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Development, Implementation and Evaluation of a Longitudinal Interprofessional Education Project

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ABSTRACT

Background: A collaborative, interprofessional approach is required to provide high-quality care for patients with multiple chronic conditions. Health professional education is challenged to provide students opportunities to practice team-based care.
Purpose: This longitudinal project embedded learning activities for interprofessional teams of students to experience collaborative practice and practice team-based care using simulation.
Method: Faculty ($N = 18$) from nursing, medicine, pharmacy, social work, and dietetics created a series of interprofessional learning activities. Interprofessional teams of students ($N = 81$) conducted four simulated primary care visits with a standardized patient having multiple chronic conditions. Pre- and post- surveys measured students' perceptions of interprofessional practice, roles, and teamwork.
Discussion: Students engaged in shared, patient-centered care during the simulated clinic visits. Students' perceived understanding of interprofessional roles and responsibilities, ability to work in teams, and clinical reasoning significantly increased.
Conclusions: This project allowed health professions students to practice team-based care in a realistic but protected environment.

Introduction/background

Interprofessional (IP) education

Over 45 years ago, the Institute of Medicine (IOM) identified the need for and impact of team-based patient care to improve patient safety and interprofessional communication.[1] Today, health professionals are mandated to provide team-based, patient-centered care and students in many health disciplines are encouraged to engage in learning with those outside their profession as a routine part of their education.[2–4] Nursing, pharmacy, medicine, public health, and dentistry programs now mandate interprofessional education (IPE) as part of their accreditation requirements[5–7] and other programs support IPE without a specific requirement.[8,9] In 2011, the Interprofessional Education Collaborative (IPEC) published a set of core competencies for IPE that have been endorsed across health professions.[10] Effective IPE programs foster collaborative, patient-centered care, enrich discourse between professions, and improve student satisfaction.[11] Deliberate mainstreaming of IPE across health professions curricula is critical to train a workforce that shares the knowledge, skills and attitudes required to effectively collaborate with each other and with patients, families, and communities.[2,12,13]

As noted, effective IPE requires opportunities for health professions students to practice collaborative care, in particular for patients with complex chronic conditions, whose optimal care is most likely to require a multidisciplinary approach.[4,14] Faculty are challenged on multiple fronts, however, to embed IPE into their

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programs. Curricula are already full and scheduling experiences across disciplines is logistically difficult. Funding limitations have tightened resources and faculty, who are unlikely to have learned about team-based care in their own training, may lack awareness of IPE.[11,15]

Over the last decade, an evidence base has emerged to support the design of educational strategies to deliver IPE. Optimal approaches employ learning objectives based on established competencies and involve experiential and interactive activities.[2,16] Activities that employ realistic case-based learning and simulation-based training provide opportunities for students to practice team-based care in a safe and controlled environment.[16] Educational approaches designed on these principles support transformative learning, which is integral to the development of competency among health professions students.[2]

In a collaborative practice model, team member perceptions of the value of team-based care are critical to success and have become a focus of inquiry. To promote effective collaboration and communication, it is important that students reflect on their own attitudes and appreciate the contributions of their peers.[17] Cross-discipline differences in students' willingness to engage in learning together have been described.[18,19] Studies of student attitudes show that participation in IP case-based encounters and experiential hands-on learning activities improve student perceptions of the value of IP care.[20] This effect appears to be greater when IPE activities are longitudinal rather than one-time events.[18,20,21]

Few opportunities exist to provide for IP team building over time as well as longitudinal opportunities for collaborative practice in the management of patients with chronic illnesses. This report focuses on the first-year of a two-year project to develop, implement, and evaluate a longitudinal IPE project for professional and graduate students across five disciplines. The project provided students with hands-on experience in communication, collaboration, and clinical decision-making, with a goal of ensuring that health professional graduates are collaborative practice-ready at program completion.

Theoretical framework

Miller's (1990) Framework for Clinical Assessment[22] was used to plan learning activities and evaluate team skills and performance. Miller depicts degrees of student performance that increase from cognitive to behavioral competence across four levels: *knows, knows how, shows how,* and *does* (Fig. 1). Miller's model has been applied broadly in health professional education, including IPE.[23–25] For this project, Miller's model guided the design of a longitudinal project based on an unfolding case study that became more complex over a series of simulated clinical encounters with increasing team autonomy as the case progressed.

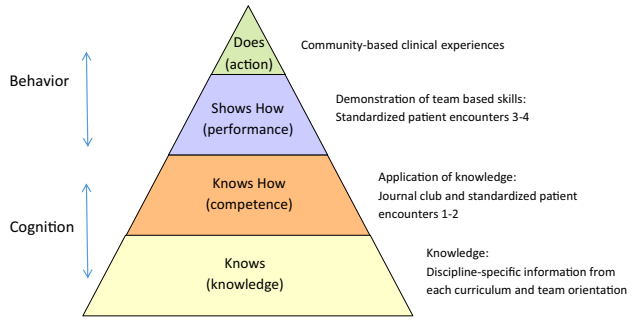

Fig. 1. Framework for Clinical Assessment model.
Adapted with permission from Miller GE, The Assessment of clinical skills/competence/performance. *Academic Medicine. 1990;64(2) (suppl):S63.*

Methods

The Office of Research Assurances determined that this project satisfied the criteria for exempt research.

Development of the IPE project

Organization

Faculty with previous IPE involvement from nursing ($N = 7$), pharmacy ($N = 3$), medicine ($N = 1$), social work ($N = 1$) and dietetics ($N = 2$) developed, implemented and evaluated this project and recruited students from their respective programs. Faculty were affiliated with three different universities. Some nursing faculty were located on a distant (cross-state) campus. Faculty time to implement the project was grant supported. Together, faculty developed a series of learning activities to introduce students to IP collaborative practice (IPCP), promote teamwork, and provide structured opportunities for students to practice team-based care. Learning objectives were drawn from the IPEC core competencies.[10] Emphasis was placed on four domains of the competencies: Values and Ethics (VE), *Work with individuals of other professions to maintain a climate of mutual respect and shared values;* Roles and Responsibilities (RR), *Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of the patients and populations served;* Collaborative Communication (CC), *Communicate with patients, families, communities, and other health professionals in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of disease*; and Teams and Teamwork (TT), *Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan and deliver patient/population-centered care that is safe, timely, efficient, effective, and equitable.*[10] Learning activities were intentionally designed to be interactive, include experiential components, and utilize a case-based learning model. Teams of students from five disciplines participated in team building activities and learned about collaborative care, then practiced delivering team-based, patient-centered care to a standardized patient (SP) in a longitudinal series of four simulated primary care visits (SP encounters).

Faculty participated on one of two planning teams, the SP Case Development Team and the Logistics Team. The SP Case Development Team developed a single case that unfolded over an academic year and trained SPs to portray the client. The Logistics Team developed curriculum and an IPCP common course using a web-based learning management system (LMS). The common course facilitated uniform communication and provided infrastructure to allow students from multiple disciplines to complete the same learning activities. During project planning, faculty teams met both jointly and separately; however, as the project was implemented and evaluated, meetings included members from all teams. Academic credit for common course activities was awarded within each discipline-specific course.

Standardized patient encounters

The unfolding case involved an adult with multiple chronic conditions whose care became increasingly complex over time. The case was purposefully designed to engage each discipline in planning care. A care transition was intentionally embedded in the case, as were multiple opportunities for students to apply evidence. Across four SP encounters, the client initially presented with uncontrolled hypertension, later developed atrial fibrillation, suffered