Title: Challenges in Assessment of Collaboration in an Online Interprofessional Learning Activity

Submission Type: Research Highlights in Medical Education

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Purpose: Interprofessional education (IPE) seeks to train students to collaborate across professions; however, assessing interprofessional competency is challenging (Blue, 2015). Because faculty variation may be one barrier, this study explores faculty grading patterns to determine whether there is variation between faculty and whether professional differences impact this variation.

Approach/Methods: This study examined data from an interprofessional, web-based case experience (Dow et al, 2016). Students were divided into 50 teams of 4-6 students from medicine, nursing, pharmacy, and, on some teams, social work. A faculty preceptor from gerontology, medicine, nursing, pharmacy, or social work was assigned to each team. Across four cycles over 9-12 weeks, students entered case data into the system, answered questions about patient care individually, and then collaborated using a message board to answer the same questions as a team. For each of the 4 units, preceptors viewed the team’s work and rated each student’s collaboration on a behaviorally anchored scale of 0-3, where 0=unsatisfactory and 3=excellent. These unit ratings were summed for a total score ranging from 0-12. Only students with preceptors who taught across all semesters were included. Total student scores were analyzed using one-way analysis of variance (ANOVA) to detect score variation between individual instructors, score variation by student profession, or score variation by preceptor profession. Scores were then categorized by whether the profession of the preceptor matched the profession of the student. An independent samples t-test was used to test for differences.

Results/Outcomes: Over six semesters, a total of 1703 students completed this learning experience (social work = 282, medicine = 587, nursing = 441, pharmacy = 393). Nine preceptors—1 gerontologist, 4 physicians, 3 nurses, and 1 pharmacist—were consistent across the six semesters and assessed 923 students (54%). Total scores ranged from 0-12, with a mean of 8.97 (SD = 1.85). Nursing and social work students received higher ratings than medical students and pharmacy students. ANOVA revealed significant main effects on total learner score for instructor \( F(8, 914) = 6.35, p < .001 \), student profession \( F(3, 919) = 14.14, p < .001 \), and preceptor profession \( F(3, 919) = 4.16, p = .006 \). Post hoc comparisons indicated that physician preceptors assigned higher ratings to learners than the gerontologist. The profession of the preceptor and student matched for 26% of the sample (n = 243). The scores for matched pairs were significantly lower (M = 8.96, SD = 1.84) than the scores of professionally unmatched pairs (M = 8.67, SD = 1.86), but the effect size was small (p = .030, Cohen’s d = 0.143).

Discussion: In this study of preceptor ratings of interprofessional collaboration, we found that preceptor ratings varied and depended on the profession of the rater and the student. Medicine and pharmacy students were scored as less collaborative than nursing and social work students, and preceptors graded students of their own profession lower.
Significance: Assessment in interprofessional education may be related to profession and hindered by professional biases, particularly against an assessor’s own profession. This finding should be explored and used to shape faculty development.
Title: A new scale to assess interprofessional collaboration and team skills: Experience from three medical schools

Submission Type: Research Highlights in Medical Education

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Submitting Author Institution: Stony Brook University School of Medicine

Purpose: Interprofessional collaboration & teamwork (IPC) is a competency central to both undergraduate and graduate medical education (1). There is no existing reliable and valid tool that is standardized for assessing IPC skills (2). Therefore, we set forth to construct a tool to measure IPC in the clinical setting.

Approach/Methods: Based on the Interprofessional Education Collaborative competencies and the AAMC Core Entrustable Professional Activity 93 (EPA9; 3), we developed a nine item instrument (IP-9) to rate medical learners on their IPC skills. The IP-9 tool is used to rate learners on the dimensions of effective team work (2 items), communication skills (2 items), emotional intelligence (2 items), patient care coordination (1 item), and conflict management (1 item). The ratings on each item range from 1 (pre-entrustable) to 8 (entrustable). The ninth item is a global rating of an entrustment decision prompting the rater to determine the level of entrustment of the learner on a 5-point scale. We videotaped actors portraying a family meeting with a resident, medical student and social worker to discuss a surgical intervention. In this scenario, the resident demonstrates less interprofessional collaborative skills than the medical student. We recruited 36 clinical faculty across the three institutions using purposeful sampling from six medical specialties. Raters independently viewed and rated the resident and medical student using the IP-9. Inter-rater reliability was assessed using the intraclass correlation coefficient (ICC).

Results/Outcomes: Thirty two faculty (89%) completed ratings. Inter-rater reliability was moderate for 7 out of 8 items (ICC range: 0.50-0.65; p<0.001). Item 7 (Coordinates care within the system; ICC=0.02, p=0.23) and the entrustment global rating (ICC=0, p=0.33) showed poor reliability across raters. Faculty ratings for the medical student (range: 3-5) were higher than ratings for the resident (range: 2-3), as was expected. However, global entrustment ratings were the same for both learners: perform with direct supervision. Results were consistent across sites.

Discussion: Our nine item IP-9 tool aligned with the AAMC’s EPA 9 shows good reliability across multiple raters. The incorporation of learners at different levels of training allowed us to assure that raters were not biased. In other words, even though the resident is at a more senior level than the medical student, ratings for the resident were lower because of her poor interprofessional skills in the depicted scenario. Yet, raters scored both the resident and medical student at the same level on the global entrustment item. Several factors contribute to an entrustment decision: learner factors, supervisor factors, the context, the task, and supervisor-learner relationships (4). A simulated video encounter does not provide sufficient information on all these factors to make a reliable entrustment decision. Therefore, it is not surprising that there was low inter-rater reliability for the overall entrustment rating.
Significance: This preliminary study informs the assessment of IPC skills from three diverse institutions using and evaluation tool aligned with EPA 9. As academic institutions recognize the critical value of interprofessional collaboration and teamwork skills, developing reliable methods for teaching and assessing such skills becomes an important challenge for medical educators.
Title: Training students for interprofessional collaborative community based interventions to improve oral health care.

Submission Type: Innovation Highlights in Medical Education

Submitting Author: Sophia Chen, DO

Submitting Author Institution: Rutgers New Jersey Medical School

Purpose: Millions of Americans have unmet oral health care needs, especially racial and ethnic minorities and populations of lower socioeconomic status. The Special Populations Interprofessional Care Experiences (SPICE) project, funded through a Health Resources and Services Administration (HRSA) grant, was designed to 1) provide training for collaborative practice in oral health and 2) improve access to oral health care for the Newark underserved community.

Approach/Methods: We developed and implemented didactic and clinical learning experiences for interprofessional student teams at community-based primary care and non-health sites. Students included dental, dental hygiene, medicine, nursing, nutrition, pharmacy, and social work. The three components of the program include: a) Didactic Small Group Cases: Two cases including an Oral Medicine and a Special Needs in Dental Care case occur weekly for an interprofessional group of students led by trained facilitators from participant schools.b) Medical Dental Interprofessional Collaborative Patient Experience: Medical students paired with dental students provide emergency care and treatment planning for patients in the dental clinic. Students self-reflect on their collaborative experiences by providing peer feedback.c) Community Rotations: Interprofessional experiences occur in Newark “Rutgers Wellness,” an FQHC community center run by the School of Nursing, a medical student run community based center, and the Apostle House homeless shelter.

Results/Outcomes: Thirty faculty from participant schools have trained as interprofessional facilitators. In academic year 2016-17, didactic small group cases were attended by groups of 10-15 students for a total of 583 students across the health profession schools. To date, 131 oral health patients were seen by students at the community sites; 79 were referred for follow-up care at the School of Dental Medicine. 155 dental students and 338 non dental students have rotated at the community based sites.

Discussion: Even though oral disease is a prevalent health condition, underserved patient populations remain at risk for inadequate treatment and access to care. The medical school curriculum should prepare students for collaborative practice that includes provision of oral health care. To address oral-systemic connections in collaborative patient care, curriculum should ideally build upon foundational knowledge with clinical experiences that allow practice in community settings.

Significance: The SPICE program addresses the triple aim of training diverse health professional learners in oral health, while providing clinical experiences in collaborative practices, and also improving access to oral health care for the Newark underserved community.
Title: Interprofessional Collaborative Experience (ICE) and the Clinical Year

Submission Type: Research Highlights in Medical Education

Submitting Author: Joseph House, MD

Submitting Author Institution: University of Michigan Medical School

Purpose: The Interprofessional Clinical Experience (ICE) pairs first-year medical students with other health professionals for an active observership. The goals of the course are to introduce students to the healthcare team, healthcare system, and patient. This course was developed 3-years ago and the first cohort of students are in their third-year rotations.

Approach/Methods: A qualtrics (www.qualtrics.com) survey was emailed to all 3rd-year students 8-months into their rotations. Reminders to complete the survey were sent out at 2-and 4-weeks. The students were split into three groups. All students were asked if they participated in ICE (some students were off cycle and were not enrolled in ICE), had prior healthcare experience, which sites they rotated, and their degree of agreement or disagreement with 4-questions: 1) I learned the roles of other health professionals, ICE helped me understand the organization of healthcare systems, ICE prepared me for my responsibilities to work in teams, and ICE helped me interact with patients. In regards to being a clerkship students, third of the students were asked: “how did ICE influence your interaction with various members of the healthcare team ?”, a third were asked: “how did ICE influence your understanding of healthcare systems?”, and the last third were asked “how did ICE influence the care you provided to patients?”

Results/Outcomes: Eighty-five students (51%) responded to the survey. Sixty-two percent of student somewhat-to-strongly agreed ICE taught them role of health professionals, 55% somewhat-to-strongly agreed ICE helped them understand the healthcare system, 45% somewhat-to-strongly agreed ICE prepare them to work with other professionals, and 33% somewhat-to-strongly agreed ICE helped patient interactions. Of the 85 students, 63 students replied to the last questions with a narrative response. The three main themes were: learners had better understanding of the role of others (29), it did not help them in their clinical rotations (9), and they had better understanding of team dynamics (7). Other categories included, recognized value of other professions, improved comfort in the hospital, recognized resources available, and better understanding of patient perspective (4 each) and improved communication and healthcare system (3 each).

Discussion: ICE introduced students to the patient, healthcare team, and healthcare system. Reviewing the impact of ICE during the clinical years showed that it met many of these goals, but it was not universal. Students had a better understanding of the role of the healthcare team which improved their understanding of team dynamics, but students rotated at two different locations and some felt one site met some goals, while the other did not. One student noted that roles of providers varied so much depending on clinical setting, ICE did not increase his knowledge, while others noted they had previously healthcare experience making ICE less impactful.
Significance: When developing ICE, it was unknown how this course would affect clinical care. Even though ICE occurred during the first year of medical school it still impacted many student’s clinical experience, but not everyone. When developing labor and cost intensive courses it is important to analyze why it may or not be impactful for all.