UI Health | UIC

INTERPROFESSIONAL EDUCATION AND COLLABORATIVE PRACTICE AT UIC

Adding a New Dimension to Health Professions Education & Practice

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EXECUTIVE SUMMARY

Since 2007 the Collaborative for Excellence in Interprofessional Education (CEIPE), a group of faculty from all seven University of Illinois at Chicago (UIC) health science colleges representing all UIC campuses, has been actively working to prepare UIC health professions students for collaborative practice. This grassroots faculty group has held annual immersion days that have grown to include health professions students from 11 different programs and has made significant progress in developing interprofessional education (IPE) experiences in individual courses and establishing a campus-wide community of faculty committed to IPE. However, in order to institutionalize IPE at UIC a comprehensive strategic plan is needed.

A comprehensive IPE program at UIC has the potential for significant impact in health professions education and health care delivery. The wide range of health professions education programs across all UIC campuses—which is unique in the Midwest region and rare across the country—and the size and diversity of populations served bby University of Illinois Hospital & Health Science System (UI Health) present an unusually rich environment for interprofessional education and practice. In addition to the health professionals providing service in UIC's clinical enterprise, trainees in the College of Medicine's Graduate Medical Education Programs and health professionals across the state can potentially benefit from UIC offering continuing professional development in interprofessional collaborative practice. The university's relationships with clinical and community partners add to UIC's educational reach and create the opportunity to positively impact population health. UIC includes both urban and rural environments for patient-care training and services and places a priority on health care disparities and population health in training and research. Taken as a whole, these factors create the incentive and opportunity for UIC to get IPE right. A prominent IPE curriculum and research effort can help attract top students and faculty to the university and will serve as a national model for other universities. Finally, as a research-intensive university, UIC is in an excellent position to evaluate the impact of interprofessional education and interprofessional collaborative practice across multiple educational and practice environments.

The overarching educational purpose in establishing a full IPE curriculum is to produce graduates who understand the critical relationship between teamwork and collaborative, patient-centered care, and who will contribute to the achievement of the Institute for Healthcare Improvement's Triple Aim: improving the patient experience of care, improving the health of populations, and reducing the per capita cost of health care. To achieve this, the following challenges must be addressed:

- ***UIC's decentralized governance and budget models make it difficult to coordinate a program that requires the health science colleges, the health care delivery system and all six campuses.***
- ***Current methods of assessing workload and rewarding performance do not provide incentives for faculty members to be active participants in a campus-wide IPE curriculum.***
- ***The state's economic environment creates uncertainty about funding for the development and implementation of an IPE curriculum at UIC.***

A well designed organizational structure is necessary to proceed with the steps identified in this report. In addition, curriculum development, faculty development, the creation of a comprehensive evaluation plan, and the integration of IPE into the orientation and training of staff at UI Health will be essential elements of a successful IPE program.

TASK FORCE RECOMMENDATIONS

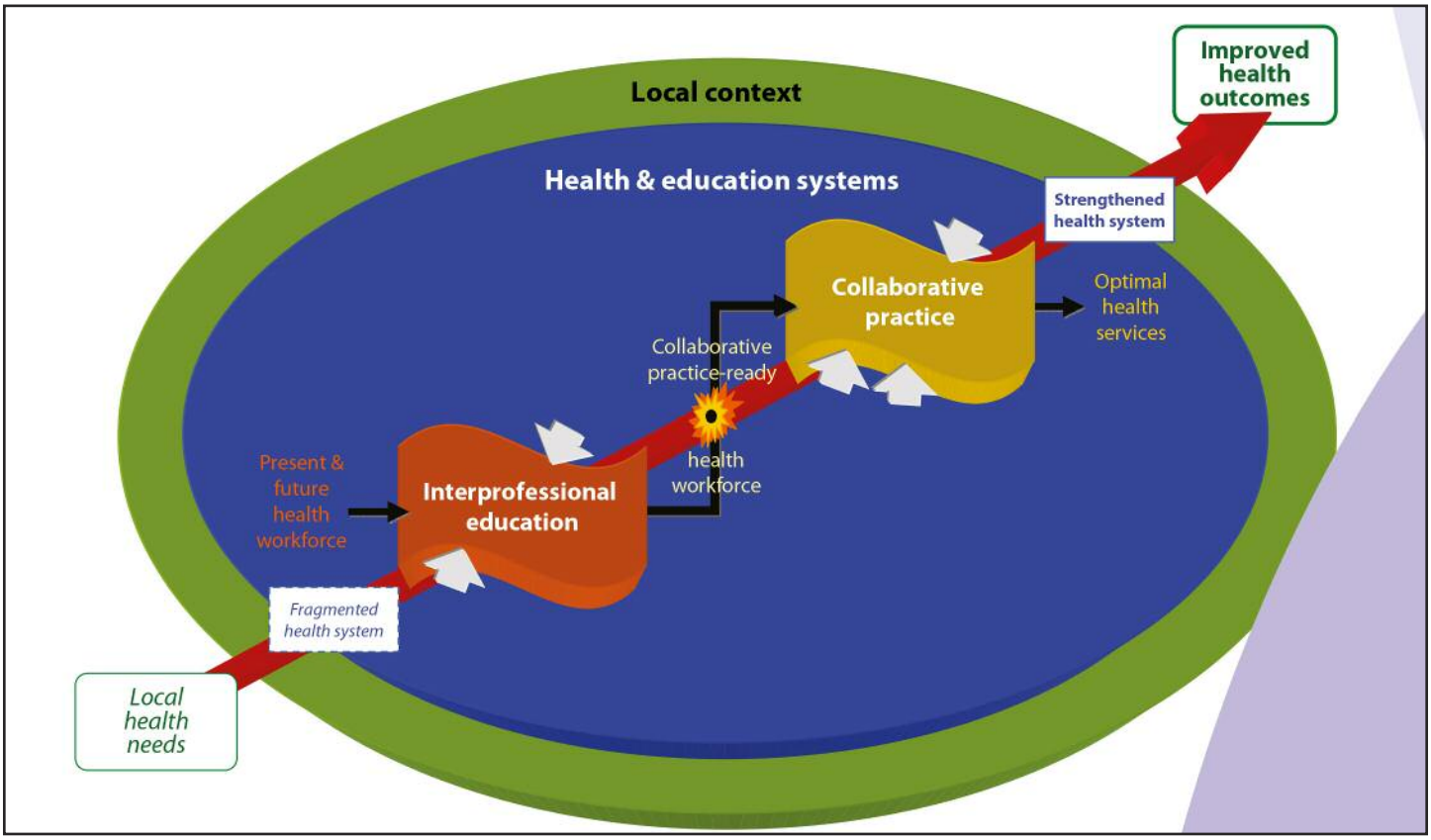
The Task Force recommends the following actions to create a successful organizational structure for IPE at UIC:

1. Establish a central home for IPE with appropriate financial resources.
2. Create a UIC campus-level position to provide leadership for the IPE program across the UIC campuses to implement the strategic plan, along with regionally distributed shared leadership and appropriate infrastructure at each UIC campus.
3. Formally recognize the Collaborative for Excellence in Interprofessional Education (CEIPE) as the Steering Committee for IPE across UIC campuses.
4. Establish a subcommittee of CEIPE (with additional members as needed) to focus on the development of collaborative practice at UI Health and other clinical partners.
5. Establish an Advisory Board that includes faculty, community agencies and other partners, patients and families, clinicians, students, and representatives of key UIC units from all campuses.

I. INTRODUCTION

Interprofessional education (IPE) and interprofessional collaborative practice (ICP) are significant foci in changing models of health care education and delivery. The need for effective models of team-based care was identified by the Institute of Medicine (IOM) as early as 1972 and produced some immediate reaction, but it was not sustained. It was not until two IOM publications, the first in 2001 and the second in 2003, shed light on the problems of medical error and the need to align payment with quality care that national attention was sharply focused on the actions needed for U.S. health care system reform.[1] In 2003, the IOM turned its focus to health professions education and the requisite for effective interprofessional teamwork as one of five Core Competencies necessary for all health professionals.[2] Over the next several years, other organizations added to the growing pressure to include training in effective collaboration and implementation of IPE within health professions educational programs. As an example, the World Health Organization (WHO) created the *Framework for Action on Interprofessional Education & Collaborative Practice*,[3] which called for the training of a "collaboration ready" health care workforce (Figure 1).

FIGURE 1. PREPARATION OF A COLLABORATION READY WORKFORCE.[4]



[1] Kohn LT, Corrigan JM, Donaldson MS, eds., To Err Is Human: Building a Safer Healthcare System, Washington DC: National Academy Press, November 1999; Institute of Medicine, Crossing the Quality Chasm: A New Health System for the 21st Century, Washington DC: National Academy Press, 2001.
[2] Greiner, AC, & Knebel, E (2003). Health professions education: A bridge to quality. Washington, D.C: National Academies Press.
[3] Hopkins, D, Burton, A, Hammick, M, & Hoffman, SJ (2010). Framework for action on interprofessional education & collaborative practice. Geneva: WHO
[4] WHO, p 18.

Interprofessional education is most commonly defined as "occasions when two or more professions learn with, from and about each other to improve collaboration and quality of care."[5] It is a specific educational approach to learning that requires deliberate interaction among learners from different professions. According to the WHO, collaborative practice occurs when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, caregivers, and communities to deliver the highest quality of care across settings.[6]

In 2011, the Interprofessional Education Collaborative (IPEC), a consortium of six academic organizations, published the Core Competencies for Interprofessional Collaborative Practice (Figures 2 and 3), which identified four competency domains: Values and Ethics for Interprofessional Practice, Roles and Responsibilities, Interprofessional Communication, and Teams and Teamwork.[7] This set of competencies has quickly become the recognized standard in the field. The IPEC Consortium provides twice-yearly opportunities for universities to send interprofessional teams of faculty for training in IPE.

The IPEC Core Competencies are based on a set of principles underlying health care that is

- patient/family centered;
- community/population oriented;
- relationship focused;
- process oriented;
- linked to learning activities, educational strategies, and behavioral assessments that are developmentally appropriate for the learner;
- possible to integrate 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; and
- outcome driven.[8]

In 2012, the National Center for Interprofessional Practice and Education (NCIPE) was established through a cooperative agreement between the University of Minnesota and the Health Resources Services Administration (HRSA). The National Center for IPE emphasizes the Nexus—the intersection of education and practice to achieve the "Triple Aim" outcomes, as described in the Institute for Healthcare Improvement's (IHI) Triple Aim Framework (Figure 4).[9] Due to the concerted efforts on the part of academic institutions, national agencies, and foundations, there is now significant information and evidence related to the development, implementation, and evaluation of interprofessional practice and education. Nationally, academic institutions have established their own centers for IPE. Among the most notable are the University of Washington's Center for Health Sciences Interprofessional Education, Research and Practice; the MGH Institute of Health Professions' Center for Interprofessional Studies and Innovation; and the University of Minnesota's 1Health initiative.[10] The organizational structures, array of health professions education programs included, the number of students, and the relationships with clinical enterprises are quite varied, as are the breadth and depth of IPE experiences provided to students.

Internationally, IPE has been driven by government mandates to a much greater extent than it has been in the U.S. In Canada, for example, national accreditation standards for interprofessional health education have been developed collaboratively through a partnership of eight health professions.[11]

[5] http://caipe.org.uk/about-us/defining-ipe/
[6] WHO, p. 7.
[7] Interprofessional Education Collaborative, Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel, May 2011.
[8] IPEC, Core Competencies, p. 2.
[9] https://nexusipe.org/; http://www.cihc.ca/aiphe.
[10] University of Washington: http://collaborate.uw.edu/; MGH: http://www.mghihp.edu/academics/center-for-interprofessional-studies-and-innovation/interprofessional-activities/impact-practice/default.aspx; University of Minnesota http://www.ahceducation.umn.edu/1health.
[11] http://www.cihc.ca/aiphe.

FIGURE 2. IPEC CORE COMPETENCIES FOR INTERPROFESSIONAL COLLABORATIVE PRACTICE, DOMAINS 1 & 2.

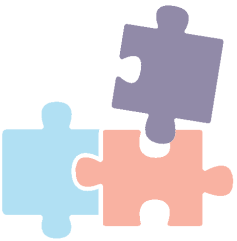
Competency Domain 1: Values/Ethics for Interprofessional Practice

General Competency Statement:

Work with individuals of other professions to maintain a climate of mutual respect and shared values.

Competencies:

- Place the interests of patients and populations at the center of interprofessional health care delivery.
- Respect the dignity and privacy of patients while maintaining confidentiality in the delivery of team-based care.
- Embrace the cultural diversity and individual differences that characterize patients, populations, and the health care team.
- Respect the unique cultures, values, roles/responsibilities, and expertise of other health professions.
- 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.
- Develop a trusting relationship with patients, families, and other team members (CIHC, 2010).
- Demonstrate high standards of ethical conduct and quality of care in one's contributions to team-based care.
- Manage ethical dilemmas specific to interprofessional patient/ population centered care situations.
- Act with honesty and integrity in relationships with patients, families, and other team members.
- Maintain competence in one's own profession appropriate to scope of practice



Competency Domain 2: Roles/ Responsibilities

General Competency Statement:

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.

Competencies:

- Communicate one's roles and responsibilities clearly to patients, families, and other professionals.
- Recognize one's limitations in skills, knowledge, and abilities.
- 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.
- Explain the roles and responsibilities of other care providers and how the team works together to provide care.
- 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.
- Communicate with team members to clarify each member's responsibility in executing components of a treatment plan or public health intervention.
- Forge interdependent relationships with other professions to improve care and advance learning.
- Engage in continuous professional and interprofessional development to enhance team performance.
- Use unique and complementary abilities of all members of the team to optimize patient care.

FIGURE 3. IPEC CORE COMPETENCIES FOR INTERPROFESSIONAL COLLABORATIVE PRACTICE, DOMAINS 3 & 4.

Competency Domain 3: Interprofessional Communication

General Competency Statement:

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.

Competencies:

- Choose effective communication tools and techniques, including information systems and communication technologies, to facilitate discussions and interactions that enhance team function.
- Organize and communicate information with patients, families, and healthcare team members in a form that is understandable, avoiding discipline-specific terminology when possible.
- 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.
- Listen actively, and encourage ideas and opinions of other team members.
- Give timely, sensitive, instructive feedback to others about their performance on the team, responding respectfully as a team member to feedback from others.
- Use respectful language appropriate for a given difficult situation, crucial conversation, or interprofessional conflict.
- 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).
- Communicate consistently the importance of teamwork in patient-centered and community-focused care.

Competency Domain 4: Teams and Teamwork

General Competency Statement:

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.

Competencies:

- Describe the process of team development and the roles and practices of effective teams.
- Develop consensus on the ethical principles to guide all aspects of patient care and team work.
- Engage other health professionals - appropriate to the specific care situation—in shared patient-centered problem-solving.
- 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.
- Apply leadership practices that support collaborative practice and team effectiveness.
- Engage self and others to constructively manage disagreements about values, roles, goals, and actions that arise among healthcare professionals and with patients and families.
- Share accountability with other professions, patients, and communities for outcomes relevant to prevention and health care.
- Reflect on individual and team performance for individual, as well as team, performance improvement.
- Use process improvement strategies to increase the effectiveness of interprofessional teamwork and team-based care.
- Use available evidence to inform effective teamwork and team-based practices.
- Perform effectively on teams and in different team roles in a variety of settings.

FIGURE 4. VISION OF THE NATIONAL CENTER FOR INTERPROFESSIONAL PRACTICE AND EDUCATION (NCIPE).[12]

It is important to ask how this increased focus on educating health professionals to practice collaboratively has paid off with regard to patient outcomes. Educational interventions in collaborative practice have been shown to have a positive impact on aspects of health care delivery, such as improved outcomes in diabetes care,[13] reduced errors in emergency departments,[14] improved functional outcomes following stroke rehabilitation,[15] and improved communication and patient safety culture in the operating room.[16] There is, however, still much to be learned about how to ensure the sustainability of collaborative practice and more importantly, to understand how pre-licensure training will fit into the picture.

A recent report from the Robert Wood Johnson Foundation, based on visits to 20 organizations across the U.S. that had embraced collaborative practice, summarized the findings of a project conducted to identify best practices in interprofessional collaboration.[17] The report identifies six promising practices that promote positive outcomes of interprofessional collaboration:

1. Put patients first.
2. Demonstrate leadership commitment to interprofessional collaboration as an organizational priority through words and actions.
3. Create a level playing field that enables team members to work at the top of their licenses, know their roles, and understand the value they contribute.
4. Cultivate effective team communication.
5. Explore the use of organizational structures to hardwire interprofessional practice.
6. Train different disciplines together so they learn how to work together.

[12] https://nexusipe.org/vision.

[13] Barceló A, Cafiero E, de Boer M, Mesa AE, Lopez MG, Jiménez R A, et al. Using collaborative learning to improve diabetes care and outcomes: The VIDA project. Primary Care Diabetes 2010 4(3), 145-153.

[14] Morey JC, Simon R, Jay GD, Wears RL, Salisbury M, Dukes KA, Berns SD. Error reduction and performance improvement in the emergency department through formal teamwork training: evaluation results of the MedTeams project. Health Serv Res. 2002 Dec;37(6):1553-81.

[15] Strasser DC, Falconer JA, Steven, AB, Uomoto JM, Herrin J, Bowen SE,Burridge, AB. (2008). Team training and stroke rehabilitation outcomes: A cluster randomized trial. Archives of Physical Medicine and Rehabilitation, 89(1), 10-15.

[16] Weaver SJ, Lyons R, DiazGranados D, Rosen MA, Salas E, Oglesby J, Augenstein JS, Birnbach DJ, Robinson D,King HB. The anatomy of health care team training and the state of practice: A critical review. Academic Medicine: Journal of the Association of American Medical College 2010, 85(11), 1746-60.

[17] CFAR, Inc., Tomasik J, Fleming C. Lessons from the Field: Promising Interprofessional Collaboration Practices. 2015 White Paper, The Robert Wood Johnson Foundation, http://www.rwjf.org/en/library/research/2015/03/lessons-from-the-field.html.

As the science of IPE continues to grow, accrediting bodies have begun to incorporate specific standards into the criteria for accreditation in many health professions programs (see Appendix A) and the Accreditation Council for Graduate Medical Education includes competence in collaboration in the milestones for many specialties. While these standards are generally not very specific and the bar they set is not very high, the trend is clear: health professions education programs already are, or will soon be, required to demonstrate the achievement of goals related to interprofessional collaboration and teamwork.

What has been learned from scholarship in IPE and ICP is that context is a critical consideration in determining what educational interventions will be most effective. The educational system and the health care system each have environmental factors, participants, policy and regulatory influences, and social and cultural values that impact learner and patient care aims (Figure 5).[18] This means that while much can be learned by looking at models from other academic institutions and health care organizations, UIC will need to develop an IPE curriculum that is specific to the needs of students in the health professions education programs offered across all UIC campuses and the needs of the patients and populations served by UI Health and other regional clinical partners. UIC benefits from the IPE-related work that has been undertaken by other universities and organizations, which has led to the development of the IPEC Core Competencies, the establishment of the NCIPE, and the publication of an extensive literature on IPE and ICP. Being informed by and building upon existing IPE research and initiatives, UIC is well positioned to move forward at a rapid pace.

A. INTERPROFESSIONAL EDUCATION AT UIC

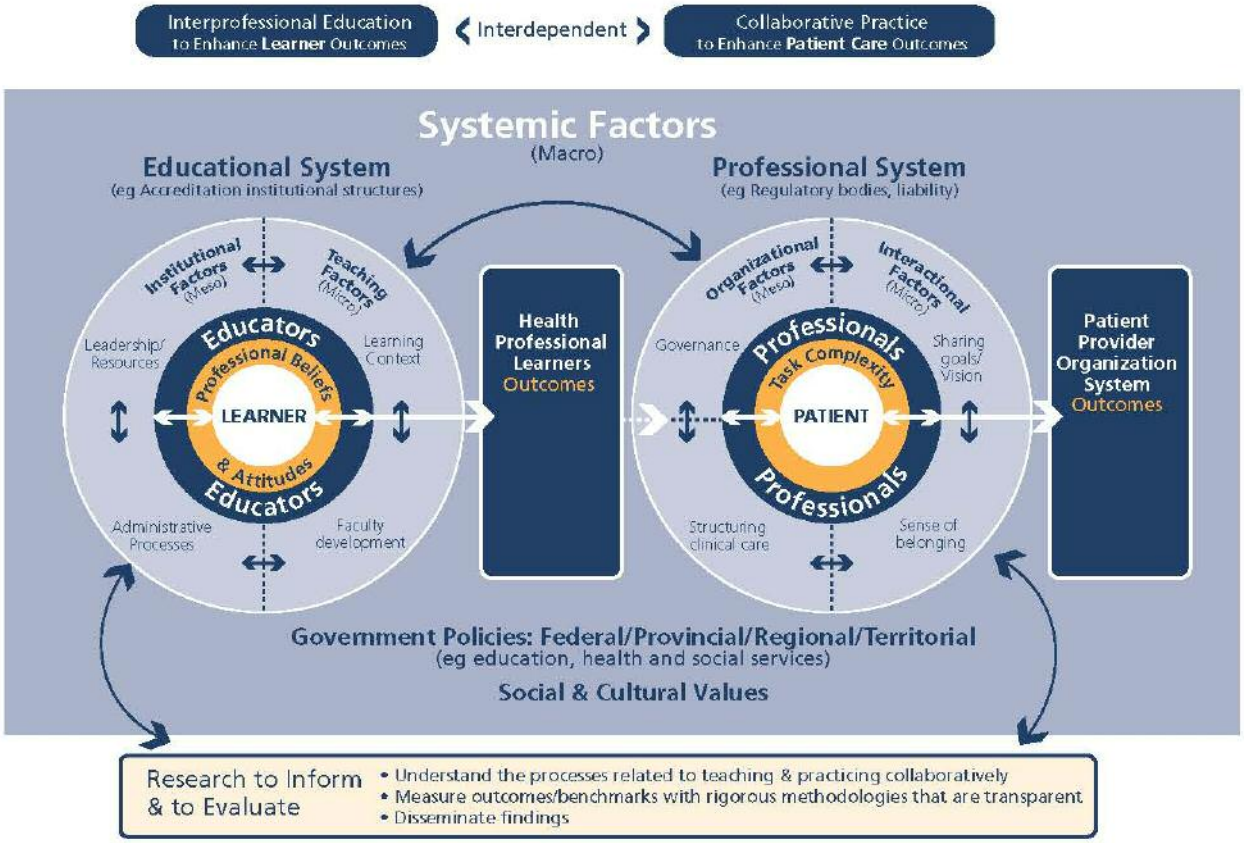
UIC is an urban, research-intensive public university with seven health sciences colleges housed on six campuses throughout northern and central Illinois. The health professions education programs at UIC train both the essential direct care providers (advanced practice nurses, dentists, dieticians, occupational therapists, pharmacists, physical therapists, physicians, registered nurses, social workers) and those that are critical to the success of health care operations and goals (health care administrators, health informaticians, health information managers). UIC has over 4,000 students enrolled in its health professions education programs, and graduates over 900 students from these programs each year (Appendix B). In addition, UIC has responsibility for Graduate Medical Education for approximately 950 residents and employs more than 3,000 health care professionals as faculty and staff. Given these numbers, the impact of an effective IPE program on health and health care delivery in Illinois should not be underestimated.

Efforts to develop IPE at UIC began in 2008 when a group of faculty established the Collaborative for Excellence in IPE (CEIPE). CEIPE includes faculty representation from the Colleges of Applied Health Sciences, Dentistry, Medicine, Nursing, and Pharmacy, Social Work, the School of Public Health, the Library of the Health Sciences, the Office of Diversity, and the Institute for Patient Safety Excellence. (See Appendix C for a list of members.)

In August 2009, CEIPE held its first student immersion experience, involving 22 students from 8 health professions education programs across five health science colleges. The experience included discussion of a patient case and development of an interprofessional plan of care. Student feedback indicated that they had significantly grown in their understanding and appreciation of the roles of the professions represented and the value of interprofessional collaboration. CEIPE worked closely with the UIC Graham Clinical Performance Center to create videotapes and to develop standardized patient simulations. The second immersion experience in 2011,

[18] D'Amour D, Oandasan I. Interprofessionality as the field of interprofessional practice and interprofessional education: An emerging concept. Journal of Interprofessional Care, May 2005, Supplement 1: 8 – 20.

FIGURE 5. INTERPROFESSIONAL EDUCATION FOR COLLABORATIVE PATIENT-CENTRED PRACTICE.[19]



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.*

[19] D'Amour & Oandasan p. 11.

with 30 students, provided an enhanced version of the workshop, including both low-fidelity and high-fidelity simulation.
In 2013, the IPE Immersion Day experience was significantly expanded to include over 1,100 students from 11 health professions programs across all seven health sciences colleges and all UIC campuses. The event was held in two locations, with Chicago students at the UIC Forum and Rockford students participating in a parallel event that included students from other UIC campuses interacting via webcast. The qualitative feedback from students indicated that they understood that collaboration and communication were vitally important to their future roles in health care. They valued the opportunity to have both structured and unstructured time to talk with students from other professions and they were very happy with the faculty facilitators. Among their suggestions for improvements were ensuring that the professions of all participating students were included in the patient cases and including actual involvement in a simulation of interprofessional care. Evaluation results were used to modify the program in subsequent years.

In that same year CEIPE recognized that it was critical to integrate IPE within and across the health sciences colleges in order to have a sustainable program. CEIPE understood early on that students will ultimately achieve competence in interprofessional collaboration only through a progression of classroom and clinical experiences. The development of a full IPE curriculum requires a centrally driven effort with resources from all of the colleges and infrastructure and leadership at more than just the Chicago campus. As a grassroots faculty group working on IPE, CEIPE members knew that support from college and campus administration was critical. The group began the process of educating UIC administration about IPE and the need for a comprehensive curriculum and plan. CEIPE approached then-Provost Lon Kaufman to offer recommendations for establishing a campus level IPE office with the mission of further developing the IPE curriculum for all students and developing a strategic plan. In Spring 2014, faculty received approval to initiate a strategic thinking process and funds were approved to support the ongoing development of IPE for two years.

While the need for a comprehensive curriculum is the ultimate goal, the Immersion Day experience continues to be held every spring, with annual programs running in Chicago, Peoria (including students from Urbana-Champaign and the Quad Cities), and Rockford. CEIPE continues to provide the planning and oversight of the program, with modifications to achieve greater effectiveness. It is noteworthy that the program has been facilitated over the years through the voluntary participation of over 100 faculty members from all of the health sciences colleges as well as other UIC units such as the Health Sciences Library, UI Health, and the Office of Diversity.

The educational objective for the IPE Immersion Day and ultimately for a full curriculum is to produce graduates who understand the critical relationship between teamwork and collaborative, patient-centered care, and who will contribute to the achievement of the Institute for Healthcare Improvement's Triple Aim: improving the patient experience of care, improving the health of populations, and reducing the per capita cost of health care.[20] In addition to commitment to the IHI Triple Aim Framework, CEIPE has adopted the Core Competencies for Interprofessional Collaborative Practice (Figures 2 and 3) as the desired student outcomes for IPE at UIC. CEIPE has been careful to acknowledge that achieving the desired objective must be accomplished within the restrictions of existing academic requirements. The approach has not been "more is better." Rather, it has been: how can high quality, efficient learning experiences be integrated into the existing programs' curricular structures?

While CEIPE has focused its limited resources primarily on providing IPE learning experiences to students across all programs, scholarship has not been neglected. Its members have participated in grant-funded

[20] http://www.ihi.org/Engage/Initiatives/TripleAim/Pages/default.aspx.

projects and have presented at numerous professional conferences (Appendix D). Section II. C below describes additional examples of IPE experiences offered at UIC.

B. RELATED UIC INITIATIVES

Ideally, UIC's IPE Strategic Plan will benefit from and contribute to other relevant ongoing initiatives at UIC. In order to maximize the potential for cumulative and additive impacts, the IPE strategic planning process included discussion of other UIC initiatives that had already engaged with the IPE efforts at UIC or were potentially relevant to IPE development.

UIC is one of the nation's most diverse public research universities and has a longstanding, foundational commitment to valuing diversity, including efforts to mitigate the negative effects of unwarranted hierarchy, detrimental power relationships, and group stereotypes in many sectors including education, health care and business. The patient population served by UI Health includes many who are significantly underserved with regard to health promotion and health care. UIC currently has multiple initiatives to address diversity and health disparities and the establishment of an IPE curriculum has the potential to assist in more fully addressing the needs of UIC's student and patient populations.

The campus-wide Diversity Strategic Thinking and Planning process, which culminated in the plan entitled "A Mosaic for UIC Transformation," identified seven diversity goals to be achieved at the campus level, including community engagement that addresses health disparities.[21] The UIC Dialogue Initiative, one of the results of this process, has created an opportunity to bring experts in intergroup relations into the development of the UIC IPE curriculum and to address some of the most challenging aspects of collaborative practice.[22] From the early development of IPE at UIC, CEIPE member Charu Thakral, PhD, Associate Director of Diversity Educational and Research Initiatives, pointed out that the relationships among health professions have some important parallels to the differences that are being addressed by the campus's various diversity initiatives. For example, the UIC IPE Immersion Day experiences integrate elements of design, pedagogy, and curricular content from the same theory and research that underlies the Dialogue Initiative. The experiences have used pedagogical techniques intended to promote inclusion and equity, such as norms for dialogue/discussion (ground rules), design elements of optimal group size for student debriefing sessions, use of trained facilitators, attention to process (interpersonal and intrapersonal reactions, interactions, and reflections) vs. overreliance on the content (concepts, literature, theory), and development of a facilitator guide to ensure the consistency of content delivery to students and provision of support for facilitators. Specific curricular content, such as icebreaker exercises and debriefing questions, has also been designed and integrated to promote participants' awareness of biases and stereotypes of various health professions. In both education and practice, health professionals struggle with issues of hierarchy, stereotypes, and power relationships and failure to openly address these issues is potentially limiting the impact of IPE.[23]

Although "A Mosaic for UIC Transformation" focused primarily on UIC's students, faculty, and staff, a UI Health Sciences Diversity Leadership Council was recently formed to address diversity and inclusion, cultural sensitivity, and health disparities within the University of Illinois Hospital and Health Sciences System. This newly established council should also be coordinated and synergistic with efforts to improve collaboration between health professionals and health care teams at UI Health as part of a campus-wide IPE curriculum.

[21] http://www.uic.edu/depts/oaa/diversity/MosaicStrategicPlan.pdf, p. 28.

[22] http://www.uic.edu/depts/oaa/igd/index.html

[23] Haddara W, Lingard L. Are We All on the Same Page? A Discourse Analysis of Interprofessional Collaboration. Academic Medicine 2013 , Vol. 88 (10), 1508-1515. Kreindler SA, Larson BK, Wu FM, Gbemudu JN, Carluzzo KL, Struthers A, Van Citters AD, Shortell SM, Nelson EC,Fisher ES. The rules of engagement: Physician engagement strategies in intergroup contexts. Journal of Health Organization and Management 2014, 28(1), 41-61. Paradis, Elise, Whitehead, Cynthia R. Louder than words: Power and conflict in interprofessional education articles, 1954-2013. MEDU Medical Education 2015, 49(4), 399-407.

UIC's ongoing commitment to diversity and to educating a wide range of health professionals has resulted in several programs and initiatives that are directly relevant to the development of a more expansive IPE program. For example, for more than 30 years, UIC's Urban Health Program (UHP)[24] has provided programming and support for underrepresented minority students interested in careers in the health professions. UHP's Early Outreach Program is a pipeline for students in 4th through 12th grade, and its Student Services Resource Center provides counseling and academic mentoring. UHP also has advisors in each of the health science colleges. As a relatively new focus for curriculum across professions, IPE is in an evolutionary state. It is not yet clear when IPE will have the optimal impact along the developmental path of health professionals. UHP programming gives UIC an opportunity to develop students' understanding of group differences and collaborative competency very early in the process of choosing a health care career.

Coincident with CEIPE's establishment of the annual student immersion experience, changes in health care delivery, demographics, and insurance coverage, including the Affordable Care Act, have helped to bring the need for a healthcare workforce trained in interprofessional collaboration to the fore. In 2013, the Chancellor convened a campus-wide task force on Health Care Workforce Development to examine emerging workforce needs and UIC's potential role in training health professionals to meet those needs. The final report, "Building a Health Care Workforce to Achieve Health Equity,"[25] used Department of Labor data and policy reports to recommend ways for the university to build pipelines and other opportunities to target in-demand health professions. One key recommendation to emerge from the report was the development of "a cross-college interprofessional curriculum addressing core competencies" that could train health professionals for the increasingly team-based, patient-centered workforce and become a signature program for UIC.

The IPE strategic planning process has also occurred during a time of significant change for UIC's health sciences colleges and their reporting relationships with senior campus administration. The increasing integration of the UIC health sciences colleges and the UI Hospital and Health Care System (UI Health) through the appointment of a Vice Chancellor for Health Affairs, to whom all health-related units will report, will have a direct impact on the development of UIC's IPE program. As the clinical enterprise for a leading urban, academic health center, UI Health provides inpatient and outpatient care in its 495-bed hospital, an Outpatient Care Center, the twelve-location Mile Square Health Center, and an urgent care center. UI Health is committed to excellence in patient care and to the reduction of health disparities. Team-based care and collaborative practice are critical to both. The development of IPE offers the opportunity to engage students, staff, and practicing health care professionals with training and quality improvement efforts. The new organizational structure creates a timely opening to jointly move forward in these areas.

UIC health professions students receive their clinical training in health care settings across the U.S. and around the world. Illinois training sites include not only UI Health, but many other community- or medical system-based sites. For example, the Peoria campus has a close partnership with OSF-St. Francis Medical and UnityPoint Health. The successful development of collaboration-ready professionals depends heavily on the role models to whom students are exposed in clinical training. It is therefore imperative that UIC look beyond the classroom and UI Health to engage with other clinical and community partners and to make certain that those partners understand the benefits of IPE and are ready to incorporate its principles into their practices. Reaching out to provide IPE training to clinical and community partners will help to ensure that UIC health professions students participate in settings that reinforce and further develop their competence in team collaboration and patient-centered care.

[24] http://uhealth.uic.edu/.
[25] http://www.uic.edu/depts/oaa/healthcare_taskforce/

Finally, the new Center for Advancement of Teaching-Learning Communities (TLC) has been established as part of UIC's Student Success Initiative in order to support faculty to become better instructors by "providing an integrated hub for teaching delivery enhancement, educational innovation, and technological advancement."[26] Teaching in an interprofessional context requires, among other things, group facilitation skills, the ability to work through conflict, personal skills in collaboration, and the ability to overcome miscommunication that arise from different professional perspectives and jargon.[27] The successful implementation and ultimate integration of IPE at UIC will require extensive faculty development and the establishment of the TLC suggests that this is a good time to create institutional structures focused on teaching.

II. THE STRATEGIC PLANNING PROCESS

In 2014, Interim Provost Eric Gislason and Interim Vice President for Health Affairs Jerry Bauman appointed a task force (Appendix E) to begin strategizing about the development of a full-scale IPE program at UIC with CEIPE as a critical stakeholder. (Figure 6 shows the charge to the task force.) Mary T. Keehn, PT, DPT, MHPE—a longtime member of CEIPE—was appointed as the director of the project in the position of Special Assistant to the Vice Provost for Planning and Programs. In preparation for the task force's work, Keehn developed a map (Figure 7) showing the primary and secondary stakeholders in a UIC IPE program.

The goal of the task force was to lay the groundwork to ensure that "UIC graduates collaborative-ready health professionals" and the charge asked task force members to address the following questions:

1. What are the desired learning outcomes for pre-licensure and post-licensure IPE at UIC?
2. What are the basic elements and organizational structure of educational programs to achieve those outcomes?
3. What are the predominant challenges to the implementation of IPE on campus and how might those challenges be addressed? Consider cross-college sharing of credit hours, tuition revenue, establishment of IPE clinical electives, and the financing of these IPE initiatives.
4. How can UIC capitalize on the scope of health professions education provided by UIC across all four campuses to gain recognition as a statewide and national leader in IPE?

To accomplish this, co-chairs Mary Keehn and Abbas Hyderi, MD, MPH convened the task force for a series of meetings that occurred between November 2014 and April 2015. They approached the development of a strategic plan through an iterative, multi-phased process that included the following: a SWOT analysis, an environmental PEST scan, interviews with secondary stakeholders, and the development of a logic model. As the process unfolded, guiding principles and elements of a vision emerged and these became the basis of the long-term outcomes included in the logic model.

[26] https://faculty.uic.edu/tlc/.

[27] Buring SM, Bhushan A, Broeseker A, Conway S, Duncan-Hewitt W, Hansen L, Westberg S. Interprofessional education: definitions, student competencies, and guidelines for implementation. Am J Pharm Educ. 2009 Jul 10;73(4):59.

FIGURE 6: CHARGE TO THE TASK FORCE

UIC UNIVERSITY OF ILLINOIS AT CHICAGO

Office of the Vice Chancellor for Academic Affairs and Provost

2832 University Hall (MC 105)
601 South Morgan Street
Chicago, Illinois 60607-7128

October 27, 2014

Dear Colleagues:

Thank you for agreeing to serve on the Interprofessional Education Strategic Thinking Taskforce ("IPE Taskforce"). The IPE Taskforce will lay a roadmap for the establishment of a UIC IPE program, marking a new stage in UIC health science education.

As the Chicago area's leading urban research university, with four regional campuses, UIC is in the unique position of having seven health science colleges, including one of the nation's largest schools of medicine and prestigious programs in applied health science, dentistry, nursing, pharmacy, public health, and social work. UIC trains a sixth of all Illinois physicians, a third of the state's pharmacists, and 44% of its dentists. The UIC Hospital and Health Sciences System provides care to a wide range of Illinois citizens, particularly those from underrepresented groups and underserved communities.

In light of its role in training the healthcare workforce of the future, it is crucial that UIC keep pace with the changing health science education landscape, including the growing focus on team-based patient-centered care, and accreditation requirements in IPE that now apply to a growing number of our health science programs. Although health professionals necessarily work together, the rise of IPE here and around the US will enable health professionals in-training as well as those already in practice to develop or refine collaborative care skills to advance quality and patient safety. The Collaborative for Excellence in Interprofessional Education (CEIPE), an *ad hoc* group of faculty from the health science colleges and other units, has already introduced innovative programming to shape curricular and co-curricular student experiences to that end.

It is now time to engage in a planning process that ensures that UIC graduates collaborative-ready health professionals and provides professional development opportunities in collaborative care. We ask you to produce a report by March 2015 that outlines how UIC might establish an effective IPE program, addressing the following questions:

1. What are the desired learning outcomes for pre-licensure and post-licensure IPE at UIC?
2. What are the basic elements and organizational structure of educational programs to achieve those outcomes?
3. What are the predominant challenges to the implementation of IPE on campus and how might those challenges be addressed? Consider cross-college sharing of credit hours, tuition revenue, establishment of IPE clinical electives, and the financing of these IPE initiatives.
4. How can UIC capitalize on the scope of health professions education provided by UIC across all four campuses to gain recognition as a statewide and national leader in IPE?

Again, thank you for your willingness to participate in this important and exiting process. We look forward to seeing the results of your work.

Sincerely,

Eric A. Gislason
Interim Vice Chancellor for Academic Affairs and Provost

Jerry L Bauman
Interim Vice President for Health Affairs

Phone (312) 413-3450 • Fax (312) 413-3455 • www.uic.edu/depts/oaa/index.html

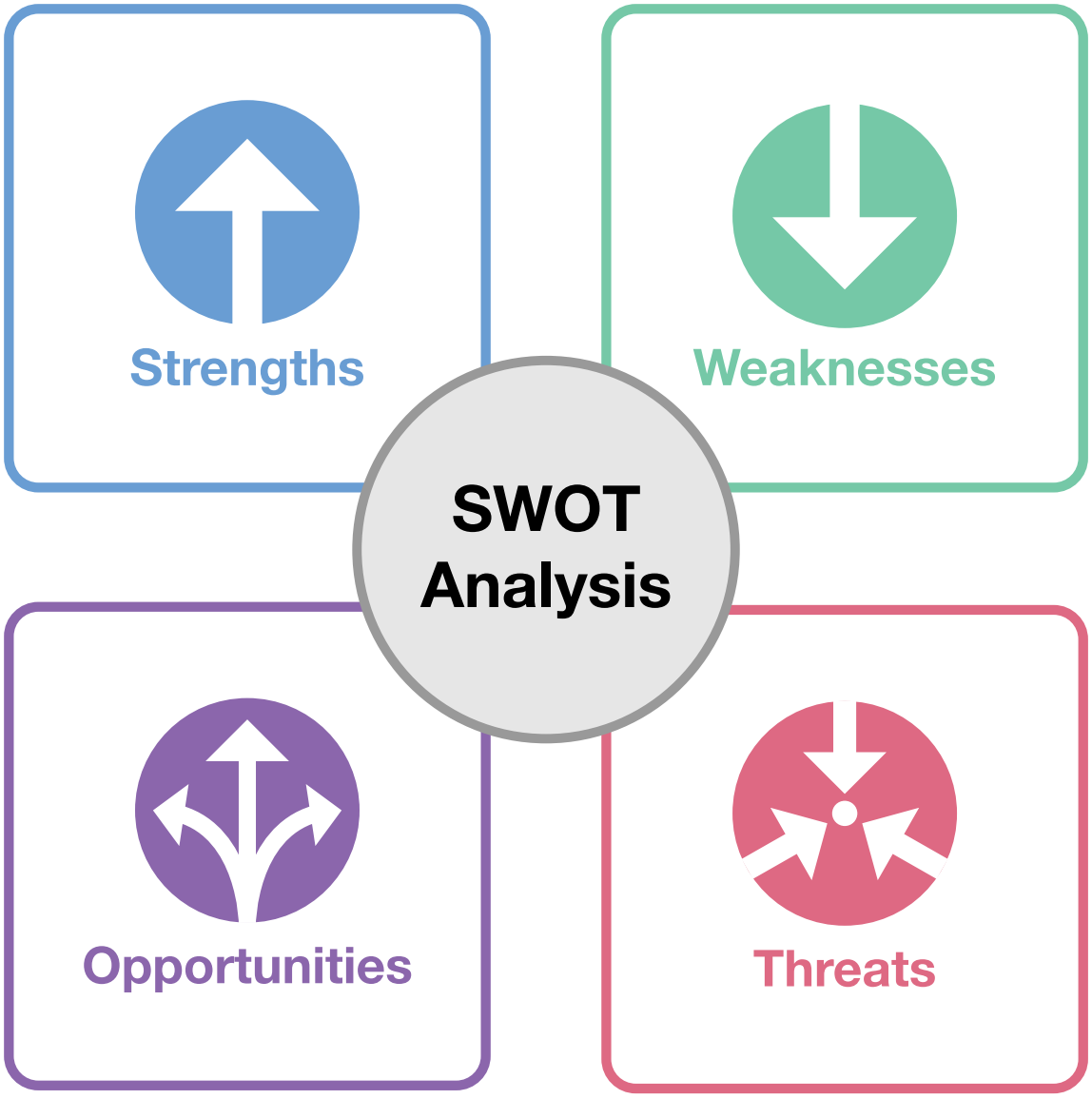
FIGURE 7. IPE STAKEHOLDER MAP

A. SWOT AND PEST ANALYSES

At the outset of the strategic planning process, the task force used two standard analytical tools—a SWOT analysis and an environmental scan—to identify and categorize internal and external factors that will influence the development and implementation of any plan to establish an IPE program at UIC. In a SWOT analysis, strengths and weaknesses are seen as internal factors, while opportunities and threats are considered external. The analysis brings to light the current capabilities and resources of the institution as well as the challenges that will be faced in implementing the plan. A PEST environmental scan analyzes political, economic, sociocultural, and technological forces likely to affect implementation. The findings, which were generated in a dedicated meeting and in subsequent discussions, are important for the insights they provide about the specific context within which a UIC IPE program will be developed.

i. Results of the SWOT Analysis

FIGURE 8. SWOT ANALYSIS



Strengths: One of the greatest strengths with regard to internal resources and capacity for IPE at UIC is the long-term commitment of CEIPE. This interdisciplinary group has served over the past 7 years, with members voluntarily incorporating IPE-related efforts into their existing workloads in order to develop and implement IPE student experiences across all UIC campuses. This group has garnered the support of faculty, administration, and key units, and engaged students as learners and members of the IPE planning team. Other critical strengths are the

- diversity of health professions programs;
- extensive clinical enterprise at UIC;
- range of resources to support educational innovation; and
- excellence and congruence of the foundational principles of IPE with the UIC mission and the missions of the individual colleges and UI Health.

Weaknesses: Internal challenges to the successful implementation and sustainability of IPE at UIC focus in two areas: the complexity of the University of Illinois as an institution and funding. The educational environment is complex because students are enrolled in a wide range of professional programs at six different campuses that are very different with regard to student body and environment, and these students participate in programs that are delivered in classroom, clinical, and online settings. There have been a number of changes in key leadership for the university, the UIC campus, and for the health sciences colleges and the health care enterprise as well as substantial change in the organizational structure over the past few years, adding another layer of complexity to the planning environment. A vibrant and sustainable IPE program will require multi-campus administrative coordination of efforts to achieve faculty participation from all the health sciences colleges on all campuses and from organizational development staff at UI Health. UIC does not yet have a mechanism for funding, budgeting, and managing resources across colleges, and between the colleges and the health care enterprise. Up to this point, IPE has been funded through individual initiatives (such as grants) and events, and there is neither a longitudinal nor a comprehensive financial structure in place to continue it.

Opportunities: The greatest opportunity for IPE at UIC is related to the fundamental change taking place in the U.S. health care system that has generated a significant focus on the need for coordinated and collaborative models of care and for educating health professionals to work in these new models. Funds for IPE program development and for research into effective training at both pre-licensure and post-licensure levels are available through both public and private sources. UIC has the opportunity to develop an IPE curriculum that uses innovative educational technology and resources, including the use of simulation to train the thousands of currently licensed health care professionals in Illinois who have not received training in teamwork and collaboration as part of their pre-licensure training.

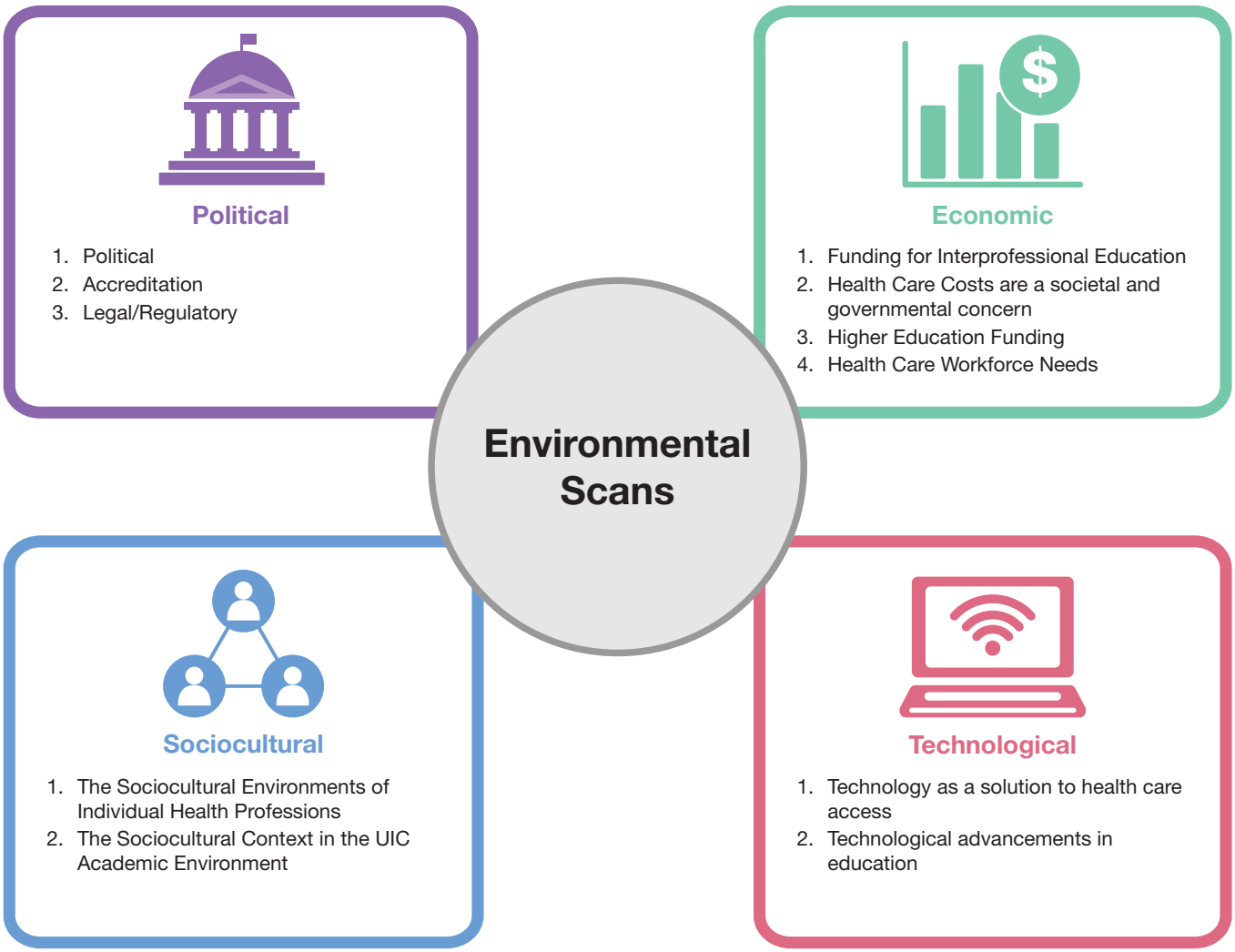
Threats: The demand for IPE is growing at the same time that the science of teamwork and collaboration is evolving. Curriculum is being developed despite the fact that there is significant uncertainty about the theoretical basis and the best practices for IPE. Collaboration in practice requires challenging the hierarchy, stereotypes, and power differential that currently exist between health professions. Models for collaboration that address these challenges are currently being developed and studied, but are not yet established.

Health care payment systems are rapidly changing to encourage collaboration, but the funding models for health care education are driven by very different forces. The long term impact of health care payment reform on health care education funding is not yet clear. The ACA included some positive provisions related to medical and nursing education including changes in the National Health Service Corps and Student Loan Repayment programs. Reassignment of residency positions to hospitals in states with low resident to patient ratios and investments in training for roles in nursing are additional important provisions of the ACA which affect support for health professions education but are not strictly funding related. However, the frailty of

funding for health care education cannot be ignored. There is widespread concern over the cost of higher education in general and specific concerns about how reductions in Medicare and Medicaid payments will affect the ability of hospitals and other care settings to provide vital clinical training. As Medicare attempts to achieve savings to balance the increasing number of people receiving Medicare benefits and Medicaid reduces disproportionate share (DSH) payments based on the anticipated reduced number of uninsured payments to hospitals, hospitals will need to reduce costs wherever possible and budget dollars used to support health professions education—particularly for professions other than medicine and nursing—will be closely watched.

ii. Summary of the PEST Scan (See Appendix F for the detailed results.)

FIGURE 9. PEST SCAN.



Political Environment: The political environment includes federal and state legislation, government function, political relationships and alliances between UIC and the state government, relationships between the colleges and campuses at UIC, relationships between the academic and clinical enterprises at UIC, relationships between professions at UIC and in the larger health care context, and legal and regulatory concerns. The implementation of the Affordable Care Act has been a primary political force affecting efforts to improve access to health care by reducing health care costs and improving quality. It has stimulated a focus on value-based (as opposed to volume-based) payment, which has in turn increased awareness of the importance of coordinated, interprofessional collaboration across the continuum of care. Key components of the missions of the UIC health sciences colleges with clear political implications include population health, reducing health care disparities, and recognition of the social determinants of health all of which will require the expertise of many different professions—clinical and non-clinical.

Under the ACA, Illinois has chosen to implement a Federally Facilitated Marketplace. The increasing numbers of persons with health insurance, along with factors such as the aging of the population, are creating significant demands for health care workers and for changes in regulations to ensure that health care providers are able to practice at the "top of their training" without unwarranted restrictions. Managing the transition to collaborative practice will require careful negotiation to avoid the exacerbation of ongoing "turf wars" arising from overlapping scopes of practice and professional boundary disputes. State entities such as the Health Care Workforce Workgroup have identified IPE and collaborative practice as critical to the success of new models of care.

The political landscape in Illinois is currently creating a significant challenge because of the budget impasse between the executive and legislative branches of state government. UIC is impacted as both a higher education institution and a health care provider. However, despite the uncertainty about how Illinois government will resolve this, UIC must make progress in critical areas such as IPE.

Finally, the fact that UIC's workforce is governed by a complex set of union and civil service human resource policies and its education programs by various accreditation standards (Appendix A) enforced by multiple accrediting organizations, and organizations adds to the challenge of developing a unified IPE program.

Economic Environment: Economic factors include local, national, and global areas such as the growth/decline in health care spending, funding for education and health care, and workforce supply and demands. For example, health care organizations are vocal about the need for a workforce that is trained in teamwork and collaboration; however, it is not clear where the resources would come from to train the current workforce for collaborative practice. The need for health care workers is expected to continue to be strong. It is also clear, that despite rising costs of education, applicant pools for UIC health professions education programs are robust. The shift in payment models from fee-for-service to a capitated and outcomes-based model along with pressure from government, insurers, and large employers for transparent pricing and pay-for-performance models adds additional economic complications.

So far, UIC's IPE efforts have been funded by individual departments and campus and external agencies but the fact that the current budget model assigns costs and productivity to each unit creates challenges for sharing costs. The impact on the productivity of clinical preceptors and policies on faculty workload, promotion, and tenure do not currently acknowledge the kind of activities required to establish IPE at UIC. Polices related to tuition (e.g., differentials) and course credit are also not designed to support IPE activities that bring together students from different disciplines.

Sociocultural Environment: The sociocultural environment for IPE and collaborative practice includes the cultures of individual health professions, historical development of professions and interprofessional relationships, relationships

between patients and providers, and the roles of the patient and caregivers in health care decision-making. Historically, health professions have emphasized their unique bodies of knowledge and scopes of practice. IPE, which can illuminate similarities between professions, can threaten professional identity and the professions' social status.

UIC's early roots are in health professions education and it is home to programs that were among the first established in the US. Today UIC is recognized as providing a substantial portion of the Illinois health care workforce—part of its core mission. The number and diversity of health professions education programs at UIC and the existence of program across the northern and central parts of the state create an unusual and valuable setting, but this diversity also bring challenges, especially when it comes to curriculum. The degree of collaboration among the health sciences colleges is limited, and collaboration on curriculum development is minimal. There are differences in the forms of pedagogy used, in the degree to which change will be embraced, and in the willingness to adjust schedules and shift resources to successfully integrate IPE into existing programs. Only a few colleges (e.g., Applied Health Sciences) have strategic goals pertaining to IPE and it is difficult to tell how deep commitments to IPE run, which may also make it difficult to find ways of including IPE in faculty workloads and promotion reviews. There are also significant differences in philosophical approaches to health and health care. Campus expertise in diversity and Intergroup Dialogue could be useful tools for the development of sound IPE curriculum.

Students in UIC health professions education programs have a strong interest in developing their understanding of all health professions and in being trained to successfully collaborate in order to provide safe and effective patient centered care. They have established a UIC Chapter of Delta Epsilon Mu, a pre-health professions fraternity with a goal of bringing together students who are pursuing different health professions, an IHI Open School Chapter, and the UIC Health Professions Student Council initiated a Collaborative Healthcare Series a few years ago. Recognizing and responding to these student-driven initiatives is consistent with President Killeen's and Chancellor Amiridus' calls for enhancement of the student experience and innovation in teaching.

Technological Environment: The technological environment extends beyond consideration of how technology can be used in health professions education and health care delivery. The impact of technology on human relationships, which are critical in both education and health care delivery, is also important. From the perspective of both the pre- and post-licensure health professions learner, UIC already provides strong support through the Instructional Technology Lab, the Learning Sciences Research Institute, and a number of college-based support units. Maximizing the use of educational technologies in both online and blended formats will help overcome some of the existing structural barriers such as scheduling. Over time, health care's increasing specialization and fragmentation has led to a less efficient, more costly delivery system, with more patient dissatisfaction and higher risk. New paradigms rely on team-based, patient-centric care, where decision-making is grounded in data. Information systems are expected to reflect care occurring across multiple health care delivery systems and across the lifespan. Researchers have identified seven information-intensive aspects of a new delivery system:[28]

1. Comprehensive data on patients' conditions, treatments, and outcomes;
2. Cognitive support for health care professionals and patients to help integrate patient-specific data where possible and account for any uncertainties that remain;
3. Cognitive support for health care professionals to help integrate evidence-based practice guidelines and research results into daily practice;
4. Instruments and tools that allow clinicians to manage a portfolio of patients and to highlight problems as they arise both for an individual patient and within populations;

[28] Stead WW, Lin HS, editors. Computational Technology for Effective Health Care: Immediate Steps and Strategic Directions. Washington DC: National Academies Press, 2009.

5. Rapid integration of new instrumentation, biological knowledge, treatment modalities, and so on into a "learning" health care system that encourages early adoption of promising methods, but also analyzes all patient experience as experimental data;
6. Accommodation of growing heterogeneity of locales for provision of care, including home instrumentation for monitoring and treatment, lifestyle integration, and remote assistance; and
7. Empowerment of patients and their families in effective management of health care decisions and their implementation, including personal health records, education about the individual's conditions and options, and support of timely and focused communication with professional health care providers.

Among the five Core Competencies for Health Professionals identified in the IOM's 2003 report is the ability to utilize health information technology and health informatics.[29] Among the founding members of CEIPE are faculty members from both the health informatics and health information management programs. These faculty have recently received approval of a PhD program offering a degree in biomedical and health informatics that draws on faculty in health sciences and other colleges and on the Library of the Health Sciences. This kind of cross-campus collaboration can be a model for an IPE curriculum.

B. INTERVIEWS WITH STAKEHOLDERS

Following the completion of the SWOT and PEST analyses, task force members interviewed stakeholder representatives to gather input that would further inform the strategic planning process. Questions included:

1. Is the need for improved interprofessional collaboration being discussed in your organization? If so, what kinds of things are being discussed?
2. Have you developed any formal programs to evaluate or develop interprofessional collaborative competency within your organization?
3. Are there specific challenges in your organization that IPE and collaboration could address? In what way could UIC assist?
4. Do you perceive new graduates from UIC as being competent to collaborate? Compared to graduates from other schools? Is this part of your basic expectations?

While most stakeholders were aware of the need to develop collaborative health care processes, responses varied depending on their roles. Some academic units reported that they already conduct programs or courses that rely on faculty from different colleges or expressed interest in helping to develop and deliver IPE learning experiences. The Instructional Technology Lab (ITL) is ready to support IPE initiatives through Blackboard and Blackboard Collaborate, which could be used for large groups of students across campuses and during clinical fieldwork. The UIC School of Continuing Studies is available to support continuing professional development in interprofessional collaboration to the thousands of health professionals throughout the Midwest region.

Insufficient time and space for additional training were mentioned even by respondents who are enthusiastic about the establishment of IPE. For example, for some the challenge in establishing IPE training and activities for students lies in getting clinicians to model collaborative skills and institutions to see those skills as valuable. Stakeholders were concerned about a mandate to engage in an unbridled IPE initiative. Clearly, the IPE effort must be designed to judiciously use both learner and faculty time and to demonstrate its value from the perspective of the stakeholder.

Simulation, which includes a wide variety of approaches to replicating clinical situations for purposes of education, was identified as an important option for IPE. Leadership of the simulation centers on all UIC campuses noted its value in providing critical collaborative experience and opportunities for deliberate

[29] Greiner AC, Knebel E, editors. Health Professions Education: A Bridge to Quality. Washington DC: National Academies Press, 2003.

practice in a safe environment in which no patient can be harmed. The College of Medicine Chicago Campus is currently developing plans for an enlarged simulation center to replace the existing Graham Clinical Performance Center and the planning group has specifically sought input on how to make sure the need for simulation in IPE is addressed. The Jump Training Simulation and Education Center at the College of Medicine's Peoria campus offers state-of-the-art facilities for educational events and conferences. The College of Nursing's M. Christine Schwartz Experiential Learning Center is a newly renovated simulation center that has already been used for multiple interprofessional learning experiences. Finally, the College of Applied Health Sciences is pursuing the development of a simulation program with a focus on IPE. UI Health leaders believe that simulation could be used to present learners with scenarios beyond patient care and clinical operations management, which would help them understand the contributions made by non-clinical team members. Students felt that simulation was a valuable component of the IPE immersion days but there was recognition that access to simulation facilities varies greatly among UIC campuses and colleges.

Stakeholder input from UI Health spoke to changes in payment models and the implementation of quality measures as creating pressure to use every advantage potentially available through greater emphasis on collaborative practice. UIC health professions graduates with strong ICP skills, will have increased value for UI Health as an employer. UI Health leadership clearly recognizes the need for specific training in collaborative practice and teamwork but training programs are in very early stages of development.

At the University Library of the Health Sciences, existing physical and virtual resources have already enabled library faculty to collaborate with other health science faculty on developing semester-long courses, workshops, and research projects. The fact that the representatives from the library have been involved in CEIPE since its inception and in the IPE immersion days means that its faculty has experience providing IPE and taking part in collaboration. Challenges for the library include budget, an inadequate number of library faculty to fully address the UIC health sciences community's needs, and the number and variety of health professions education programs with uniprofessional as well as IPE agendas.

Members of UIC's IHI Student Chapter have been pro-active in trying to establish IPE activities. They are piloting a shadowing program between nursing and medical students, with plans to expand to include the other UIC health science colleges. Student spokespersons indicated that "a unified IPE curriculum presented for credit would lessen the need for student-driven IPE initiatives and further emphasize the importance of interprofessional communication from the top down."[30] They perceive current UIC health science students as minimally competent to collaborate interprofessionally, unless they have already been exposed to the skills through an educational or professional experience.

According to the Health Professions Student Affairs workgroup, the opportunity to interact with students in many health professions education programs has been used as a recruitment tool to bring top students to UIC. Failure to provide interprofessional learning experiences leaves students feeling misled about the opportunity to interact with students from other professions. There was some concern that IPE activities involving students across colleges might be unfair because some would pay differential tuition or get a different amount of credit for the same work. They also reported that students are very sensitive to how their time is used and that any required activity must be useful and not simply a repetition of things they have already done. At the same time, they noted that students may overestimate what they already know and may claim to know more about IPE than they really do.

C. EXISTING IPE EXPERIENCES AT UIC

In addition to the work done by CEIPE as a group, IPE learning experiences are being provided with a wide range of educational

[30] Stakeholder Response from IHI Student Group, 2015.

objectives and institutional or other forms of support (grant funding, volunteerism) across the University to small groups of students in the health professions education programs (see II.C. below). These experiences are the result of the efforts of individual faculty who are passionate about the importance of IPE and, in some cases, the result of students creating demand for them. While these are, by participant accounts, valuable experiences, they go largely unrecognized by others. Ultimately, these efforts and resources need to be integrated into a campus-wide effort that will make efficient use of the faculty's time and expertise and of university resources.

In order to collect details about the particular IPE learning experiences being provided, the task force sent an email solicitation for an online survey to each of the health sciences colleges and to members of CEIPE. Faculty were encouraged to submit any learning experience that they felt contributed to the development of interprofessional competence (Appendix G). Given the method used to collect information, it is likely that there are additional learning experiences not included in the current database. However, the data already collected is of value to planning. It includes information about each activity, the faculty who developed and provided it, the students involved, and the assessment methods used. In addition to informing the strategic plan, this database can serve to collect data and information to be used to design new activities, develop assessment tools, support collaboration among IPE faculty and clinical partners, and provide an inventory for accreditation reports.

Of the 29 learning experiences entered in the database as of April 2015, 16 are held on the Chicago campus, 1 is held on the Peoria campus, 4 are held on the Rockford campus, and 8 are held in Urbana.

Key findings from the analysis:

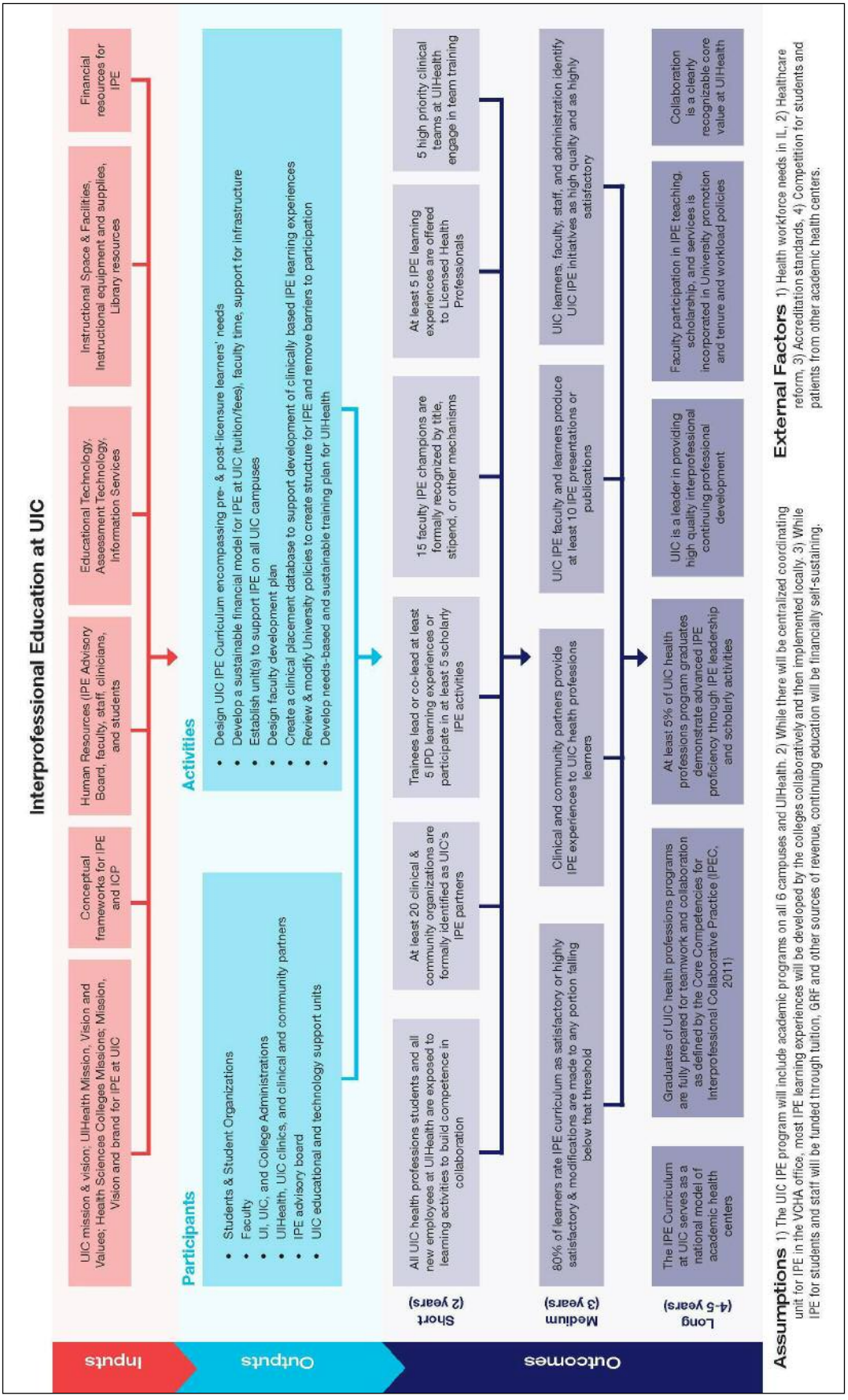
- 15 of 29 experiences clearly fit the Centre for the Advancement of Interprofessional Education (CAIPE) definition of IPE (p. 4 above). An additional 11 did not fit the definition but shared the goal of contributing to interprofessional competence. Four of the experiences had guest instructors from a profession different from that of the learners but interprofessional competence was not an objective. This analysis demonstrates the need to assist faculty in understanding what IPE is and how interprofessional competence is developed. Most of the activities have potential for expansion or for increased effectiveness.
- As of Spring 2015, all graduates of UIC's health professions programs have had at least one substantive IPE experience because they have all participated in the annual IPE immersion day. The greatest number of additional IPE learning experiences are available to medicine and nursing students; however, most of the experiences are optional and not provided to all students in those programs. For students in some programs, the IPE immersion day is the only IPE experience in which they are involved.

The results of the survey of UIC IPE opportunities present a positive picture of faculty initiating IPE learning experiences despite the lack of broad institutional support to date. A centralized process with distributed leadership across campuses will enhance the current experiences and will add what is needed to achieve the desired results.

D. THE IPE STRATEGIC PLANNING LOGIC MODEL

Once the necessary fact finding and analysis had been completed, the task force developed a Logic Model (Figure 10). In a logic model, Inputs are the resources that must be in place to initiate the plan, including tangibles such as funding, personnel, and technology as well as intangibles such as institutional support and a viable infrastructure. These must be sufficient to produce the Outputs, which are accomplished through the activities of necessary participants. The final part of the model is Outcomes, the results the plan is meant to accomplish, which also provide a way to evaluate its success. The task force divided the outcomes into short-term (2 years), mid-term (3 years), and long-term (4-5 years).

FIGURE 10. IPE STRATEGIC PLANNING LOGIC MODEL



The development of a logic model is an iterative process, requiring the identification of the desired outcomes and then the participants and resources that will produce the outcomes along with the inputs that needed to carry out the activities. Milestone outcomes that will serve to evaluate progress over time are articulated and inputs, participants, and outputs are then reviewed and modified to ensure that the outcomes will be achieved. The model presents only major milestones, in general terms, with interim steps and details (exactly which faculty members need to be involved, the specific steps in developing a curriculum) fleshed out at a later point. The logic model represents the entire project of establishing a successful IPE program at UIC, although it is expected that there will be some changes to interim steps as well as additional outcomes as the plan is implemented. In developing the logic model, the task force considered a wide range of outcomes that the UIC IPE program could achieve including learning outcomes for pre- and post-licensure learners, outcomes for UIC as an institution, and outcomes for the communities that UIC serves.

The work required by participants to complete the activities and to achieve the outcomes is complex, as can be seen in Figure 10. Participants utilize a number of the identified inputs to complete each activity. The participants in the activity are varied, with some having a major role and others providing expertise and guidance. Appendix H provides an example of the completion of one activity—the development of the UIC IPE curriculum.

The learning outcomes go beyond demonstrating knowledge and understanding of the IPEC Competencies, the value of IPE and collaborative practice, and the roles of various health professions involved in patient-centered care teams. Some learning outcomes are the same for pre- and post-licensure learners because both categories are working towards the development of competence in interprofessional collaboration. However there will be differences because of practice experience and because for the most part, post-licensure learners have a focus on a specific patient population or practice setting and their roles often go beyond patient care.

Pre-licensure learners would be expected to:

1. develop systems thinking;
2. efficiently and effectively collaborate to attain the common goal of improving health care locally and globally across the spectrum from prevention to treatment;
3. demonstrate the ability to use collaborative competencies to address significant health care challenges such as obesity and oral health; and
4. function at the intersection of practice and scholarship to serve as both leaders and scholars to reduce health disparities.

Post-licensure learners would also be expected to achieve learning outcomes related to the use of principles of collaborative practice in quality improvement within their specific practice environment and would also be expected to demonstrate higher level outcomes such modeling collaborative behavior and mentoring students and colleagues.

Because UIC is a health care provider as well as an educational and research institution, the UIC IPE program will impact both health care delivery and health care education:

1. Collaborative practice at all related clinical entities (UI Health, OSF St. Francis Medical Center, UnityPoint Health and other regional hospitals) will lead to progress toward the achievement of the Triple Aim.
2. UIC's clinical and community partners across the state will provide UIC student experiences with collaborative practice in action.
3. Involvement in IPE student instruction will assist clinical partners in meeting health care reform requirements and in transforming health care delivery as the effects of the Affordable Care Act continue to unfold.
4. Within the UIC system, health care providers will perform in a patient-centered environment that will draw seamlessly on the expertise of related professionals in providing needed care.

5. Prevention and population health will be understood and integrated into the collaborative practice of all UIC-affiliated health professionals.
6. UIC health professions graduates and UIC health professionals will demonstrate expertise in therapeutic communication techniques with colleagues, patients, and families around care/management provision.
7. UIC health professionals and UI Health staff will demonstrate expertise in including the patient, family, and/or community in providing efficient, effective, health care that achieves goals that are determined by the recipient.

Finally, partnerships between UIC and community organizations and practitioners mean that a successful IPE program will offer these community outcomes:

1. UIC-led collaborative practice initiatives contribute to the reduction of health disparities in local communities and help effectively and efficiently address the social determinants of health.
2. UIC provides training in collaboration for the local health workforce.
3. UIC provides innovative opportunities for the continuing professional development of collaborative competence for clinicians and organization (e.g., Patient Safety Summer Camp)

E. THE DEVELOPMENT OF A MISSION STATEMENT

There was no pre-existing mission statement for IPE at UIC. In part because of the impending appointment of a Vice Chancellor for Health Affairs and probable changes in the organization of health-related operations, the task force initially chose to use the principles of IPE and our experience with IPE at UIC as the basis of this plan. As the task force neared the end of its work, however, it was clear that some themes had emerged so strongly that they appeared to be unmistakably fundamental concepts (Figure 11). The task force members determined they could articulate a mission statement that could serve to direct the implementation of the UIC IPE strategic plan.

FIGURE 11. FUNDAMENTAL CONCEPTS FOR IPE AND ICP AT UIC

FUNDAMENTAL CONCEPTS

As the task force analyzed the SWOT analysis, the PEST environmental scan, stakeholder input, and the ideas contributed by members acting as representatives of stakeholder groups, key themes, concerns, and desires emerged. These were captured as governing principles.

1. Interprofessional collaboration must be learned beyond the academic setting.
2. IPE is an integral component of education for all health care disciplines.
3. The UIC IPE curriculum and the interprofessional practice model must be financially sustainable.
4. UIC's work in IPE must be shared at the local, state, national and international levels.
5. UIC must contribute to IPE scholarship at a national and international level.
6. Excellence in IPE will bring further distinction to UIC's health professions educational and clinical programs.
7. IPE at UIC must focus on health vs. (or in addition to) health care and social care.
8. The Impact of social determinants on the health of a person and on the health care system must be a core concept within UIC's IPE program.
9. IPE and ICP must target the reduction of healthcare disparities.
10. Health care teams must include members that bring perspectives from clinical and non-clinical (public health and community) agencies, health care professionals including those that are not visible in the patient care arena, patients and families, and health care and social services.
11. UIC must emphasize the value of collaboration in chronic disease management.
12. The focus of collaborative practice at UIC is the engagement in patient-centered collaborative care across the continuum and across the lifespan.
13. IPE scholarship must include a wide array of qualitative and quantitative methods.
14. Effective IPE must rely on effective use of educational technology and innovation.
15. UIC's IPE program must be attractive to clinical and community partners who provide clinical training for students and who identify health and health care quality improvement priorities in the state of Illinois.
16. UIC's IPE program must address high priority healthcare workforce needs.
17. UIC's IPE program must reflect pressing health issues and health care needs.
18. IPE must be planned at the right "dose" to achieve outcomes and must be evidence based with continuing attention to evolving evidence and program evaluation results.

These concepts are reflected in the logic model (Figure 10) and the draft mission statement (II.E), but ongoing consideration should be a part of the implementation of this plan.

The resulting draft mission of IPE at UIC is directly tied to the campus's mission statement, which includes this clause: "To train professionals in a wide range of public service disciplines, serving Illinois as the principal educator of health science professionals and as a major health care provider to underserved communities" (www.uic.edu/about). The focus on underserved communities and health disparities is part of UIC's commitment to social justice, which also underlies the IPE project.[31]

Drawing on the fundamental concepts that had been repeatedly articulated, the information that came from the SWOT analysis and PEST environmental scan, the IPEC core competencies and other shared understandings of IPE's purpose, the task force created this draft mission for a UIC IPE program:

The mission of interprofessional education (IPE) at the University of Illinois at Chicago (UIC) across all its campuses is to create transformational change in health professions education and health care service delivery. This mission is accomplished by delivering evidence-based learning experiences that build collaborative competence and foster interprofessional scholarship and collaborative practice across academic programs, clinical services, and community partners with focused attention to the pressing needs of underserved individuals and populations.

III. CONCLUSION AND RECOMMENDATIONS

Efforts to improve the quality of health care in the US while at the same time constraining or reducing costs has aroused significant interest in IPE and collaborative practice. It has also led to the implementation of programs, despite the incomplete evidence supporting collaborative practice as effective in reducing costs or improving outcomes. There is evidence of positive impacts on outcomes such as knowledge of roles and responsibilities, attitudes towards interprofessional collaboration and teamwork, reduced stress on health care providers and patients, and on improved clinical results. There are also a few examples of null or even negative outcomes.[32] Nonetheless, the forces driving the implementation of IPE are strong, and it is critical that UIC approaches the development of an IPE curriculum with careful attention to the approaches that are theoretically based and have been systematically tested so implementation proceeds using the best available evidence and practices. Close attention to the national and international leaders in IPE will assist UIC in developing an IPE curriculum that leads to desired outcomes for all stakeholders.

While there are many reasons to be confident that UIC can achieve the outcomes outlined in the logic model, these particular challenges must be addressed in order to establish a successful IPE curriculum at UIC:

- UIC's decentralized governance and budget models make it difficult to coordinate a program that requires the health science colleges, UI Health, and all six campuses to work together.
- Current methods of assessing workload and rewarding performance make it difficult for faculty members to be active participants in a campus-wide curriculum project.
- The state's economic environment makes it difficult to find permanent funding for the development and implementation of an IPE curriculum at UIC.

In considering the four questions asked in its original charge, the task force responds as follows:

[31] http://www.uic.edu/depts/oaa/sji/index.html.

[32] Olson R, Bialocerkowski A. Interprofessional education in allied health: A systematic review. MEDU Medical Education 2014, 48(3), 236-246. Thistlethwaite J, Moran M. Learning outcomes for interprofessional education (IPE): Literature review and synthesis. Journal of Interprofessional Care 2010, 24(5), 503-513. Kenaszchuk C, Rykhoff M, Collins L, McPhail S, van Soeren M. Positive and null effects of interprofessional education on attitudes toward interprofessional learning and collaboration. Advances in Health Sciences Education 2012, 17(5), 651-669.

1. What are the desired learning outcomes for pre- and post-licensure IPE at UIC?

Desired learning outcomes applicable to both pre- and post-licensure IPE are described by the IPEC Core Competencies for Interprofessional Collaborative Practice (Figures 2 and 3). The two groups of learners are at different levels of professional development, but across the health care system at large, neither group has collectively demonstrated achievement of these outcomes. The Logic Model for IPE at UIC (Figure 10) indicates that the curricula for students and post-licensure learners will be differentiated as reflected in some higher level outcomes expected for post- licensure learners. For example, a learning outcome for UIC's pre-licensure students might be to explain one's professional role to others, while for post-licensure practitioners the outcome would be more advanced such as addressing overlapping scopes of practice by negotiating professional roles within the care of a particular patient.

While the immediate focus of the IPE initiative has been on the health science colleges, the task force also considered the potential for the involvement of other programs and colleges. The IPE program may eventually include pre-health professions students as well as students in the Colleges of Engineering and Education and programs in the College of Liberal Arts and Sciences, such as psychology and sociology, with learning outcomes that address the interaction of the healthcare system with the education, social services, and criminal justice systems.

2. What are the basic elements and organizational structure of educational programs to achieve those outcomes?

CEIPE provided the structure for IPE for the first several years, depending primarily on faculty volunteers and support from a variety of university sources and external funding. All seven health science colleges and all UIC campuses have required their students' participation in IPE events, and the Provost's office made a two-year commitment of resources, housed within the Office of the Vice Provost for Programs and Planning, to sustain current IPE activities and to carry out a strategic planning process. All of this support has been invaluable in moving UIC's effort to its current state, but in order to have a sustainable program, financial resources must be institutionalized and policy changes are needed. It will be especially crucial that participating faculty and staff members—both active CEIPE members and those who participate by, for example, facilitating at immersion events—receive appropriate recognition of their participation and reward for their contributions. (We discuss this further in our response to Question #3 below.)

The Logic Model identifies the basic elements (inputs) needed to move forward , such as the establishment of an IPE function/office, full use of available educational and information technology, space, instructional equipment and supplies, library resources, and a budget. The advancement of an IPE curriculum also requires that human resource and other needs specific to IPE are addressed. Because IPE operates across all seven health science colleges—and may expand to include programs in others—it is critical to designate a leader or leaders who can not only educate internal and external stakeholders about the plan, but find ways to ensure its implementation. A Steering Committee, ideally made up of CEIPE members and select others, will provide additional expertise. Advisory groups that include key stakeholders from the educational programs, the clinical enterprise, and the community will not only demonstrate buy-in from the groups they represent, but also ensure that the IPE curriculum is fully vetted with constituents. Essential to these efforts, however, is an organizational structure that allows IPE to bring together individual colleges—and UIC's six campuses—not only to work together on developing a campus-wide curriculum, but to enable students to follow it. Assembling students from all seven health science colleges for a one-day immersion event is a challenge but incorporating IPE experiences within existing curricular structures will present a different set of challenges. Addressing restrictions that may prevent health professions students from full participation in an IPE curriculum, such as differences among colleges' awarding of credit and evaluation of off-site clinical experiences, and tuition differentials, will require broad campus buy-in and active participation. Inclusion of college and

campus representatives in the Steering Committee, advisory groups, and IPE activities will help to build an IPE community that supports both pre- and post-licensure learners.

3. What are the predominant challenges to the implementation of IPE on campus and how might those challenges be addressed? Consider cross-college sharing of credit hours, tuition revenue, establishment of IPE clinical electives, and the financing of those IPE initiatives.

As the task force's SWOT and PEST analyses show, UIC's rich health education environment—one of our greatest strengths—also presents some of our greatest challenges. The facilitating factors and the barriers to implementation of IPE commonly noted at many academic institutions and healthcare delivery systems are evident here as well. The number of health professions education programs and campuses (Figure 12) also suggests that a "one size fits all" model for all colleges and campuses will not work. Each program and UIC campus have different resources and will have different needs, depending on their configuration and the size of individual programs. Differences in program size and differences in tuition across programs will need to be considered in the budgeting process as will tuition flow and the ways in which awarding of academic credit affects budgeting and revenue. As already noted, UIC does not have a mechanism for funding, budgeting, and managing resources across colleges, and between the colleges and the health care enterprise but implementation of an IPE program will be impeded if these mechanisms are not developed. Up to this point, IPE has been funded through individual initiatives (such as grants) and funding of specific events such as the Spring IPE Immersion Day. There is neither a longitudinal nor a comprehensive financial structure in place to continue it. A method of distributing tuition revenue, sharing the funding of cross-college courses, and supporting faculty and staff participation will be needed.

While colleges usually operate independently of one another in making decisions about curriculum, program development, faculty workload, and so on, establishing an IPE program requires cross-college cooperation and equal treatment of participating students, faculty, and staff.

Faculty involvement is obviously critical to the success of any IPE effort and those who participate must be able to dedicate time to IPE without risk of being penalized in the promotion and tenure process. UIC is fortunate to have had many committed faculty who have chosen to be involved because of their personal interest and value for IPE and collaborative practice. If involvement in IPE is not formally and consistently acknowledged as a responsibility that is on par with other assigned faculty work than it will be difficult to sustain the necessary commitment. While multidisciplinary and interdisciplinary work is currently documented in promotion and tenure review, colleges vary in the ways in which those terms are defined and colleges and departments also vary in the value assigned to accomplishments that are a result of working as a member of a team vs. accomplishments that result from individual effort.

Students will be participating in IPE experiences with students from colleges other than their own and equal credit should be assigned for participation regardless of the college of enrollment. This will require review of how credit is awarded for cross-college courses or co-curricular activities. At the same time, the IPE curriculum will need to be constructed with consideration the variety of courses, clinical experiences, and related activities that are already required of pre-licensure students in different colleges. Those designing the IPE curriculum will need to be knowledgeable about existing curricula content and structure in order to complement, rather than duplicate learning experiences that may already exist in specific programs.

The relationship between UIC health sciences colleges and clinical and community partners is also a critical factor in the success of IPE. IPE must be conducted, at least in part, in the clinical setting, so partnerships with clinical settings of sufficient number and breadth of practice is likely to present a challenge. UIC's own health system, UI Health, provides clinical and practicum experiences for a large

portion of the health professions programs at the Chicago campus and therefore has a strong focus in this plan. UI Health will benefit from development of collaborative practice throughout the clinical enterprise and UIC's health professions education programs will benefit if UI Health becomes known for excellence in collaboration. However, while UI Health is specifically included in the plan, because clinical and community partners across the state and across the country provide clinical education experiences for UIC students from all campuses, it is also important that UIC reaches out to its clinical partners beyond the Chicago campus and assists with the development of collaborative practice at all sites in order to ensure that UIC students are educated in settings where collaborative practice is appropriately modeled.

4. How can UIC capitalize on the scope of health professions education provided by UIC across all [six] campuses to gain recognition as a statewide and national leader in IPE?

The colleges and departments that provide UIC health professions education programs represent a wide range of perspectives on health and health care and those perspectives will all contribute to a well informed curriculum. A comprehensive program evaluation plan will provide a structure in which to test the quality and validity of the IPE curriculum. Data collected as part of the evaluation plan will inform continuous program improvement efforts and will provide opportunities for scholarship. Publication and presentation of scholarly work will help UIC successfully compete for external funding and will provide opportunity to increase the visibility of faculty at national and international conferences.

There is a need for training in collaborative practice for the tens of thousands of health care professionals in Illinois and other states and UIC can capitalize on its experience with a diversity of health professionals, patient populations, and instructional resources to provide continuing professional development for many professions. UIC can also capitalize on the scope of health professions present at UIC to attract top applicants who are looking for training in collaborative practice or for research opportunities in IPE and ICP.

As one of three campuses within the University of Illinois system and one that has multiple campuses of its own, UIC has a unique set of opportunities (Figure 12). It has both an urban (Chicago) and a rural mission (Rockford), state-of-the-art educational resources exist across campuses (Peoria's Jump Trading Education & Simulation Center), and there are strong regional clinical partners such as the OSF Health System. The diversity of educational, service, and research possibilities positions UIC to make important contribution to both educational and health outcomes.

UIC plays a central role in the education of health professionals for the State of Illinois; in fact, this is an explicit element of our mission. This includes not only physicians, registered nurses, pharmacists, and advanced practice nurses, but all members of the health care team, including those who do not provide direct patient care and therefore may be invisible to patients, such as health care administrators, public health practitioners, librarians, health informaticians and health information managers. It also includes those clinical care providers who have traditionally been marginalized or underutilized, such as social workers, occupational therapists, physical therapists, dieticians, and dentists. As health care reforms continue to move forward, there is a pressing need to ensure that regulation does not limit the potential for the use of the full scope of education each professional completes. Given the variety and number of health care professions education programs currently graduating students from UIC and because UIC is recognized as an important provider of health care services in the Chicago metropolitan area and beyond, we are in a position to drive transformational change in health professions education aimed at achieving the Triple Aim.

The following are the recommended next steps in the implementation of a UIC IPE Strategic Plan:

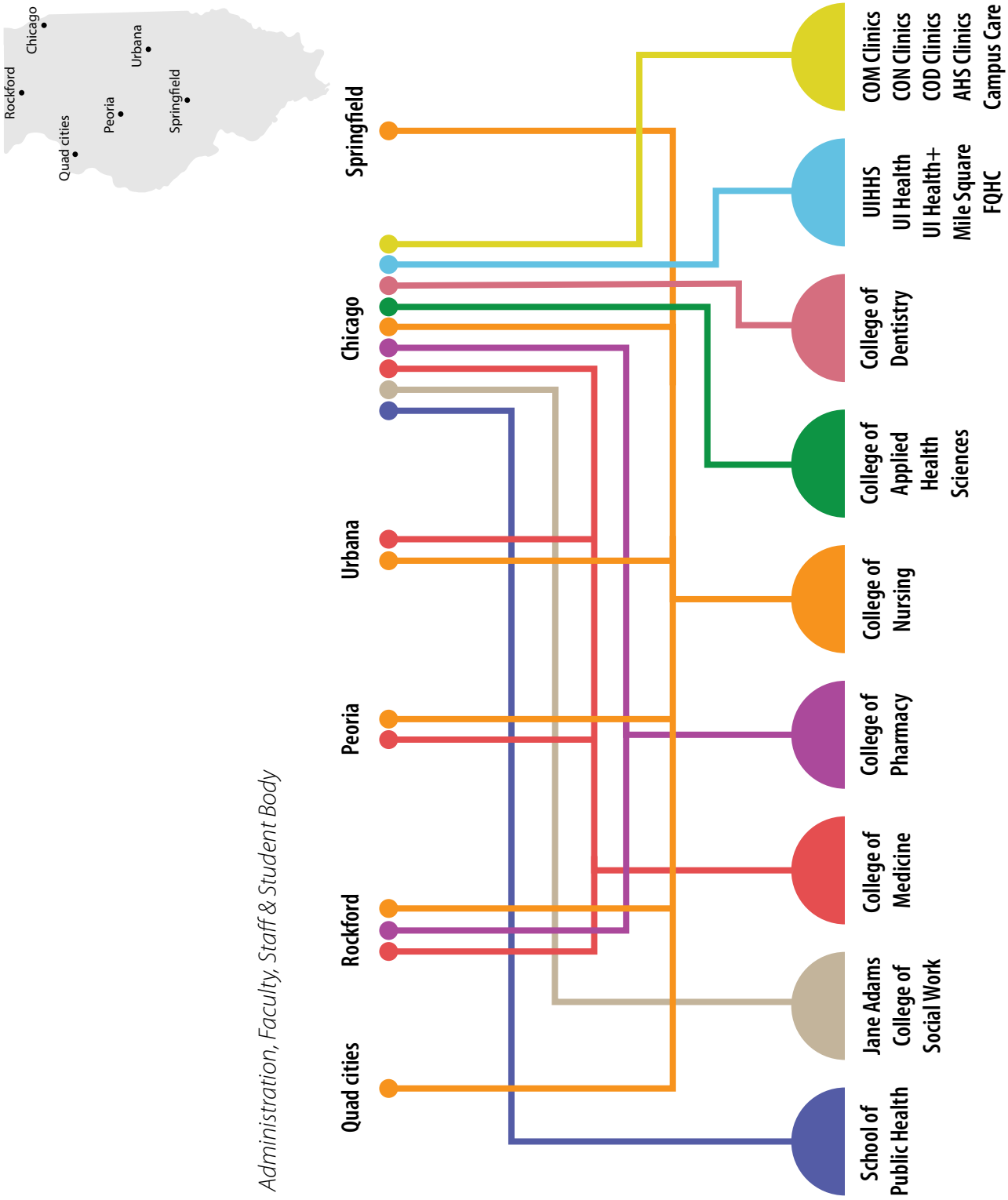
1. Establish a central home for IPE with appropriate financial resources.

2. Create a UIC campus-level position to provide leadership for the IPE program across the UIC campuses to implement the strategic plan. This campus-level position must be established along with the development of a regionally distributed shared leadership model and appropriate infrastructure at each UIC campus.
3. Formally recognize the Collaborative for Excellence in Interprofessional Education (CEIPE) as the steering committee for IPE across campuses.
4. Establish a subcommittee of CEIPE (with additional members as needed) to focus on the development of collaborative practice at UI Health and at other clinical partners.
5. Establish an Advisory Board that includes faculty, community agencies and other partners, patients and families, clinicians, students, and representatives of key UIC units from all campuses.

Following these steps, the groups will undertake the activities identified in the logic model including curriculum development, faculty development, creation of a comprehensive evaluation plan, and integration of IPE into the orientation and training of staff at UI Health. These activities will require involvement beyond the IPE Steering Committee and Advisory Board to include other UIC units that have the necessary expertise and responsibility for functions that are essential to the completion of particular activities.

This plan has been developed in recognition that health care, higher education, and the financial environment in the state of Illinois are undergoing rapid and dramatic shifts coincident with and related to regional demographic changes, new health care payment and delivery models, and concerns over the cost of educating health care professionals. The outcomes that this plan is designed to achieve will remain constant, but continuous monitoring and adaption to the external environment are of utmost importance. While UIC has begun developing high quality IPE learning experiences the positive outcomes associated with this plan are overdue and execution should begin expeditiously.

FIGURE 12. UIC'S HEALTH SCIENCES COLLEGES AND CAMPUSES



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ADDITIONAL RESOURCES

Dow AW, Blue A, Konrad SC, Earnest M, Reeves S. The moving target: Outcomes of interprofessional education. J Interprof Care. 2013 Sep;27(5):353-5.

Frenk J, Chen L, Bhutta ZA, Cohen J, Crisp N, Evans T, Fineberg H, Garcia P, Ke Y, Kelley P, Kistnasamy B, Meleis A, Naylor D, Pablos-Mendez A, Reddy S, Scrimshaw S, Sepulveda J, Serwadda D, Zurayk H. Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. Lancet. 2010 Dec 4;376(9756):1923-58.

Hasnain M, Koronkowski MJ, Kondratowicz DM, Goliak KL. Training future health providers to care for the underserved: A pilot interprofessional experience. Educ Health (Abingdon). 2012 Sep-Dec;25(3):204-7.

IOM (Institute of Medicine) 2015. Measuring the impact of interprofessional education on collaborative practice and patient outcomes. Washington, DC: The National Academies Press.

Steketee C, Lee A, Moran M, & Rogers G. Towards a theoretical framework for curriculum development in health professional education. ResearchOnline@ND. 2013.
Macy Foundation, ABIM Foundation, Robert Wood Johnson Foundation. Team-Based Competencies. Building a Shared Foundation for Education and Clinical Practice. Conference Proceedings. February 16–17, 2011; Washington, DC. Accessed: May 16, 2014

Pecukonis E V, Doyle O, & Bliss D. (2008). Reducing barriers to interprofessional training: Promoting interprofessional cultural competence. Journal of Interprofessional Care (22)4, 417-428. doi: 10.1080/13561820802190442

Pecukonis, E V, Doyle O, Acquavita S, Aparicio L, Vanidestine T, O'Reilly N, & Gibbons MA. (2013). Interprofessional leadership training in MCH social work. Social Work in Health Care. 52(7):625-41. doi: 10.1080/00981389.2013.792913.

Thibault GE, Schoenbaum SC. Forging Collaboration Within Academia and Between Academia and Health Care Delivery Organizations: Importance, Successes, and Future Work. Commentary, Institute of Medicine of the National Academies, Washington, DC. July 26, 2013.

Thibault G. Moving Interprofessional Education into the Mainstream of Health Professions Education. Health Affairs. Health Affairs Grant Watch Blog; June 15, 2012.

Thistlethwaite J. (2012). Interprofessional education: a review of context, learning and the research agenda. Medical Education, 46(1), 58-70.


The Promise and Challenge of Interprofessional Collaboration
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WEB RESOURCES

American Interprofessional Health Collaborative
A U.S. based interprofessional organization

Canadian Interprofessional Health Collaborative
A Canadian based national hub for interprofessional education, collaboration in healthcare practice and patient-centred care.

National Academies of Practice
A non-profit interprofessional organization founded to advise governmental bodies on the US healthcare system to support affordable, accessible, coordinated quality healthcare for all.

Macy Foundation
The Josiah Macy Jr. Foundation is private foundation dedicated to improving the health of the public by advancing the education and training of health professionals. Interprofessional Education and Teamwork is one of the foundations 5 priorities.

The Interprofessional Education Collaborative
A collaborative of six national education associations of schools of the health professions formed to promote and encourage constituent efforts that would advance substantive interprofessional learning experiences to help prepare future health professionals for enhanced team-based care of patients and improved population health outcomes

National Center for Interprofessional Practice and Education
The National Center for Interprofessional Education (also called The NEXUS) is funded by a grant from the Health Resource Services Association and by private foundations to to provide the leadership, evidence and resources needed to guide the nation on the use of interprofessional education and collaborative practice as a way to enhance the experience of health care, improve population health and reduce the overall cost of care. We do this by aligning interprofessional education and collaborative practice (the “new IPE”) with transforming health care delivery.