].

FIGURE 1: Interprofessionality as the field of interprofessional practice and interprofessional education: An emerging concept.

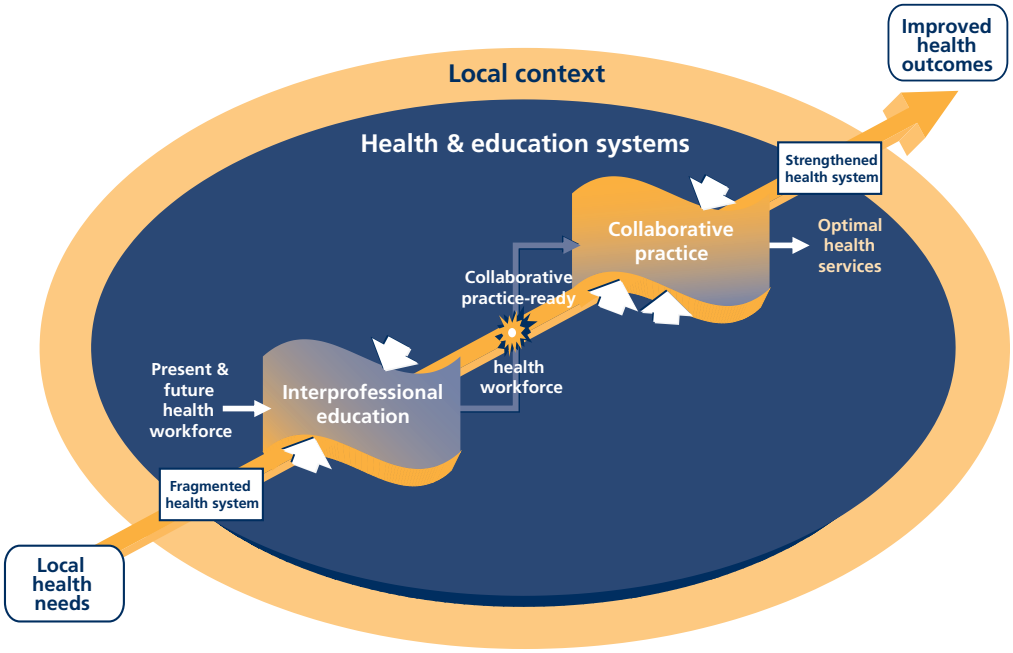


Reprinted with permission from *D'Amour, D. & Oandasan, I. (2005). Interprofessionality as the field of interprofessional practice and interprofessional education: An emerging concept. Journal of Interprofessional Care, Supplement 1, 8-20.*

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The WHO Study Group on Interprofessional Education and Collaborative Practice developed a global Framework for Action on Interprofessional Education and Collaborative Practice (WHO, 2010) and a graphic that shows the goal of interprofessional education as preparation of a "collaborative practice-ready" work force, driven by local health needs and local health systems designed to respond to those needs [see figure 2].

FIGURE 2: Framework for Action on Interprofessional Education & Collaborative Practice



Reprinted with permission from: ***World Health Organization (WHO). (2010). Framework for Action on Interprofessional Education & Collaborative Practice. Geneva: World Health Organization.***

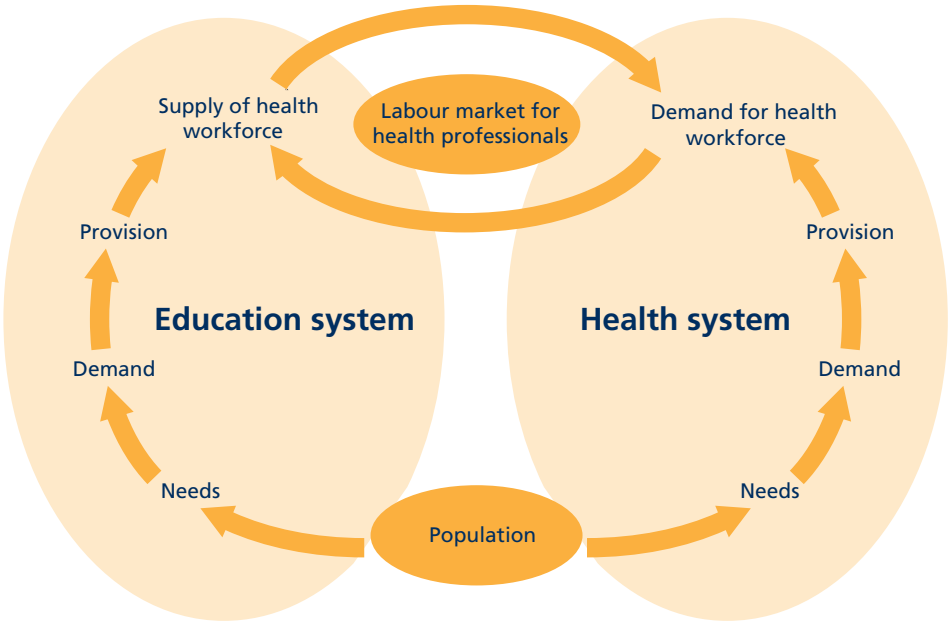
The WHO Framework highlights curricular and educator mechanisms that help interprofessional education succeed, as well as institutional support, working culture, and environmental elements that drive collaborative practice. The framework incorporates actions that leaders and policymakers can take to bolster interprofessional education and interprofessional collaborative practice for the improvement of health care. At the national level, positive health professions education and health systems actions are pointed to that could synergistically drive more integrated health workforce planning and policymaking.

Recently, the Commission on Education of Health Professionals for the 21st Century (Frenk et al., 2010) published an analysis of the disjunctions between traditional health professions education and global health and health workforce

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needs. Working from ideas of global social accountability and social equity, the commission proposed a series of recommendations to reform health professions education to prepare a global health workforce that is more responsive to actual population and personal health needs adapted to local contexts. A graphic depicts these interrelationships [see figure 3]. An important aspect of this report is the strong integration of public health preparation in the education of future heath care professionals. The "promotion of interprofessional and transprofessional education that breaks down professional silos while enhancing collaborative and non-hierarchical relationships in effective teams" (Frenk et al., p. 1,951) is one of 10 recommendations by the commission for preparing future health professionals to more adequately address global health needs and strengthen health systems.

FIGURE 3: Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world



Reprinted with permission from *Frenk, J., Chen, L., Bhutta, Z.A., Cohen, J., Crisp, N., Evans, T. et al. (2010). Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. The Lancet, 376 (9756), 1923-1958.*

Developers of these three frameworks target interprofessional education as a means of improving patient-centered and community-/population-oriented care. They situate interprofessional education and health professions education, in general, in a dynamic relationship with health care systems that are more responsive to the health needs of the populations they are designed to serve.

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The Competency Approach to Health Professions Education and Interprofessional Learning

Competency-based approaches to interprofessional education have developed in parallel to competency-based approaches within the health professions. These have emerged in response to the limitations of learning outcomes related to knowledge- and attitude-based methods (Barr, 1998).

Appendix 1 of the National Interprofessional Competency Framework for Canada provides an excellent summary of four different competency-based approaches, applied to interprofessional education competencies (Canadian Interprofessional Health Collaborative [CIHC], 2010), drawing on the work of Roegiers (2007). The CIHC adopted the integrated framework advocated by Peyser, Gerard, and Roegiers (2006), which emphasizes not only the competency outcomes themselves but also the educational processes that integrate knowledge, skills, attitudes, and values in the demonstration of competencies. The dual charge from IPEC to the expert panel to "recommend a common core set of competencies relevant across the professions to address the essential preparation of clinicians for interprofessional collaborative practice" and to "recommend learning experiences and educational strategies for achieving the competencies and related objectives" is consistent with an integrated approach to interprofessional education competency development and assessment. From a pre-licensure perspective, a core interprofessional competency approach emphasizes essential behavioral combinations of knowledge, skills, attitudes, and values that make up a "collaborative practice-ready" graduate (WHO, 2010).

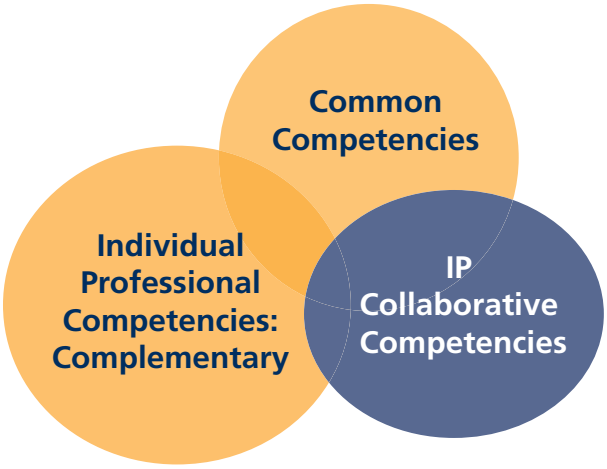
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Interprofessional Competencies

> *"It is no longer enough for health workers to be professional. In the current global climate, health workers also need to be interprofessional."*
>
> (WHO, 2010, p. 36)

Barr (1998) distinguished between types of competence from an interprofessional perspective [see figure 4]. According to Barr, "common" or overlapping competencies are those expected of all health professionals. It may be more helpful to think in terms of competencies that are common or overlapping ***more than one health profession*** but not necessarily ***all*** health professions. This can be the source of interprofessional tensions, such as in the debate about overlapping competencies between primary care physicians and nurse practitioners. The overlap may be a strategy to extend the reach of a health profession whose practitioners are inaccessible for various reasons. For example, a policy statement has called attention to the preventive oral health care role of pediatricians in primary care (American Academy of Pediatrics, 2008); and dental programs recognize that a dentist may be the "first line of defense" for not only oral but also some systemic diseases (Wilder et al., 2008). "Complementary" competencies enhance the qualities of other professions in providing care. Thus, while in this example dentists and pediatricians identify useful overlap in their roles consistent with their scope of practice, dentists and pediatricians mostly have complementary expertise. "Collaborative" competencies are those that each profession needs to work together with others, such as other specialties within a profession, between professions, with patients and families, with non-professionals and volunteers, within and between organizations, within communities, and at a broader policy level. Interprofessional collaborative competencies are the focus of this report.

FIGURE 4: Barr's (1998) three types of professional competencies

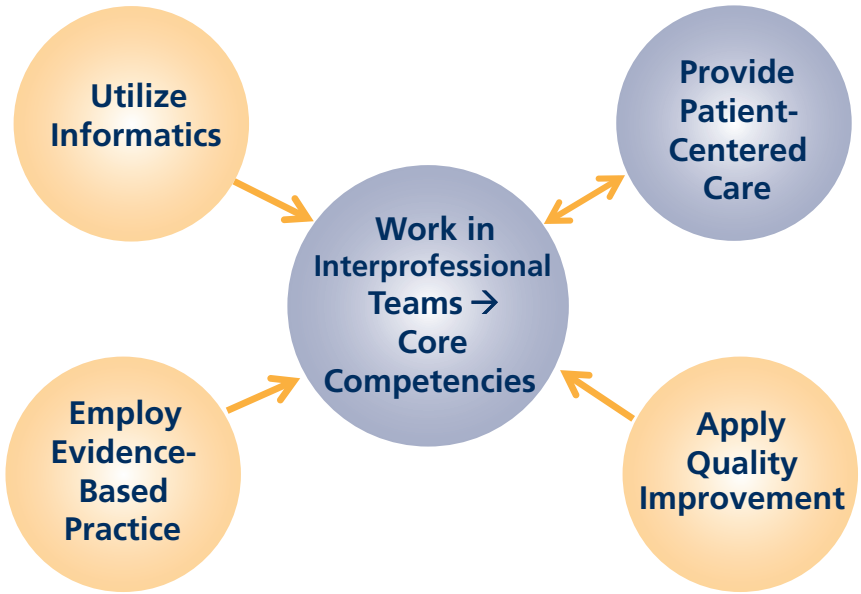


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Developing Interprofessional Education Competencies for Interprofessional Collaborative Practice in the U.S.

Our report examines the further development of the core competency—work in interdisciplinary teams—identified in the 2003 IOM report. Although the IOM report named the key processes of communication, cooperation, coordination, and collaboration in teamwork, the interprofessional competencies that underpin these processes were not defined. Also important to the elaboration of teamwork competencies are the interrelationships with the other four IOM core competencies (see Figure 5). Provision of *patient-centered care* is the goal of interprofessional teamwork. The nature of the relationship between the patient and the team of health professionals is central to competency development for interprofessional collaborative practice. Without this kind of centeredness, interprofessional teamwork has little rationale. The other three core competencies, *in the context of interprofessional teamwork*, identify 21st-century technologies for teamwork communication and coordination (i.e., informatics), rely on the evidence base to inform teamwork processes and team-based care, and highlight the importance of continuous improvement efforts related to teamwork and team-based health care.

FIGURE 5: Interprofessional Teamwork and IOM CORE COMPETENCIES



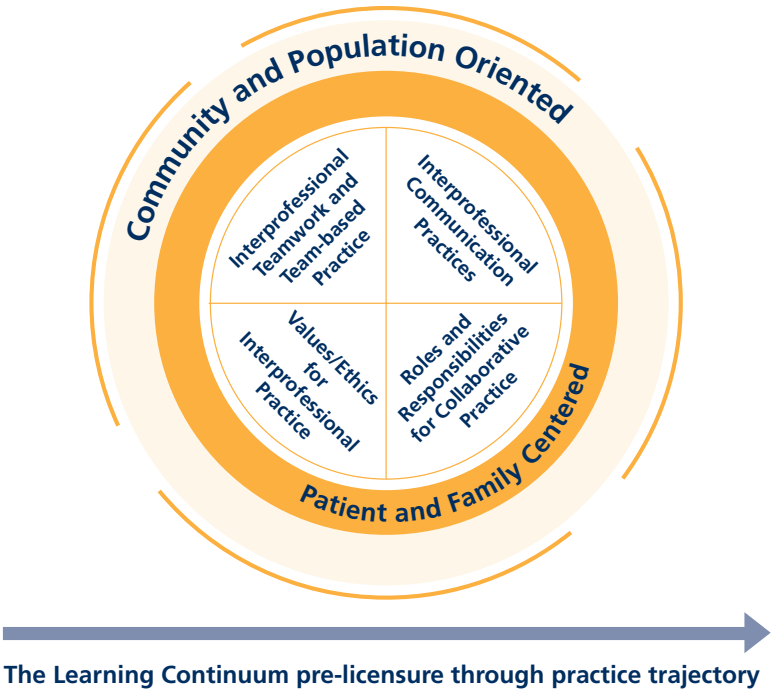
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Core Competencies for Interprofessional Collaborative Practice

National and international efforts prior to this one have informed the identification of interprofessional competency domains in this report (Buring et al., 2009; CIHC, 2010; Cronenwett et al., 2007, 2009; Health Resources and Services Administration/Bureau of Health Professions, 2010; Interprofessional Education Team, 2010; O'Halloran, Hean, Humphris, & McLeod-Clark, 2006; Thistlethwaite & Moran, 2010; University of British Columbia College of Health Disciplines, 2008; University of Toronto, 2008; Walsh et al., 2005). A number of U.S. universities who had begun to define core interprofessional competencies shared information on their efforts to define competency domains. [A list of universities is included at the end of the report.]

Although the number of competency domains and their categorization vary, we found convergence in interprofessional competency content between the national literature and global literature, among health professions organizations in the United States, and across American educational institutions. Interprofessional competency domains we identified are consistent with this content.
In this report, we identify four interprofessional competency domains, each containing a set of more specific competency statements, which are summarized in the following graphic [see figure 6].

FIGURE 6: Interprofessional Collaborative Practice Domains



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Interprofessional Collaborative Practice Competency Domains

Competency Domain 1:	**Values/Ethics for Interprofessional Practice**
Competency Domain 2:	**Roles/Responsibilities**
Competency Domain 3:	**Interprofessional Communication**
Competency Domain 4:	**Teams and Teamwork**

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Competency Domain 1: *Values/Ethics for Interprofessional Practice*

Background and Rationale: Interprofessional values and related ethics are an important, new part of crafting a professional identity, one that is both professional and interprofessional in nature. These values and ethics are patient centered with a community/population orientation, grounded in a sense of shared purpose to support the common good in health care, and reflect a shared commitment to creating safer, more efficient, and more effective systems of care. They build on a separate, profession-specific, core competency in patient-centeredness. Without persons who are sometimes patients and their families as partners in the team effort, the best interprofessional teamwork is without rationale. Teamwork adds value by bringing about patient/family and community/population outcomes that promote overall health and wellness, prevent illness, provide comprehensive care for disease, rehabilitate patients, and facilitate effective care during the last stages of life, at an affordable cost.

Health professions educators typically consider values and ethics content an element of professionalism, which has significant overlap with constructs of humanism and morality (Baldwin, 2006). "Old" approaches to professionalism have been criticized as being self-serving and are seen as creating barriers between the professions and impeding the improvement of health care (Berwick, Davidoff, Hiatt & Smith, 2001; IOM, 2001; McNair, 2005). "New" approaches are oriented toward helping health professions students develop and express values that are the hallmark of public trust, meaning the "other side" of professionalism (Blank, Kimball, McDonald & Merino, 2003; McNair, 2005). These values become a core part of one's professional identity, and Dombeck (1997) has labeled the moral agency associated with that identity as "professional personhood." However, the "new" professionalism in health professions education needs further development in the context of interprofessional collaborative practice, leading to several different approaches.

The **first** is a "virtues in common" approach (McNair, 2005) that draws on the work of Stern (2006) and others and is represented by the Interprofessional Professionalism Collaborative. The group defines "interprofessional professionalism" as

> "Consistent demonstration of core values evidenced by professionals working together, aspiring to and wisely applying principles of altruism, excellence, caring, ethics, respect, communication, [and] accountability to achieve optimal health and wellness in individuals and communities" (Interprofessional Professionalism Collaborative, 2010).

A **second** approach suggests ethical principles for everybody in health care to hold in common, recognizing the multidisciplinary nature of health delivery systems. This approach has been developed by the Tavistock group (Berwick et al., 2001), which noted that the problems of health systems are fundamentally ethical. The principles consider health and health care a right. They support

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balance in the distribution of resources for health to both individuals and populations; comprehensiveness of care; responsibility for continuous efforts to improve care; safety of care; openness in care delivery; and cooperation with those who receive care, among those who deliver care, and with others outside direct health care delivery. Cooperation is seen as the central principle.

A **third** approach, and the one adopted for this expert panel report, focuses on the values that should undergird *relationships* among the professions, joint relationships with patients, the quality of cross-professional exchanges, and interprofessional ethical considerations in delivering health care and in formulating public health policies, programs, and services.

Mutual respect and trust are foundational to effective interprofessional working relationships for collaborative care delivery across the health professions. At the same time, collaborative care honors the diversity that is reflected in the individual expertise each profession brings to care delivery. Gittell captured this link between interprofessional values and effective care coordination when she described the nature of relational coordination in health care: "Even timely, accurate information may not be heard or acted upon if the recipient does not respect the source" ((2009, p. 16).

Interprofessional ethics is an emerging aspect of this domain. This literature explores the extent to which traditional professional values, ethics, and codes need to be rethought and re-imagined as part of interprofessional collaborative practice. A common example has to do with the confidentiality of the practitioner-patient relationship in team-based care delivery. Important discussions are emerging in this area (Banks et al., 2010; Clark, Cott & Drinka, 2007; Schmitt & Stewart, 2011).

This competency domain is variously represented in other interprofessional competency frameworks. A key difference is whether values are integrated into other competencies as the attitude/value dimension of those competencies (e.g., QSEN competencies in nursing, Cronenwett et al., 2007, 2009 and A National Interprofessional Competency Framework-CIHC, 2010) or represented as a separate competency (e.g., University of Toronto IPE Curriculum, University of Toronto, 2008). The fact that each health profession has educational and accreditation requirements around professionalism creates an opportunity for curricular integration of interprofessional competencies related to values and ethics (University of Minnesota, Academic Health Center, Office of Education,2009), as well as the opportunity for accreditors to evaluate their presence and update requirements around professionalism to explicitly incorporate interprofessional values and ethics.

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General Competency Statement-VE. Work with individuals of other professions to maintain a climate of mutual respect and shared values.

Specific Values/Ethics Competencies:

VE1. Place the interests of patients and populations at the center of interprofessional health care delivery.

VE2. Respect the dignity and privacy of patients while maintaining confidentiality in the delivery of team-based care.

VE3. Embrace the cultural diversity and individual differences that characterize patients, populations, and the health care team.

VE4. Respect the unique cultures, values, roles/responsibilities, and expertise of other health professions.

VE5. Work in cooperation with those who receive care, those who provide care, and others who contribute to or support the delivery of prevention and health services.

VE6. Develop a trusting relationship with patients, families, and other team members (CIHC, 2010).

VE7. Demonstrate high standards of ethical conduct and quality of care in one's contributions to team-based care.

VE8. Manage ethical dilemmas specific to interprofessional patient/population centered care situations.

VE9. Act with honesty and integrity in relationships with patients, families, and other team members.

VE10. Maintain competence in one's own profession appropriate to scope of practice.

> *"We all have a moral obligation to work together to improve care for patients."*
>
> (Pronovost & Vohr, 2010, p. 137)

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Competency Domain 2: *Roles/Responsibilities*

Background and Rationale: Learning to be interprofessional requires an understanding of how professional roles and responsibilities complement each other in patient-centered and community/population oriented care. "Front line" health professionals (Suter et al., 2009) have identified being able to clearly describe one's own professional role and responsibilities to team members of other professions and understand others' roles and responsibilities in relation to one's own role as a core competency domain for collaborative practice. This domain is an explicit feature in most interprofessional competency frameworks (Thistlethwaite & Moran, 2010; WHO, 2010; CIHC, 2010; Cronenwett et al., 2007; University of Toronto, 2010).

"Variety diversity"—or categorical differences among team members—presents both a resource and a problem for teamwork in health care (Edmondson & Roloff, 2009). Diversity of expertise underpins the idea of effective teams. Diversity of background or cultural characteristics also adds to teamwork resources. Yet, stereotyping, both positive and negative, related to professional roles and demographic/cultural differences affect the health professions (Hean, in press). These stereotypes help create ideas about a profession's worth known as "disparity diversity" (Edmondson & Roloff), eroding mutual respect. Inaccurate perceptions about diversity prevent professions from taking advantage of the full scope of abilities that working together offers to improve health care.

The need to address complex health promotion and illness problems, in the context of complex care delivery systems and community factors, calls for recognizing the limits of professional expertise, and the need for cooperation, coordination, and collaboration across the professions in order to promote health and treat illness. However, effective coordination and collaboration can occur only when each profession knows and uses the others' expertise and capabilities in a patient-centered way.

Each profession's roles and responsibilities vary within legal boundaries; actual roles and responsibilities change depending on the specific care situation. Professionals may find it challenging to communicate their own role and responsibilities to others. For example, Lamb et al. (2008) discovered that staff nurses had no language to describe the key care coordination activities they performed in hospitals. Being able to explain what other professionals' roles and responsibilities are and how they complement one's own is more difficult when individual roles cannot be clearly articulated. Safe and effective care demands crisply defined roles and responsibilities.

Team members' individual expertise can limit productive teamwork across the professions. Collaborative practice depends on maintaining expertise through continued learning and through refining and improving the roles and responsibilities of those working together.

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General Competency Statement-RR. Use the knowledge of one's own role and those of other professions to appropriately assess and address the healthcare needs of the patients and populations served.

Specific Roles/Responsibilities Competencies:

RR1. Communicate one's roles and responsibilities clearly to patients, families, and other professionals.

RR2. Recognize one's limitations in skills, knowledge, and abilities.

RR3. Engage diverse healthcare professionals who complement one's own professional expertise, as well as associated resources, to develop strategies to meet specific patient care needs.

RR4. Explain the roles and responsibilities of other care providers and how the team works together to provide care.

RR5. Use the full scope of knowledge, skills, and abilities of available health professionals and healthcare workers to provide care that is safe, timely, efficient, effective, and equitable.

RR6. Communicate with team members to clarify each member's responsibility in executing components of a treatment plan or public health intervention.

RR7. Forge interdependent relationships with other professions to improve care and advance learning.

RR8. Engage in continuous professional and interprofessional development to enhance team performance.

RR9. Use unique and complementary abilities of all members of the team to optimize patient care.

> *"…teamwork requires a shared acknowledgement of each participating member's roles and abilities. Without this acknowledgement, adverse outcomes may arise from a series of seemingly trivial errors that effective teamwork could have prevented."*
>
> (Baker et al., 2005b, p. 14)

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Competency Domain 3: *Interprofessional Communication*

> *"When I was in medical school I spent hundreds of hours looking into a microscope—a skill I never needed to know or ever use. Yet, I didn't have a single class that taught me communication and teamwork skills—something I need every day I walk into the hospital."*
>
> (Pronovost & Vohr, 2010, p. 46)

Background and Rationale: In Suter et al.'s (2009) study, front-line health professionals identified communication as the second core competency domain, and in most competency frameworks communication is considered a core aspect of interprofessional collaborative practice. Developing basic communication skills is a common area for health professions education (e.g., AAMC, 1999), but health professions students often have little knowledge about or experience with interprofessional communication. More than a decade ago, an AAMC report on communication in medicine acknowledged the importance of being able to communicate effectively with "other members of the healthcare team, given the movement toward better integrated care" (AAMC, 1999, p. 6).

Communication competencies help professionals prepare for collaborative practice. Communicating a readiness to work together initiates an effective interprofessional collaboration. In a qualitative study of nurses' and resident physicians' definitions of collaboration (Baggs & Schmitt, 1997), respondents cited the ways in which health professionals communicate a readiness to work together. They named being available in place, time, and knowledge, as well as being receptive through displaying interest, engaging in active listening, conveying openness, and being willing to discuss as elements indicating readiness.

Using professional jargon creates a barrier to effective interprofessional care. A common language for team communication is a core aspect of the TeamSTEPPS team training program, which endorses practices such as SBAR, call-out, and check-back, whose aim is communication that is clearly understood (Agency for Healthcare Research and Quality, n.d.).

An important part of language is literacy, both general reading literacy and health literacy. Both play a part in teamwork and patient-centered care. Presenting information that other team members and patients/families can understand contributes to safe and effective interprofessional care.

One of the five IOM core competencies (IOM, 2003) is the ability to use informatics. Teamwork and team-based competency for better patient-centered care requires mastery of numerous new communication technologies.

Professional hierarchies created by demographic and professional differences are common but create dysfunctional communication patterns working against effective interprofessional teamwork. Further, considerable literature related to safe care now focuses on overcoming such communication patterns by placing responsibility on all team members to speak up in a firm but respectful way when they have concerns about the quality or safety of care. However, these communication patterns keep professionals from sharing their expertise across professional lines more generally. Learning to give and receive timely, sensitive, and instructive feedback with confidence helps health professionals improve their teamwork and team-based care.

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> *"Communicating refers to aspects of openness, style, and expression of feelings and thoughts. These communications are directed specifically at modifying teamwork aspects. Team-related communications exploit opportunities that influence team interactions, organization, and functioning."*
>
> (Essens et al., 2009)

Learning to work together to communicate and manage emotionally difficult information with patients and families, such as end-of-life information, or error disclosures requires openness, understanding, and an ability to convey messages in a sensitive and respectful manner.

General Competency Statement-CC. Communicate with patients, families, communities, and other health professionals in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of disease.

Specific Interprofessional Communication Competencies:

CC1. Choose effective communication tools and techniques, including information systems and communication technologies, to facilitate discussions and interactions that enhance team function.

CC2. Organize and communicate information with patients, families, and healthcare team members in a form that is understandable, avoiding discipline-specific terminology when possible.

CC3. Express one's knowledge and opinions to team members involved in patient care with confidence, clarity, and respect, working to ensure common understanding of information and treatment and care decisions.

CC4. Listen actively, and encourage ideas and opinions of other team members.

CC5. Give timely, sensitive, instructive feedback to others about their performance on the team, responding respectfully as a team member to feedback from others.

CC6. Use respectful language appropriate for a given difficult situation, crucial conversation, or interprofessional conflict.

CC7. Recognize how one's own uniqueness, including experience level, expertise, culture, power, and hierarchy within the healthcare team, contributes to effective communication, conflict resolution, and positive interprofessional working relationships (University of Toronto, 2008).

CC8. Communicate consistently the importance of teamwork in patient-centered and community-focused care.

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Competency Domain 4: *Teams and Teamwork*

> *"An essential component of patient-centered primary care practice is interprofessional teamwork. High-functioning teams require collaboration between physicians, nurses, pharmacists, social workers, clinical psychologists, case managers, medical assistants, and clinical administrators…"*
>
> (Department of Veterans Affairs, August 26, 2010, p. 2)

Background and Rationale: Learning to be interprofessional means learning to be a good team player. Teamwork behaviors apply in any setting where health professionals interact on behalf of shared goals for care with patients or communities. Teamwork behaviors involve cooperating in the patient-centered delivery of care; coordinating one's care with other health professionals so that gaps, redundancies, and errors are avoided; and collaborating with others through shared problem-solving and shared decision making, especially in circumstances of uncertainty. These processes reflect increasing levels of interdependence among those embedded in teams, in microsystems like hospital units, or in and between organizations and communities.

Learning to work in teams entails becoming a part of a small and complex system that is organized to share the care of a person or a population. Involvement as a team member is based on the value of the professional expertise added that can contribute to the outcomes of care in specific situations. Understanding how team developmental processes can affect team members, overall team functioning, and outcomes of team-based care is an important part of being an effective team member.

A potential source of conflict among team members is the diversity of their expertise areas and professional abilities. Conflicts may arise over leadership, especially when status or power is confused with authority based on professional expertise. Whatever the source, staying focused on patient-centered goals and dealing with the conflict openly and constructively through effective interprofessional communication and shared problem-solving strengthen the ability to work together and create a more effective team.

Strong leaders in team-based care want to satisfy patient and community needs, and they value all team members' potential contributions in meeting those needs. Leaders interact with team members in ways that draw out potential contributions and build support for working together through an understanding of the dynamics of the team (Zaccaro, Heinen, & Shuffler, 2009).

Working in teams involves sharing one's expertise and relinquishing some professional autonomy to work closely with others, including patients and communities, to achieve better outcomes. Shared accountability, shared problem-solving, and shared decision are characteristics of collaborative teamwork and working effectively in teams. Valuing working with others to deliver patient-centered care that is community/ population-oriented, being clear about one's own and others' roles and responsibilities, and practicing interprofessional communication contribute importantly to teamwork behaviors and effective team functioning.

Quality improvement tools can improve teamwork processes and aid in the design and functioning of team-based care to enhance outcomes for patients and communities. How to improve teamwork behaviors, understanding how teams

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> *"As preparation for collaborative practice, the interprofessional education of teams is seen as a key implementation strategy for certain phases of the Healthy People 2020 Education for Health framework"... interprofessional education with an emphasis on prevention will not only greatly assist with achieving the Healthy People objectives …but also help prepare the next generation of health professionals to better address preventable health problems."*
>
> (Evans, Cashman, Page, & Garr, 2011)

work, and determining what makes teams effective are rich areas of research (e.g., Salas, Goodwin, & Burke, 2009) that are expanding the evidence base. As this evidence develops it can be used to inform more effective teamwork and team-based care.

General Competency Statement-TT. Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan and deliver patient-/population-centered care that is safe, timely, efficient, effective, and equitable.

Specific Team and Teamwork Competencies:

TT1. Describe the process of team development and the roles and practices of effective teams.

TT2. Develop consensus on the ethical principles to guide all aspects of patient care and team work.

TT3. Engage other health professionals—appropriate to the specific care situation—in shared patient-centered problem-solving.

TT4. Integrate the knowledge and experience of other professions—appropriate to the specific care situation—to inform care decisions, while respecting patient and community values and priorities/ preferences for care.

TT5. Apply leadership practices that support collaborative practice and team effectiveness.

TT6. Engage self and others to constructively manage disagreements about values, roles, goals, and actions that arise among healthcare professionals and with patients and families.

TT7. Share accountability with other professions, patients, and communities for outcomes relevant to prevention and health care.

TT8. Reflect on individual and team performance for individual, as well as team, performance improvement.

TT9. Use process improvement strategies to increase the effectiveness of interprofessional teamwork and team-based care.

TT10. Use available evidence to inform effective teamwork and team-based practices.

TT11. Perform effectively on teams and in different team roles in a variety of settings.

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Competencies, Learning Objectives and Learning Activities

> *"Competencies can be operationalized and assessed by linking them with professional activities."*
>
> (ten Cate, 2005, p. 1176)

The individual competencies we have identified under the four core competency domains can be thought of as behavioral learning objectives to be achieved by the end of pre-licensure or pre-certification education. They are linked to learning activities and assessments of the effectiveness of those activities in achieving the objectives.

For example, the University of Virginia identified five core interprofessional competencies: communication, professionalism, shared problem-solving, shared decision making, and conflict resolution. They have written four learning objectives for each of these competencies that have parallels to our individual competency statements. For their core competency of professionalism, for example, a learning objective is "to display interest, trust, and mutual respect across the professions" (University of Virginia, n.d.). When educators began the development of their interprofessional curriculum, they asked faculty to identify the learning activities they already provided that addressed this and other interprofessional learning objectives, and whether/how they assessed their achievement. They began to build the interprofessional learning program from this identified base of activities.

A similar approach was taken in illustrating example learning objectives for meeting the five IOM core competencies within pharmacy. For the topic of "interprofessional team roles and responsibilities and professionalism" sample learning objectives were: "Describe individual roles and responsibilities" and "demonstrate consensus building within a team" (Buring et al., 2009). Learning objectives can focus on knowledge, skills, and values/attitudes that are thought to lead to competency in a staged way.

A great variety of activities developed explicitly for interprofessional learning are being used, but may not have been linked explicitly to achievement of interprofessional competencies. Other activities, such as international learning experiences, are almost always interprofessional, but typically have not been viewed through this lens. Opportunities to exploit existing learning experiences for learning interprofessional competencies, such as students from different professions being co-located in the same clinical setting at the same time, often have not been pursued.

In many instances, interprofessional learning activities are still aimed primarily at *exposure* to students from other professions. Educators assess interprofessional experiences at the level of learner reactions, attitudes and perceptions, knowledge or skill. Modifying a framework from Kirkpatrick (1967), Barr, Koppel, Reeves, Hammick & Freeth (2005) documented a predominance of positive learning outcomes of these types in the 107 studies that met the team's quality criteria. Mainly "college-led" activities produced these results, which suggest that some of the elements that make up competency development can be achieved in educational settings. Learner behavior change, the primary goal of competency development, occurred less frequently but followed from both college and service-

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led learning. Organizational change and clinical outcomes were more commonly associated with practice-based interprofessional learning by practitioners. These data convey the importance of student learning in the clinical setting for practical learning, practice change, and patient-centered outcomes. They reinforce the value of purposive engagement between education and practice for building competency, as this report emphasizes.

Much remains to be understood about the optimum ways to assist students to learn interprofessional competencies. How particular activities nurture the values, knowledge or skills that undergird one or more of these competencies needs to be made explicit. A critical aspect involves the choice of learning pedagogies. A variety of adult learning characteristics are relevant including active (versus passive) learning, self-directed (versus faculty-directed) learning, and situated (versus classroom) learning. Recommendations for rethinking pedagogies used in undergraduate medical education toward more active, clinically integrated and developmentally progressive learning (Cooke, Irby & O'Brien, 2010) are also key to *interprofessional* learning.

Other factors play a part in design as well. One is appropriateness for the stage of pre-licensure/pre-credentialing professional education: early in education versus late in education, pre or non-clinical versus clinical, for example. Certain activities lend themselves to learning that can incorporate students at different stages simultaneously. Faculty should contemplate some additional questions: Are the activities individually oriented or population-based? Do they contribute to learning in a variety of clinical and community settings? Do they foster engagement with students from other professions? Are they short- term or longitudinal activities? Is the activity required or elective learning? Is the learning provided in separate courses or as "threads" in the curriculum? Are the students given flexibility of learning choices or expected to follow a rigid structure to achieve interprofessional competencies?

The relevance of the learning activities to the real and changing world of interprofessional collaborative practice will ultimately determine how useful the experiences are to students as they move forward in their careers.

New educational technologies such as online learning, distance technologies, networking innovations, and simulation approaches are overcoming traditional barriers to interprofessional learning related to time and space (Weinstein et al., 2010). Use of these learning technologies can help model the real world of practice, especially in communities, where teamwork often happens asynchronously across time and space. For example, Western University of Health Sciences plans to experiment with asynchronous, community-based approaches to interprofessional learning in the third phase of their new interprofessional education program to be piloted in the next academic year (Aston, 2011).

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Learning Activities, Examples

The design and implementation of interprofessional learning activities in the U.S. is exploding and there are many, many excellent examples of these activities that could have been chosen as illustrations. It is also the case that there is a low level of awareness and a lack of a "clearinghouse" at a national level for sharing information on the design, implementation and assessment of these interprofessional learning activities.

Example A. The Jefferson Health Mentors Program is a two-year longitudinal interprofessional learning experience required early in the program of study in which student teams from medicine, nursing, pharmacy, physical therapy, occupational therapy, or couples and family therapy are paired with a Health Mentor, usually an older adult with one or more chronic illnesses living in the community, as their teacher. The overarching learning objectives are that 1) students will understand the roles of their colleagues and be prepared to function as members of effective health care teams and 2) students will understand the point of view of individuals with chronic conditions and be prepared to provide patient-and family-centered care. From an interprofessional competency perspective, the program is clearly patient-centered with a community orientation, focuses on the understanding of the unique role of each profession in a team-based approach, and incorporates cultural competency, communication, and team-building exercises, with special emphasis given to working as part of a team.

The eight-module program for over 1,000 students in nested in existing health professions course shells, employs a combination of didactic and active, experiential learning, and uses reflective writing, team-based case studies, and faculty-facilitated team-based debriefings of experiences to solidify learning. The program has a rigorous assessment plan around the two core objectives (Collins et al., 2009).

Example B. The University of Washington is developing exportable educational programs to help students learn effective interprofessional communication. One focus of that training is interprofessional error disclosure. The training employs a combination of didactic presentations, role modeling demonstration of a clinical scenario using a standardized patient by an interprofessional group of faculty, and practice learning using simulation methods. Students from medicine, nursing, pharmacy, and dentistry are exposed to evidence-based information concerning the value of openness and honesty with patients and families when an error resulting in harm has occurred in their care, and instructed in the types of communication messages that patients expect to receive, including apologies. Students reflect on the scenario, including attending to the feelings associated with this difficult conversation. Then, interprofessional groups of students practice conducting an error disclosure in a simulation case scenario to immerse them in practical learning. During that scenario they may identify how their professions may be involved in creating safer environments to avoid such an error in the future. This exercise was completed by nearly 500 students in an All Professions Training Day (Gray, 2011).

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This example is full of opportunities for evaluating specific behavioral learning objectives/competencies, especially around interprofessional values/ethics and communication. Competency development in the domain of values/ethics stresses placing patients or communities at the center of care; building a trusting relationship with patients, families and other team members; acting with honesty and integrity; managing ethical conflicts specific to interprofessional caregiving; and respecting the diversity of individual and cultural differences among patients, families and team members. Competency development in the domain of interprofessional communication stresses using respectful language, organizing and communicating information with patients, families and health team members in an understandable form, choosing effective communication tools and techniques, and communicating effectively in difficult situations.

Example C. Service learning projects are frequently used as values-based educational opportunities to help students develop person and patient-centered knowledge and skills with a community/population-orientation around the health and health care needs of the at risk, vulnerable, and underserved. There is an extensive literature on the service learning approach to education, and this approach is being applied more frequently in interprofessional education.

The extracurricular Urban Service Track at the University of Connecticut offers students from the schools of medicine, nursing, pharmacy and dentistry who are interested in primary care, and are at various points in their training, the opportunity to become Urban Health Scholars (Clark-Dufner, Gould, Dang, Goldblatt & Johnson, 2010). There are plans to add social work students in another cycle. The program was created and is supported by the Connecticut Area Health Education Center Program, located within the University of Connecticut Center for Public Health and Health Policy. Three principles common to all students participating are 1) interest in working with underserved patients, 2) a history of volunteerism, and 3) a commitment to learning and working in interprofessional health care teams. Interprofessional team building and leadership is one of 11 identified competency areas. These competency areas were identified in collaboration with primary care practitioners in the state caring for the urban underserved. Over a two-year period, students who are based at federally qualified community health centers or community health agencies participate in a variety of learning activities chosen to help them develop the 11 identified competencies. These activities incorporate advocacy skills and the delivery of prevention and health promotion activities.

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Stages of Competency Development

The idea of interprofessional learning as continual is consistent with the ACGME Medical Outcomes Project, where a "milestones" framework structures medical residency training. Milestones define more specific levels of performance to be expected in competency domains across three years of residency education (ACGME, March 23, 2010). New U.S. continuing education reports (e.g., American Association of Colleges of Nursing and Association of American Medical Colleges, 2010) indicate that interprofessional learning takes place beyond the pre-licensure, pre-credentialing period, particularly in the workplace. In the three-stage model in place at the University of British Columbia (Charles, Bainbridge, & Gilbert, 2010), the third stage is mastery and encompasses advanced level interprofessional learning experiences for graduate students.

> *"…[A] capability can be defined as an integrated application of knowledge where the student or practitioner can adapt to change, develop new behaviors and continue to improve performance."*
>
> (Walsh et al. pp. 232-233)

Competency statements described in this report reflect the endpoint of initial health professional education (pre-licensure or pre-credentialing). Within the pre-licensure framework, educators have identified stages of interprofessional learning, and shaped interprofessional learning activities to these stages. A central part of choosing learning activities is a core interprofessional curriculum plan, which integrates required curricular components. For example, the University of Toronto (2008) uses a three-stage curriculum framework [see figure 7] of exposure, immersion, and competence in preparing health professions' students for collaborative practice. The program culminates in the demonstration of the core competencies in clinical placement.

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FIGURE 7: A Framework for the Development of Interprofessional Education Values and Core Competencies

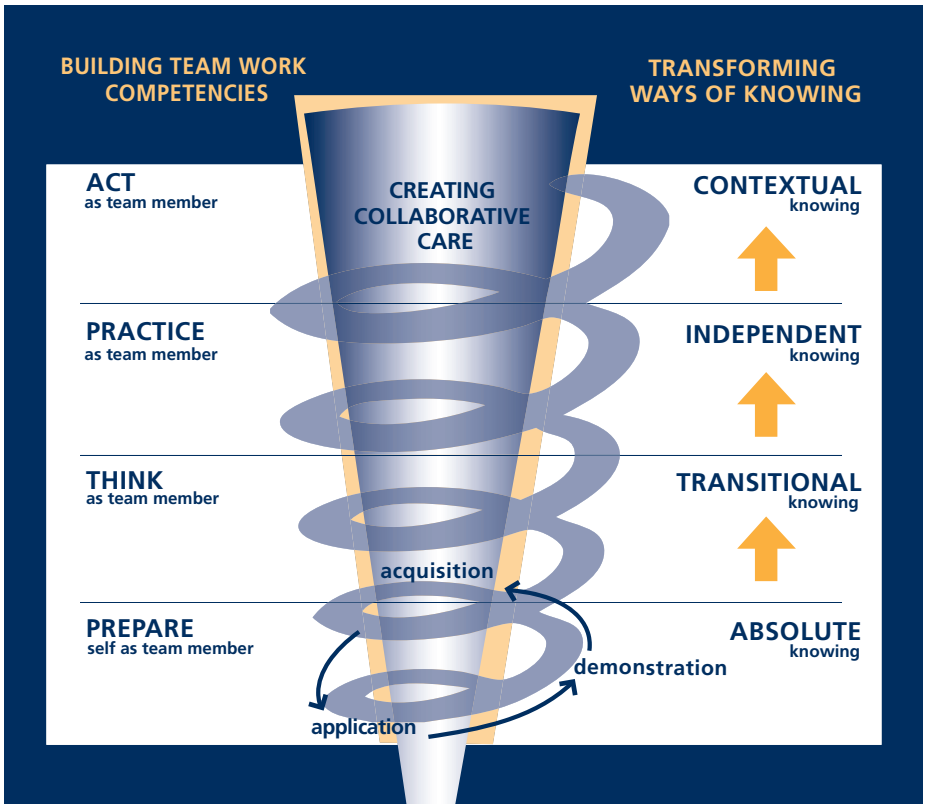


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The Medical University of South Carolina has made a commitment to the overall goal of ensuring that all health professions students there acquire interprofessional competencies. Four more specific goals drive a "learning spiral" conceptualized around two dimensions: ***building teamwork competencies*** through a sequence of "prepare, think, practice, and act" and ***transforming ways of knowing*** from absolute to transitional, independent, and contextual stages. The framework draws from several carefully selected approaches to adult learning (Blue, Mitcham, Smith, Raymond, & Greenberg, 2010; Medical University of South Carolina, 2007). As they progress through the four stages of the learning cycle, students acquire, apply and demonstrate their interprofessional teamwork competencies in increasingly complex learning settings [see figure 8].

FIGURE 8: Medical University of South Carolina conceptual framework for advancing interprofessional education.



Reprinted *with permission from Medical University of South Carolina. (2007, February). Creating Collaborative Care (C3): A Quality Enhancement Plan (QEP). Charleston, SC: Author.*

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The new 1Health program at the University of Minnesota dedicates three learning phases to three core interprofessional competency domains: professionalism/ethics, communication, and teamwork. Learning experiences culminate with students working in an interprofessional team to address a patient care, population health, or community problem. The expectation is that all students will achieve interprofessional competencies defined by the Academic Health Center prior to graduation (University of Minnesota, 2010; Josiah Macy Jr. Foundation, 2010).

A staged program focused on sequential learning approaches—didactic, simulation, and clinical—also is in place at the Western University of Health Sciences, where students from nine professions will cap a series of learning experiences with an interprofessional clinical practice stint in a hospital or community setting in the 2011-2012 academic year (Western University of Health Sciences, 2011).

An important element these programs share is that they use a full range of extracurricular activities to help students reach the competency goals.

As suggested by this sample of frameworks, for pre-licensure/pre-credentialing learning, interprofessional competencies ultimately are demonstrated through teamwork and team-based care in concrete clinical learning situations. Demonstration and honing these competencies require reflection, flexibility, and adaptability to the spectrum of care contexts – from prevention and health maintenance to acute, chronic, long-term and palliative care – and the overall goals of care in specific situations.

Theories Informing Interprofessional Education

> *"An array of learning and related theories can contribute to understanding and implementing IPE."*
>
> (Sargeant, 2009, p. 179)

Interprofessional education now suffers from a lack of guidance from appropriate theories. The scope of this report precludes more than brief guidance in that area. Two recent sources are particularly helpful in considering appropriate theories to guide the design and implementation of interprofessional education. The first is a scoping review of theories, which have guided interprofessional learning, that might usefully be considered, or that may help assess what unstated theory informs a particular experience (Reeves et al., 2007). The second is an article by Sargeant (2009), which describes specific social and learning theories that capture the differences in the content and processes of interprofessional learning. Sargeant examines complexity theory, and theories related to social identity, professionalism, and stereotyping, as well as situated learning, communities of practice, reflective and experiential learning, and transformative learning. Cognitive theories, such as cognitive apprenticeship (Brandt, Farmer & Buckmaster, 1993) and the ecological approach to team cognition (Cooke, Gorman, & Rowe, 2009) set forth frameworks useful in interprofessional team-based learning.

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Key Challenges to the Uptake and Implementation of Core Interprofessional Competencies

- **Institutional Level Challenges** – There is a lack of top administrative leadership support for adequate resources to create an interprofessional component to health professions students' education. In institutions that implement systematic programs of interprofessional education top leadership support has been critical.

  Positive Examples: The Medical University of South Carolina chose the topic of interprofessional education for its 10-year Quality Enhancement Plan required for reaffirmation of accreditation by the Southern Association of Colleges and Schools. The University of Minnesota, Rosalind Franklin University, and Western University of Health Sciences are among the schools implementing institution-level interprofessional education programs with top administrative support.

- **The Lack of Institutional Collaborators** - Some schools interested in launching interprofessional learning have no other or limited professional schools in their institution to partner with, and some potential partners are unwilling to take on an interprofessional agenda.

  Positive Example: Vanderbilt University has reached out to two other universities to add pharmacy and social work students, enhancing the experience of the medical and nursing students, indeed all students, in the new Program in Interprofessional Learning.

- **Practical Issues** - Scheduling and finding time to bring students together across the professions remains an issue.

  Positive Examples: The University of California, San Francisco and Rosalind Franklin University have gone to a common calendar across programs.

- **Faculty Development Issues** - Health professions faculty need training to become effective interprofessional educators. The content and process of interprofessional learning differ from other academic content they teach.

  Positive Examples: The Medical University of South Carolina's Faculty Development Institute is competitive throughout the University; and its promotion and tenure guidelines support involvement in interprofessional education. The University of Toronto has an annual interprofessional education faculty development program and consults with other institutions to assist in faculty development. The Western University of Health Sciences has explicitly trained faculty in interprofessional facilitation skills.

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Institute of Medicine Educating for the Health Team 1972

"A major deterrent to our efforts to fashion health care that is efficient, effective, comprehensive, and personalized is our lack of a design for the synergistic interrelationship of all who can contribute to the patient's well being. We face, in the next decade, a national challenge to redeploy the functions of health professions in new ways, extending the roles of some, perhaps eliminating others, but more closely meshing the functions of each than ever before.

There are organizational, political, ethical, and legal problems to be faced. But it is certain that in the coming process of reexamination the responsibility of the academic health centers and other educational institutions will be central. Can the provision of health care be improved by closer interaction of health professionals in new ways, and can the education of health professionals together facilitate the cooperative endeavors so urgently needed in practice?"

(IOM, pp. 4-5)

- **Assessment Issues** - The need for assessment instruments to evaluate interprofessional competencies represents a "next step" in the development of competency-based interprofessional education for all stages of interprofessional learning. This work is in early stages of development.

  Positive Example: One example of work underway is the project described by Curran et al. (2009) in Canada to develop an Assessment Rubric for interprofessional collaborative competencies within the context of an Interprofessional Team Objective Structured Clinical Examination.

- **Lack of Regulatory Expectations** - Recognition by accrediting bodies of interprofessional competencies as vital to health professions educational programs reinforces the imperative to address it by faculty and institutional leaders.

  Positive Examples: The pharmacy profession at the national level has now integrated interprofessional learning expectations into curricula and accreditation. Eight accrediting organizations participating in the Accreditation of Interprofessional Health Education initiative supported by Health Canada have adopted shared principles and plan to pilot test a common program assessment tool to evaluate interprofessional education activities. (Accreditation of Interprofessional Health Education, 2009a, 2009b)

The challenges to bringing about transformational change in health professions education, which includes much stronger emphasis on "learning together to work together," are real and will require creativity and commitment to overcome. However, positive changes, such as the examples described, indicate that many of the elements requiring change are "unfreezing". Further, the support for such changes is coming from many different sectors. We are confident that 40 years from now calls for integrated interprofessional education for collaborative practice will not resonate with healthcare practitioners, as the IOM 1972 report does with today's health professions educators. Every indication is that the time is now indeed right for transformational changes and, collectively, we are ready for action.

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Scope of This Report

This report focuses on the charge the panel was given to identify individual-level interprofessional competencies for future health professionals in training. We wrote competency statements and identified learning activities relevant for the pre-licensure/pre-credentialing student. The report targets a specific aspect of health professions training focused on relationships among professions and with patients using a community/population-orientation. As such, it makes a specific, limited contribution to the larger arena of health professions education and health improvement. However, we hope that the competencies identified are general enough in language to articulate with and bolster interprofessional learning beyond the student level, as well as to spur needed educational research and evaluation.

Educators have raised challenges to educational approaches that frame outcomes in terms of competencies [Reeves, Fox & Hodges, 2010; ten Cate & Scheele, 2007; Walsh et al., 2005].

These include:

1) "parceling out" and reinforcing conventional boundaries of practice across the professions with potentially negative impact on the efforts to encourage more collaboration in practice;

2) unwieldy educational and evaluation processes brought about by too much specificity in professional competency expectations by multiple evaluators/ regulators;

3) a reductionism that works against complex thinking needed for holistic responses to specific practice situations;

4) "freezing" competency expectations at a particular point in time, i.e., competency rather than capability, the latter increasing in complexity and sophistication over a lifetime professional learning trajectory in different clinical contexts;

5) lack of flexibility in practice contexts where overlapping practice boundaries and innovation can be responsive to shifting patient and population health needs;

6) difficulties with assessment of competencies.

In this report, we have made an effort to address, or at least recognize, these current or potential limitations.

By including public health in crafting the interprofessional competencies we acknowledge our increasing acceptance that real health improvement is a function of direct care providers and public health professionals working together to address environmental and social determinants of health, prevention, and early detection

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as well as the individualized components of treating illness. We break ground with modest beginnings as we all work out the nature of these relationships in broader approaches to improving health and health care.

The inclusion of systems knowledge is not explicit in the report. However, the recognition that interprofessional competencies are best learned and mastered over time in specific interprofessional learning contexts (clinical and non-clinical) around specific healthcare and health improvement goals is a fundamental message of the report.

The competencies we identified in this report do not address either the unique aspect of each health profession or the common clinical and public health knowledge base that health professionals share. We recognize that greater awareness of shared areas might lead to greater efficiencies in health professions education. The uniqueness of professional expertise is fundamental to teamwork and team-based care. We recognize the dynamic nature of this evolving knowledge base in a climate that increasingly values interdisciplinary/interprofessional translational research, and the ways this type of research will help close the gaps between research and practice going forward.

We recognize that the report is silent about the non-professional workers who have always been there to provide care on the "front lines", such as home care and nursing home aides, community health workers and others in new roles being created. Their experiential knowledge base is critical to giving individualized care that is safe, efficient, and effective, and, accordingly, models need to be developed to recognize and value their role in teamwork and team-based care.

We also realize that other disciplines, more remote from direct health improvement initiatives, such as architects, engineers, librarians, and those in the humanities contribute in important ways to the overall quality of health and health care.

Finally, this report grew from the commitment of the six participating professional educational organizations to define interprofessional competencies for their professions. Our hope is that other professional education organizations, as well as a broader group of stakeholders in the quality of health professions education, will see the value of these competencies and adopt the recommendations in their own work. The most important stakeholders are persons who are sometimes patients and communities themselves that stand to benefit when health professions work together better to improve health and health care. Engaging other stakeholders will add broader scope and momentum to help transform the interprofessional education of health professionals for the future.

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APPENDIX
Interprofessional Education Collaborative, Expert Panel Charge, Process and Panel Participants

The following participating associations convened the expert panel to produce a report on core competencies for interprofessional collaborative practice: the American Association of Colleges of Nursing, the American Association of Colleges of Osteopathic Medicine, the American Association of Colleges of Pharmacy, the American Dental Education Association, the Association of American Medical Colleges, and the Association of Schools of Public Health. These six organizations formed an initial working group—the Interprofessional Education Collaborative (IPEC)—that produced a statement on interprofessional education collaboration in March 2009. This statement committed members to developing a common vision for how the respective professions could combine their unique abilities to deliver patient-centered team-based care, promote efforts to reform health care delivery and financing in line with that vision, and foster meaningful interprofessional learning experiences to support team-based care of the future. A framework of activities to support these goals was drafted in June 2009, including the identification of core competencies for interprofessional collaborative practice, current educational experiences, and curricular models.

Panel Charge

Each IPEC organization appointed two individuals to the expert panel and charged the panel to:

- Recommend a common core set of competencies relevant across the six professions to address the essential preparation of clinicians for interprofessional collaborative practice
- Recommend learning experiences and educational strategies for achieving the competencies and related objectives

The panel was asked to identify consensus working definitions of interprofessional education and interprofessional collaborative practice, as well as a functional meaning of competencies. The educational piece of how to assess interprofessional competencies is an important companion activity that will necessarily follow from the recommended set of core competencies.

Panel Process described

A core set of materials on interprofessional competencies and related frameworks provided the panel with a common starting point at the panel's initial meeting at

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the AAMC headquarters in Washington, D.C. on March 16, 2010. Over time and in step with fast developing educational and practice initiatives, the panel compiled additional resource material. This material came from new literature; expanded documentation of participating associations' own competency development efforts; information about interprofessional competency development work from educational institutions linked to the American Interprofessional Health Collaborative network; Health Resources and Services Administration, Bureau of Health Professions consensus efforts (2010); and the collection of institutional examples of interprofessional education being implemented in universities throughout the U.S. and beyond, including the panelists' own institutions.

Core competency domains were identified at an initial face-to-face meeting, after which the panel worked through conference calls and email exchanges to refine the competency domains, develop individual competency statements related to those domains, , and engage in robust content development, the results of which are manifested in this final report. This work also reflects feedback on the draft competencies by invited attendees at a conference- "Interprofessional Team-based Competencies: Building a Shared Foundation for Education and Clinical Practice, held February 16-17, 2011, jointly sponsored by the Health Resources and Services Administration, Josiah Macy Jr. Foundation, Robert Wood Johnson Foundation, and American Board of Internal Medicine Foundation in collaboration with IPEC. Proceedings of that conference are published separately from this report.

Panel Participants

Madeline Schmitt, R.N., Ph.D., F.A.A.N. Professor Emerita, University of Rochester, School of Nursing (Panel Chair)

Sandra Carlin Andrieu, Ph.D., Associate Dean for Academic Affairs and Professor, Louisiana State University Health Sciences Center, School of Dentistry

Amy Blue, Ph.D., Assistant Provost for Education and Professor of Family Medicine, Medical University of South Carolina, College of Medicine

Thomas A. Cavalieri, D.O., F.A.C.O.I., F.A.C.P., Dean, Endowed Chair for Primary Care Research and Professor of Medicine, University of Medicine and Dentistry of New Jersey, School of Osteopathic Medicine

Jane Marie Kirschling, R. N., D.N.S., F.A.A.N., Dean and Professor, University of Kentucky, College of Nursing

Kathleen Ann Long, R.N., Ph.D., F.A.A.N., Dean and Professor, University of Florida, College of Nursing

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Susan Mackintosh, D.O., M.P.H. Director of Interprofessional Education and Assistant Professor, Western University of Health Sciences, College of Osteopathic Medicine of the Pacific

Susan M. Meyer, RPh, Ph.D., Associate Dean for Education and Professor, University of Pittsburgh, School of Pharmacy

Daniel Robinson, Pharm.D., F.A.S.H.P, Dean and Professor, College of Pharmacy, Western University of Health Sciences

Leo E. Rouse, D.D.S., F.A.C.D., Dean and Clinical Associate Professor, Howard University College of Dentistry

Andrew A. Sorensen, Ph.D., M.P.H. Chair, Institutional Self-Study Task Force, University of South Carolina School of Medicine (affiliation at time of appointment) (deceased)

Thomas R. Viggiano, M.D., M.Ed., Associate Dean for Faculty Affairs, Professor of Medical Education and Medicine, Mayo Medical School

Deanna Wathington, M.D., M.P.H., F.A.A.F.P., Associate Dean for Academic and Student Affairs, Office of Academic and Student Affairs, and Associate Professor, University of South Florida, College of Public Health

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University of Kentucky
University of Minnesota
Medical University of South Carolina
Rosalind Franklin University of Medicine and Science
St. Louis University
University of Toronto
University of Virginia
University of Washington
Vanderbilt University
Western University of Health Sciences

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