Interdisciplinary and Interprofessional Education

What are the Key Issues and Considerations for the Future?

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ABSTRACT

The identification of key issues and considerations for interdisciplinary and interprofessional education are explored. Both benefits and barriers to interprofessional education are discussed. The concept of simulation is reviewed relative to interprofessional education primarily as a catalyst for implementation of collaboration. The promise of interprofessional education and outcome studies direct where the future is headed.

Key Words: education, interdisciplinary, interprofessional

The Pew Commission has identified the ability to work in interdisciplinary teams as one of the 21 competencies to strive for in the 21st century. The Institute of Medicine (IOM) has also spurred interest in working in teams in its publication “To Err is Human: Building a Safer Health Care System.” Both groups note that lack of interprofessional cooperation and ineffective communication often stand in the way of best practice and improved patient outcomes. The IOM report suggests that by improving interprofessional efforts, patient errors could be greatly reduced. In 2003, the IOM called for similar changes in its report “Health Professions Education: A Bridge to Quality.” Students and working professionals were called upon to develop and maintain core competencies that included working in teams and engaging in quality improvement. In this way, quality and patient safety would be improved when and where interdependent professionals worked jointly as a team.

Most health care professionals and students experience similar core content, values, knowledge, and skill sets. However, these skills and knowledge are often taught in isolation or “professional silos,” which are the antithesis of collaboration. It is often postulated that IPE can introduce shared learning and pave the way for students to embrace the collaborative working model. Key to this transformation is using the concept of interdisciplinary education/IPE and collaborative practice as a cultural value. A transformation in basic, graduate, and continuing education, utilizing IPE, could be useful in advancing collaborative practice and improving quality goals and outcomes. The purpose of this manuscript is to address the key issues, benefits, barriers, and considerations in interdisciplinary and interprofessional education.
COLLABORATION

Collaboration is a dynamic and active process between people that is generally directed toward doing and achieving something. It is derived from the Latin word *collaborare* or to “work with.” Collaboration signals meaningful contact in the setting of professionals who get together in a clinical environment for education or work purposes. Downe lists possible characteristics of effective collaboration as contextual components and influencing factors. Contextual components include clear and respected boundaries, effective systems for conflict resolution, opportunities for participation and building cohesion, acceptance of open and honest communication, mutual trust, acknowledgement of interdependence, and acceptance of shared responsibilities. Influencing factors are supportive organizational structure, availability of resources, a history of collaboration, and positive individual attitudes.

To improve upon collaborative opportunities, Long suggests scanning the environment for collaborative opportunities, set realistic committed goals, avoid unnecessary battles, look for noncompetitive areas and practice sites, measure and celebrate success, and take small steps to gain successes. Hiner et al use infusing evidence-based practice into interdisciplinary perinatal morbidity and mortality conferences as one example of collaborative practice.

DEFINITIONS

*Interprofessional education* is defined by Barr as occasions when 2 or more professions team with, from, and about each other to improve collaboration and quality of care. *Interprofessional collaboration* in health settings specifically, is defined as health disciplines coming together around patient care issues, allowing decision making to occur within the group and allowing for transformation to occur. The term *interprofessional* is more commonly used than *multidisciplinary*. Interprofessional implies professions working together in collaboration by integrating services and utilizing teamwork concepts. Multidisciplinary refers to disciplines working alongside or parallel, in a silo format without much interaction. Other terms used to describe IPE are shared learning, joint training, and interagency education.

BENEFITS OF INTERDISCIPLINARY EDUCATION/IPE

There are a number of benefits and barriers to IPE, as noted in Table 1. Benefits include reduction in the occurrence of communication breakdowns, improved morale and possible efficiency, enhancement of professional confidence, promotion of mutual understanding between professions, facilitation of intra- and interprofessional communication, and reflective practice.

A study by the University of Southern California’s interprofessional initiative identified additional benefits such as exposure to new ideas, opportunities to work with different people, increased cultural sensitivity, enhanced flexibility in working with students, improved sense of cooperation, networking between departments, and an impetus to discover more community resources. Interprofessional education can also assist participants to recognize overlapping professional functions or those that occur or fall between professional roles. Students can gain knowledge and skills in relation to complex conditions that require interprofessional teamwork.

Other benefits cited by Connor and Rees are increased understanding of the roles and skills of other professionals and improved respect between professional groups, the building of professional networks, more effective liaison, sharing a common and improved communicative language, and forming alliances which advance influence.

Barr in 2000 summarized the 4 main benefits that IPE could provide: enhanced motivation to collaborate, changing attitudes and perceptions, cultivating interpersonal group and organizational relations, and establishing common value and knowledge.

BARRIERS TO IPE

Barriers prevent the successful implementation of an interdisciplinary approach in the educational and medical work setting. Barriers identified by Gardner et al include minimal reward structure, workplace structure, geographical separation of campuses, and turf issues over each professions scope of practice. Curricula overload with content from a single discipline can be problematic as well. Regulatory changes, lack of funding, limited administrative support, and faculty’s lack of knowledge of other disciplines can all be considered barriers.

Each profession operates in its own silo preventing the interaction from often being established. Attitudinal issues, financing, lack of perceived value, rigid rules, and set curricula are other barriers. Liability and insurance issues, lack of mutual respect, difficulty with buy-in, cultural and gender prejudices, and perception and interpretation of professional and organizational boundaries affect the ability to work collaboratively.

CONTINUING EDUCATION

Reeves, in an overview of continuing interprofessional education (CIPE), discusses the value of IPE in lifelong learning. Building on Barr’s terms, he defines CIPE.
Table 1. Interdisciplinary/Interprofessional Education

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Barriers</th>
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<tr>
<td>Changing attitudes and perception</td>
<td>Differing reward structures</td>
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<td>Decrease in communication breakdown</td>
<td>Workplace structure</td>
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<td>Improved morale</td>
<td>Geographical separation (as with different campuses)</td>
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<td>Enhancement of professional confidence</td>
<td>Content overload from only one discipline</td>
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<td>Promotion of mutual understanding between professions</td>
<td>Regulatory changes</td>
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<td>Facilitation of intra and interprofessional communication and reflective practice</td>
<td>Lack of funding and administrative support</td>
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<td>Exposure to new ideas</td>
<td>Lack of knowledge of other disciplines</td>
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<td>Increased cultural sensitivity</td>
<td>Working as silo—attitudinal issues</td>
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<td>Enhanced flexibility with students</td>
<td>Lack of perceived value</td>
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<tr>
<td>Improved sense of cooperation</td>
<td>Rigid rules</td>
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<tr>
<td>Building of professional networks</td>
<td>Liability and insurance issues</td>
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<tr>
<td>Impetus to discover new resources</td>
<td>Turf protection</td>
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<tr>
<td>Increased understanding of the roles and skills of other professionals and improved respect between groups</td>
<td>Lack of mutual respect</td>
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<td>Forming alliances which advance influence</td>
<td>Difficulty with buy-in</td>
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<td>Cultural and gender biases</td>
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<td>Organizational boundaries</td>
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From Duncan et al\textsuperscript{13}, Bari\textsuperscript{14}, Barr et al\textsuperscript{15}, McCroskey and Robertson\textsuperscript{16}, Illingworth and Chevanayagam\textsuperscript{17}, Connor and Rees\textsuperscript{18}, Gardner et al\textsuperscript{19}, and Buelow et al.\textsuperscript{20}

when members of 2 or more health and/or social care professions learn with, from, and about each other to improve collaboration and quality of care. He describes 7 main trends to guide the practice in CIPE: conceptual clarity, quality, safety, technology, learning assessment, faculty development, and theory.

- Conceptual clarity: With greater clarity of design and development/implementation of IPE designs, better understanding about the role and effectiveness of CIPE will occur.
- Quality: Quality improvement can be a strong mechanism for CIPE. Continuously improving in everyday work situations through education represents quality improvement, especially in improving patient care outcomes.
- Safety: Promoting teamwork to enhance patient safety and CIPE as with team building skills to handle high risk tasks in the workplace with debriefing being of key importance.
- Technology: On-line professional learning—the creation of an interprofessional learning community.
- Learning assessment: team presentation posters, team presentations, and simulation scenarios.
- Faculty development: teaching strategies, tools and format, and an outcomes-based curriculum for graduate and continuing education.
- Theory: helps provide different lenses through which issues can be viewed. The role of complexity, reflective learning, and communities of practice to guide CIPE.

**BUILDING INTERDISCIPLINARY/INTERPROFESSIONAL TEAMWORK THROUGH SIMULATION**

The use of simulation to educate professionals, especially health professionals, is thought to increase shared learning, interaction, and collaboration.\textsuperscript{20–25} Buelow et al\textsuperscript{20} developed a workshop in which more than 200 students and faculty from 12 allied health and medical programs participated in live, clinical case simulations of elderly clients interacting with students in interdisciplinary health care teams. Pre- and postworkshop questionnaires were used. Challenges to implementation were noted. The most persistent problem was a tendency for team members to focus on their individual discipline’s diagnoses and recommendations, ignoring the values and opinions of others. Faculty reported that participating in the interdisciplinary workshop improved their awareness of and collegiality with faculty from other disciplines.

Other authors support the value of simulation in IPE, especially in the health care setting.\textsuperscript{26–28} Attitudinal scores improved in one study where simulation was felt to better prepare future health care professionals for collaboration in the workplace with better understanding of team roles.\textsuperscript{25} In the study by Reese,\textsuperscript{27} in which simulations were used to develop nursing and medical student collaboration, the majority of students felt that interdisciplinary simulations helped students function in a real-world situation. Debriefing and team training concepts all support these values.\textsuperscript{29,30} It is proposed that teams make fewer errors and improve patient safety.
Additional research data are needed on specific improvements in patient care and reduction in errors.

The Presidential Scholars Program, a unique program at the Medical University of South Carolina, was initiated to foster interprofessional collaboration among students from multiple health professions on campus. It provides selected students from 6 different colleges with a 2-semester IPE experience. Students work in small interprofessional teams on broad-based health care projects. Survey results from this scholars program showed that Presidential Scholars Program students have a significantly greater understanding of each other and value the collaboration once completing the program. Participation reduced stereotyping and taught team skills. This program has the support of the president of the university and is considered highly competitive with both intrinsic and extrinsic rewards to participants.

OUTCOMES AND CONCLUSIONS
In 2009, the Cochrane Collaborative reviewed interprofessional collaborative effects on practice interventions and health care outcomes. Zwarenstein et al found only 5 studies that met strict criteria for evaluation of interprofessional health care outcomes. The review suggests that practice-based interprofessional collaborative interventions can improve health care processes and outcomes. However, secondary to the small number of studies, sample sizes, limitations, and issues with measuring collaboration and heterogeneity of interventions and settings, generalizable conclusions were inconclusive. These authors suggest that more rigorous, clustered randomized studies are needed with clear measurement outcomes relative to patient care outcomes and safety. They support qualitative methodologies as a way to gain insight into how the interventions affect collaboration and outcome changes. Illingworth and Chelvanayagam also recommend more detailed evidence to demonstrate the benefit of IPE and collaboration on actual practice outcomes in the educational setting.

SUMMARY
The challenge for the next decade will be to demonstrate how IPE and collaborative efforts can change outcomes in education and practice. The detailing of these outcomes will then have a significant impact on improved education as well as health quality and patient safety. It is difficult to generalize inferences about the key elements of interprofessional collaboration and its effectiveness. Yet, there are individual programs, such as the Presidential Scholar’s Program at Medical University of South Carolina, that demonstrate attainable successes.

References