It's Time to Go! Unfolding Interprofessional Simulations to Promote Health Team Communications

Cara Gray
Robin Cunningham
Stacey Kolomer

Abstract: *Interprofessional education provides an opportunity for allied health professions to gain knowledge of health care team roles, and how discrete disciplines collaborate to contribute to a healthcare team. This interprofessional activity used simulation scenarios with simulated patient actors to introduce students in three healthcare disciplines to the communication and collaboration skills used by teams for hospital discharge planning and follow-up care in a home setting. Participation in the simulations was voluntary and open to students majoring in either social work, recreation therapy, and nursing. Three, two-person teams, representing each discipline, participated in a two-part, unfolding simulation to assist with the discharge of an older adult from the hospital, and an assessment and care/teaching one week later in his home. Following the simulation, students wrote reflective journals about their experiences, and completed a brief survey. Post simulation responses to the RIPLS Questionnaire, and one of its subscales, yielded positive results in relation to improved attitudes towards interprofessional learning and positive professional identity. Students' reflective journals reinforced the impact of interprofessional educational activities on acquiring knowledge about other disciplines. Lessons learned from this activity are being used to develop future interprofessional scenarios to augment the academic preparation of pre-professional healthcare workers in multiple disciplines.*

Keywords: *Communication, interprofessional, simulation, simulated patient*

A team approach or collaborative model of service delivery in health care is considered a best practice for achieving client outcomes, and exists in a variety of forms depending upon the population served and/or setting (American Nursing Association [ANA], 2017; Anderson & Heyne, 2012; National Association of Social Workers [NASW], 2005). This approach to care is also within the scope and standards of practice for most allied health disciplines (e.g., nursing, occupational therapy, physical therapy, recreation therapy, social work, speech therapy, etc.), yet, until recently, its emphasis has varied in the educational preparation of these pre-professionals (ANA, 2017; American Therapeutic Recreation Association [ATRA], 2013; NASW, 2005). While collaborative care requires a commitment to shared decision-making for a client, a formal communication structure is also needed to coordinate services, and at times, create one unified plan as a result of independent assessments, planning processes, as well as implementing and evaluating services (Anderson & Heyne, 2012; WHO, 2010). The challenge with these highly process-driven technical skills is that they have not been routinely taught at a pre-professional level, and instead have been loosely acquired on the job. Due to the common occurrence of collaboration and team approaches in health care, familiarity and comfort with these

Cara Gray, Ph.D., LRT/CTRS, Assistant Professor, School of Health and Applied Human Sciences, Robin Cunningham, MSN, RN, LNCC, CNE, CHSE, Coordinator of Simulation Center, School of Nursing; Stacey R. Kolomer, Ph.D., MSSW, Professor and Director, School of Social Work, University of North Carolina Wilmington, Wilmington, NC.

interactions is vital prior to serving a client in any environment. This article will describe an interprofessional simulation experience with three allied health disciplines at a mid-size public university in the southeastern United States.

Faculty from the social work, recreation therapy, and nursing programs created a two-part, unfolding, interprofessional education (IPE) simulation using a simulated patient and family member in both a hospital and home setting as a method for students in these pre-professional healthcare programs to learn about each other's scope of practice, roles, and communications on an interprofessional health care team. The use of simulation was chosen as an evidence-based method to augment standard academic learning due to its documented effectiveness in nursing and related fields (Cant & Cooper, 2017).

Using the Interprofessional Education Collaborative (IPEC; 2016) competencies, faculty focused on three learning outcomes based on IPEC's four core competencies for this project. The three areas of interprofessional education learning outcomes that were included were: (a) demonstrate efficient communication and assessment skills with patients during simulation; (b) communicate clearly one's roles and responsibilities to patients, families and other professionals; and (c) listen actively and engage other health professionals in shared patient-centered problem-solving and discharge planning. The assumption was that if these learning outcomes could be tested in this pilot project, then the scenario could be refined and replicated every semester with new students. Additionally, embedding interprofessional simulation into the standard curriculum for all three pre-professional programs provides opportunities to conduct research, thereby adding to the body of knowledge about the efficacy of using IPE in pre-professional programs for social work, recreation therapy, and nursing.

There is a paucity of recently published data (within the past 10 years) about recreation therapy students working alongside nursing and social work students in an interprofessional educational context, let alone via simulation, yet these three disciplines often work in parallel, if not collaboratively, for patient care in mental health, skilled nursing/long-term care, educational, and other settings (Davidson et al., 2008; DeVries, 2016; McPherson et al., 2001; Montemuro et al., 1999). Moreover, there is no evidence of the three disciplines working together in a two-part, unfolding simulation with a simulated patient and/or family member. Providing students the experience of interprofessional teams in health care, including discharge planning and home care, can offer both a complete and tangible understanding of these processes. These experiences may also foster confidence, while positively viewing and supporting the roles and skills of their allied health counterparts. This article provides a comprehensive overview of the two-part, unfolding IPE simulation designed to improve basic/standard curriculum-based instruction through IPE/training and participation in a typical healthcare scenario. The feedback from students is presented to determine the value of adding simulation to the curriculum, as well as improve the processes and experiences for future students.

Background

Interprofessional Education

Ideally, interprofessional teams communicate and collaborate to provide optimal patient care (Kolomer et al., 2010). Interprofessional education, defined here by the World Health Organization (WHO, 2010) is "when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes" (p. 7). The benefits of interprofessional education include improving overall patient care through enhancing communications within and across disciplines and shaping professional identity (Brock et al., 2013; Buring et al., 2009)

Traditionally, interprofessional education pertaining to health care professionals occurred on the job; however, a shift in the past decade has pushed pre-professional health care programs in higher education to introduce this knowledge earlier. Moreover, interprofessional education was found to be particularly effective when students focus on a specific population (e.g., pediatrics or older adults), or setting (e.g., physical rehabilitation; Davidson et al., 2008; McPherson et al., 2001). While many authors have tried to identify best practices in interprofessional education, all agree that increasing the number of opportunities in health care, in both pre-professional training (higher education) and post-professional continued education, are needed. One example of this is observed in a survey of social work programs in the United States, Canada, and Israel. Of the 106 respondents 93% of programs are integrating a wealth of interdisciplinary activities in social work education (Bronstein et al., 2010).

In addition to the improvement of patient care, interprofessional education also assists with shaping one's own professional identity. Early contact with other health professions supports students' understanding the ethics, approaches, communication, and scope of practice of other disciplines, while creating a safe place to confront misinformation and make mistakes (Pastor et al., 2016). Interprofessional education supports the achievement of these and other goals for students. For example, a study by Bridges et al. (2011) of 105 nursing and medical students engaged in interprofessional education activities, found a majority of the student participants stated that interprofessional education improved overall teamwork, trust, and respect.

Lastly, in a recent study on perceptions and valuing of interprofessional collaboration between therapists in a rehabilitation setting, DeVries (2016) found therapists who participated did not have varying degrees of beliefs, behaviors, and attitudes about interprofessional collaboration. The participants of this study "indicated a collaborative attitude and equal valuing of the other therapy disciplines" (DeVries, 2016, p. 12). DeVries' study further demonstrated the need for developing and evaluating such interprofessional collaborative opportunities, both in higher education, as well as continued education, for health care professionals.

Simulation as an Interprofessional Teaching Method

Simulation is an educational strategy where certain conditions are created or replicated to resemble authentic situations that are possible in real life (Gaba, 2004). An IPE

experience involves simulation-based activities with two or more professions placed into a simulated health care experience with shared or linked educational goal(s) (Seymour et al., 2013). The participants learn from, about, and alongside each other to enable effective collaboration that will transfer into practice with the goal of improving patient health outcomes.

In studies that have examined the effectiveness of IPE simulation with nursing and medicine, evidence has shown increases in communication, teamwork skills, interconnectedness, self-efficacy, overall collaboration, and has led to improvement in attitudes about interprofessional education (Baker et al., 2008; Bolesta & Chmil, 2014; King et al., 2013; King et al., 2014; Saylor et al., 2016; Watters et al., 2015). Simulation has also shown to be an effective method for students to learn about their roles and identity on a health care team, and increase confidence (Saylor et al., 2016; Shrader et al., 2011).

Overall, studies have demonstrated the positive effects of interprofessional education, and the use of simulation as effective teaching methods for aiding students in their chosen disciplines to become more well-rounded, confident, and competent professionals. Student feedback and the literature confirm that interprofessional education has immense benefits. However, a majority of these publications have been about nursing and medicine. In social work education more scholarship about interprofessional simulation with other disciplines is needed.

Method

This project used a mixed methods approach to receive feedback from students about how the IPE simulation improved efficient communication and assessment skills and engaged other health professionals in shared patient-centered problem-solving and discharge planning. Approval from the university's institutional review board (IRB) was sought and granted, enabling the project to start and continue via amendments. This simulation was unique in that it was two-part and in two settings, coined an "unfolding" IPE case, as each scenario revealed more information about the specific case. A week prior to the first simulation, faculty met with the students for an extensive pre-briefing to learn collectively about each other's disciplines, IPE, the three learning outcomes of the project, and the simulation activities. The first part of the simulation was the case of an older male patient (simulated patient actor) admitted to the hospital for a fractured femur/hip replacement. The second part, which took place one week later, found the same patient in his home with care being provided by home health and his daughter (simulated patient actor). Student teams had the opportunity to assess the patient in each of these settings. Students were expected to learn how to communicate to benefit patient care, observe one another's disciplines, to assess and prioritize a patient's needs, explore potential interventions, and develop plans for patient education and discharge. Following the simulation students met as an interprofessional team to share their assessments, patient teaching, and collaborated on a discharge plan. They then individually responded to questions in reflective journals and completed the Readiness for Interprofessional Learning Scale (RIPLS).

Participants

Participation in this project was voluntary and open to social work, recreation therapy, and nursing students enrolled in one of three classes at the University of North Carolina Wilmington. The courses the students were enrolled in are unique to their disciplines and also relevant to the simulations. The social work students were enrolled in an ethics course, the recreation therapy course was specific to physical rehabilitation, and the nursing course focused on adult health. Students in these classes volunteered for the project by notifying faculty of his/her interest and availability. For each part of the simulation, student teams were designed to include two recreation therapy, two nursing, and two social work students. Assignment of which simulation to participate in was also based on student availability. Since not all students could participate in the simulation, it was filmed and made available to all students enrolled in the three classes.

For the first part of the simulation, there were three social work, four recreation therapy, and four nursing students; ten females and one male. Social work students were graduate level, and the recreation therapy and nursing students were undergraduates. Only three of the eleven had ever participated in an interprofessional educational experience prior to participation in this project, and the students who had exposure were all from social work. The simulation was repeated to maximize student participation. The first time the simulation occurred there were two social work students, two recreation therapy students, and two nursing students. Each discipline observed the other disciplines interacting with the simulated patient actor through the two-way mirrors. When the first part of the simulation was repeated there was one social work student, two recreation therapy students, and two nursing students. As with the first time, each discipline observed the other disciplines interacting with the simulated patient.

The second part of the simulation included four students from each discipline (social work, recreation therapy, and nursing); in total, eleven females and one male. As with the first, all but the social work students were undergraduates. Only two of the twelve students had ever participated in an interprofessional activity prior to this project, and the students who had previous experience were in the social work program. As with the first simulation, the simulation was repeated to maximize student participation and each discipline observed the other professions with the simulated patient. During each run of the simulation there were two social work students, two recreation therapy students, and two nursing students.

Setting: Simulation Labs

The university houses a state-of-the-art 10,000 square foot Simulation Learning Center which includes eight acute care hospital labs (scene for Scenario 1), a home apartment which includes a den, kitchen, bedroom, and bath-scene (scene for Scenario 2), and a clinic which mimics a physician's office. All equipment is current with what students will see and use in practice, essential to maintain realism in simulated learning. Each room has two-way mirrors as well as recording equipment.

Data Collection

Qualitative. The project sought to collect qualitative and quantitative data on attitudes toward interprofessional communication and about the simulation exercise itself. This information was provided by responses to questions in the reflective journals. Students completed these within two weeks after each simulation. Although the reflective journals contained 23 questions, the first seven questions were mandatory for all students to respond to, while each discipline responded separately to the remaining 5-6 discipline-specific questions (see Table 1). The trustworthiness or content validity of the reflective journals was evaluated by determining the degree to which the responses paralleled or expanded upon the quantitative responses in the RIPLS.

Table 1. *Reflective Journal Questions for Student Groups*

Group	Reflective Journal Question
All	1. What else would you want to know or should have asked about this patient situation? 2. What did you see as the biggest obstacle in working with this patient? 3. Give examples of how the roles and responsibilities of the team members were communicated to the patient and other team members. 4. What emotions were being conveyed by the patient and how well were they addressed? 5. Discuss any cultural implications of this scenario. 6. Who is a part of your treatment team and what were their roles? 7. What type of patient and family education was important to carry out in this scenario? Why? Explain.
Recreation Therapy	8. What aspects of this patient and his situation will you consider when selecting an assessment to use? 9. How will you involve the patient in their care? 10. How will the assessment be administered to the patient? 11. What information will be utilized for planning (discharge planning)? 12. How will progress/regress/no change be measured? 13. What evaluation methods will be used?
Nursing	14. What assessments did you carry out and why? What were the priorities for the hospital and the home? 15. What were the priority nursing diagnoses with this patient scenario? 16. How would you involve the patient in their care? 17. What teaching was a priority in the hospital and for discharge home? 18. What are some safety considerations in the hospital and after discharge?
Social Work	19. What were some ethical challenges in this scenario? 20. What is the most significant learning that you took away from viewing these videos? 21. Is using simulation exercises as a method instruction useful? Why or Why not? 22. Did you notice any differences in how the SW students handled the scenario, as compared to the way the nursing or recreation therapy students did? 23. Make a link to the issue of self- determination and health policy.

Quantitative. The instrument selected to provide the quantitative data was the Readiness for Interprofessional Learning Scale Questionnaire (RIPLS) via hardcopy (i.e. paper), which was completed by individual students in each team after each part of the simulation (post-team meeting; Parsell & Bligh, 1999). The RIPLS assesses attitudes towards interprofessional education for students in training and was chosen due to its relevant focus on teamwork, shared learning, and communications. Additionally, the RIPLS was chosen due to its ease of completion for the participants and the time it takes to complete (Parsell & Bligh, 1999).

The RIPLS uses a standard Likert-scale with a range of 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), with higher scores indicating more positive attitudes towards interprofessional learning. Created by Parsell and Bligh (1999), the RIPLS has an internal consistency of 0.90 (Cronbach's alpha). This 19-item self-report scale contains three validated subscales (Binienda, 2015; McFadyen et al., 2005):

A. Teamwork and Collaboration (valuing cooperative learning and respecting students from other health care professionals);
B. Negative and Professional Identify (valuing and benefiting from collaborative relationships with other health care professionals); and
C. Roles and Responsibilities (practical application of interprofessional skills with other health care professional students).

Procedures

Simulated patient (SP). The Simulated Patients (SPs) for the unfolding simulation scenarios, a father and daughter, were recruited from a volunteer list of 23 people. The SP for both scenarios was selected based on his appearance resembling a 78-year-old, Hispanic male (compared to other male SPs in the pool) to ensure realism in the scenarios. The daughter for the SP in Scenario 2 was selected due to her small stature and resemblance of someone age-appropriate for the role to keep as much realism as possible. Both SPs were brought in two weeks before the first simulation to meet with the three faculty for training, which included a review of student learning outcomes for the simulation, information on each discipline, discussion of both scenario scripts, and explanation of verbatim statements for each of their roles. Time was provided for the SPs to practice their roles and discuss aspects of their roles with the faculty. In addition to this preparation the SPs arrived 1 hour early on the days of the simulation to ensure sufficient preparation time (props in place such as hospital gown, ID band, home props), and comfort in their roles.

Pre-briefing. The interprofessional teams were provided the opportunity to engage with each other before the simulations took place. Prior to participating in the simulation, students attended a pre-brief meeting in which they were oriented to the learning environment, educated about roles of participants, informed of expectations, and encouraged to feel safe in presenting as their identified profession. The pre-briefing was led by course faculty and the simulation lab coordinator. Students were provided the goals, the three learning outcomes based on IPEC's four core competencies for this project, and expectations for the interprofessional simulation experience. They were given case

background information, in addition to any other pertinent information. Confidentiality was stressed, along with establishing a psychologically safe environment where learners could ask questions prior to the experience, and then openly reflect after the experience via debrief (Rudolph et al., 2014). Students were also provided a fictional contract to sign prior to participating. The *Fiction Contract* reminds students to engage as fully as possible in the scenario and treat the actor like a real patient. This contract is an agreement between participants and facilitators about interacting during a simulated situation in a professional manner, as if a situation were real, and to maintain levels of ethical and responsible conduct, as well as confidentiality (Rudolph et al., 2014).

At the pre-brief students were also given information packets, created by faculty, containing a document with the rationale for carrying out the two-part scenarios, the interprofessional simulation learning objectives with IPEC competencies, scope of practice document for each discipline, and basic information about hip replacement surgery, and the important precautions for the patient to learn post-operative (e.g. information on general incision care and possibility of complications such as a blood clot(s) or infection, etc.). Finally, participants were given the expected roles of each discipline for each scenario.

Additional information provided to the students was dependent upon discipline. For example, since the scenario was focused on a hospital discharge, social work students were provided with information regarding self-determination and patient choice as well as community resources. Recreation therapy students were provided with a 12-item, standardized assessment to use with the patient in both simulations (WHO, 2010). Nursing students were given directions for administering an abbreviated physical assessment (vital signs, heart, lung, skin, mobility), as well as for providing patient education on hip replacement precautions in preparation for discharge.

IPE Simulations

This project used a two-part, unfolding IPE simulation that included two separate IPE simulations, and were inextricably linked through the typical patient experience of first being treated in a hospital, then in a follow-up visit at home. Both scenarios were conducted in simulation labs at the university (e.g. simulated hospital room, simulated apartment). Each discipline met with the patient for 15 minutes in the hospital and 15 minutes in the home for a total of 45 minutes. Each part described below was provided to the students' in their information packets (Table 2).

Interprofessional team meeting. Each scenario ended with an interprofessional team meeting to discuss observations, assessment results, interventions used, and provide an overall evaluation of what each group experienced with the patient and/or his daughter. These meetings, led by a simulated charge nurse (faculty from each discipline rotated this role), concluded with the development of a plan for the patient and his providers to ensure Mr. Garcia's goals would be met moving forward.

Readiness for Interprofessional Learning Scale Questionnaire (RIPLS) and Reflective journals. Following the interprofessional meetings, the students returned to a conference room to complete the RIPLS and debrief the simulation. Students completed

reflective journals and returned them to their respective faculty via email within two weeks of participating to provide enough time to reflect on the experience. At this point, student participation in this project ended.

Table 2. *IPE Simulation Scenarios*

Simulation	Scenario
Hospital	Mr. Robert Garcia, is a 77-year-old Hispanic male, who fell at home last evening and sustained a left femur fracture. A neighbor heard him yelling and called EMS. He underwent a left total hip replacement last night, he came to the unit at 0100. His history is significant for: alcohol abuse, diabetes, heart disease, but has been stable on meds at home. He has tolerated liquids only. He has PO (oral) meds ordered now. He is to get up with assistance by this evening. He has a son living far away and daughter in town, but they have not arrived yet. His wife of 52 years died from an MI (heart attack) 6 months ago. He lives alone in a 2-story home. The time is now 1pm. The three disciplines will visit him, conduct an assessment based on their discipline, and then share their findings collaboratively at a team meeting in the hospital immediately after the visits.
Home	Mr. Robert Garcia, 77, was discharged from the hospital one week ago. He is receiving home rehabilitation and follow-up nursing care. He will receive a follow-up visit by social work, recreation therapy, and nursing to assess his physical and emotional needs, progress with rehab therapy, wound care, nutritional intake, activities of daily living, and home safety. He will be assessed and given needed teaching information during the visit by each of the disciplines. The time is now 1pm. The three disciplines will visit him in his home, conduct an assessment based on their discipline, and then share findings with each other immediately following the visit.

Analyses

Qualitative. The reflective journal responses were de-identified by each discipline's faculty and compiled in an aggregate-type Word document. All three faculty members reviewed and analyzed the content of the responses, paying close attention to themes mirroring the learning outcomes. The same was done with the de-identified, qualitative responses from the RIPLS.

Quantitative. Quantitative data analysis occurred in three parts. First, demographic information from the RIPLS was recorded regarding the student's discipline, sex, if they had completed the RIPLS prior to this project, and if they had previous experience(s) with interprofessional teaching/learning. Next, Likert-scale data were recorded on the full RIPLS scale for all participants, and a basic univariate analysis was run. Subsequently, scale data from the RIPLS subscale focusing on professional identity was recorded and run through another basic univariate analysis. Both sets of scale data were run using IBM SPSS Statistical Software for Macintosh, Version 22.0. After all descriptive statistics from the RIPLS data were completed, the qualitative remarks from the RIPLS were de-identified and recorded on a Microsoft Word document to be analyzed with the other qualitative data from the reflective journals. This same process was repeated after each simulation.

Results

The purpose of this project was to use simulation as a means to introduce and educate students in three allied health care disciplines to the communication and collaboration skills used by interprofessional teams for discharge planning in a clinical setting, and follow-up care at home, by using two-part unfolding IPE simulations.

Qualitative Responses

Responses in student journals revealed a few themes which included: benefits resulting from participation, questions that arose about practice amidst simulation, observations of other disciplines' contributions to care, and general statements indicating a positive evaluation of participating in an IPE simulation.

Benefits. Reduced anxiety was a common response by students. As one student stated, "Before, I felt nervous and apprehensive, and sort of unprepared. After I felt it was much more natural and realistic than I imagined." Another student stated something similar and added, "After the simulation I feel more excited to work with other professionals."

Another benefit to the simulation was the value of communicating and collaborating with other disciplines. As one student noted, "I learned about the professions I will work with, this helps me learn how we can effectively help the client in unison." In addition to the value of communicating with other disciplines was the excitement to work with other professionals. A student commented, "This is an amazing exercise that could benefit all students. Having this hands-on experience has really helped me get a better idea of what my career will look like."

What we wish we knew. The simulation raised questions about real life challenges. Students reflected about things they wish they knew, had access to, or knew what to ask from the start. One student stated, "I would like to know how his home life after the fall compared to his home life before the fall, was the patient taking anti-depressants before he had the surgery?" Another student noted, "I wish I would have asked which specific questions from the assessment were more important for our patient's situation to have used my interview time more efficiently." Students also reported that the biggest obstacles encountered were the limited length of time with the patient, and how they needed to be more efficient with time because of that; this is also an obstacle in practice, so developing such awareness as a student is promising for post-graduate professional practice. These questions reveal the critical, reflective thinking that simulation can mimic prior to these pre-professionals entering practice.

Observations of other professions statements made pertaining to student observations of other disciplines' contributions to care included the following: "I liked how social work asked about his favorite meal that his wife cooked," and,

> *I really like how the rec therapists asked the patient to go into the kitchen and explain how he was able to access and use everything there. I think this really engaged the patient and shifted the focus to what he and his daughter found important*.

Overall, the students found value in working alongside other professionals to discuss patient care, as they were able to recognize both overlap and where things were missed, as evidenced by this student response:

> *Many of the team members brought up the same points to the patient without even knowing they were doing so. The team members also did their best to stay on track with their specified field by saying things such as "that is something you could talk to nursing about," etc. The team members also got together at the end to meet and discuss their findings. Most of the findings were similar, I also noticed that each team seemed to notice things that another team did not. It is always good to have as many eyes as possible because each person sees something another does not.*

Quantitative Results

Based on the aggregated results of the quantitative analyses performed (see Table 3), the overall means score for the first simulation (n = 11) was M = 76.4 (SD = 3.6), and the overall means score from the second simulation (n = 12) was M = 75.1 (SD = 4.2). The maximum value of the scale was 95, therefore, these scores indicated a mostly positive attitude towards interprofessional learning. Included in the aggregate data for the full scale, Questions 1-9, which surveyed overall attitudes towards interprofessional learning and its benefits, responses averaged 4.8687 for the first simulation and 4.8704 for the second simulation, indicating a high degree of agreement. Average scores for Questions 10, 11, 12 and 18 indicated strong disagreement with devaluing interprofessional learning (i.e., seeing it as unnecessary and/or unwarranted), responses M = 1.5227 for the first simulation and M = 1.4792 for the second simulation. Another question included in the aggregate data for the full scale but investigating if respondents place more value on their own role(s) than the role(s) of others yielded an average score of 2.4545 for the first simulation and 2.1667 for the second simulation. Based on the results of the analysis of the subscale for Positive Professional Identity, the first simulation (n = 11) scored M = 19.5 (SD = 1.0), while the second simulation (n = 12) subscale score was M = 18.7 (SD = 2.0). Responses for the first simulation averaged 4.8637 and 4.667 for the second simulation. The maximum value of this subscale was 20, therefore, indicating an overall positive attitude toward one's professional identity.

Table 3. *RIPLS Scores of Students in Interprofessional Collaborative Care Teams in Multi-day Simulations*

			M (SD)	
Scales	Items	Range of Possible Scores*	Simulation 1. Hospital (n = 11)	Simulation 2. Home (n = 12)
RIPLS Scale*	19	19-95	76.36 (3.64)	75.08 (4.17)
Positive Professional Identity**	4	4-20	19.45 (1.04)	18.67 (1.97)

*Based on standard 5-point Likert Scale. Higher scores indicate positive attitudes towards interprofessional learning.

**Subscale measure of Positive Professional Identity included Q13, 14, 16, 17, with Q17 substituted for Q15.

Discussion

Before this project began, students were asked in the pre-briefing meeting by their faculty and simulation coordinator to identify and discuss what they knew about the other disciplines, and how they worked together. While the majority of the students could briefly discuss the roles of other health care providers, few could articulate other allied provider's approaches to care, or scopes of practice. The results from this preliminary project indicate that the students from three disciplines at this university held overall positive attitudes towards interprofessional learning and perceived themselves and their disciplines in a positive manner. As reported in their journals, students felt more comfortable with their own professional role and in working with others post-simulation and were therefore better prepared for future practice. Although the overall findings of this project were positive, many limitations exist and present future challenges.

Limitations

The first limitation is the number of students who could participate in-person. This project was designed to allow for a maximum number of students to participate in-person; however, this only yielded $n = 11$ for the first and $n = 12$ for the second scenario; $n= 23$. Due to the time required, it was not possible to include all students in each discipline's courses to participate in-person unless each scenario was replicated multiple times. This option was not available for many reasons, some of which included demands of other courses, faculty and administrative responsibilities, time and simulation lab availability.

To increase exposure, the simulations were video and audio-recorded and shared with students who did not participate. These video and audio links were made available to all students via each course's digital learning platforms. A lesson learned from this initial project is that while these links were not incorporated into the courses via lecture or mandatory assignments, they should be in order to increase active participation and engagement by all students; this will be done with future IPE simulations. The reality of including every student in-person will always present as a challenge; however, with the use of technologies such as live-streaming or pre-recorded links into the curriculum, all students could respond to the RIPLS and reflective journals, and perhaps gain similar benefits as those who participate in-person.

A second limitation was not using the RIPLS prior to students participating or viewing the simulation. Due to the timing needed for the project, the use of RIPLS was only completed post-simulation.

A third limitation was the lack of diverse simulated patients (SPs). The simulation program has been successful recruiting older, white, retired volunteers. As a result, the SP who played Mr. Garcia was an older white man, and an older white woman played his daughter. As we move forward to incorporate more simulated experiences within interprofessional education, especially experiences addressing more age and culturally-related foci, effort must be made to engage and sustain a diverse SP pool to support the pre-professional development of culturally sensitive and competent practitioners.

For this pilot project, satisfaction with achieving the goals and learning outcomes occurred despite the limitations identified. Identifying the limitations provided issues to consider for both maintaining, and improving the quality experience, and outcomes of IPE simulations to improve pre-professional education for allied health care providers moving forward.

Implications for Education: Future Simulation Considerations

Future considerations for IPE simulation in pre-professional education for health care students were identified as the following: using pre- and de-briefing, pre- and post-administration of RIPLS or another instrument, continuing cross-disciplinary education, increasing education and exposure to diverse scenarios, as well as including other disciplines in the IPE simulations.

Pre-briefing is an area gaining more attention and development due to its positive impact on both proximal and distal outcomes for the pre-professional education of health and human service workers, as well as health care workers in general (Rudolph et al., 2014). A pre-briefing informs and familiarizes providers prior to interacting with patient(s), while also decreasing their anxiety and increasing both individual and group confidence in provider-client interactions (Rudolph et al., 2014). Debrief is then used post-interaction to clarify and allow for critical thinking through evaluation and supports knowledge synthesis through making connections during discussion; drawing conclusions; questioning observations, conclusions and perspectives, then applying this more refined knowledge into action via patient care plans and implementation processes. In both pre- and debriefing, faculty/supervisors can correct misinformation and challenge the student(s)/provider(s) beliefs, and assumptions.

Another consideration is for both pre- and post- administration of the RIPLS. This would strengthen the interpretation of results pertaining to attitudes and effect of the simulation experience on students in a pre-professional educational context. Using the RIPLS pre- and post-simulation may provide more insight into initial perceptions of interprofessional education, attitudes and emotions, professional identity, roles and responsibilities, and could prove to be more beneficial in identifying the effect of simulation participation. In addition, there are other instruments to consider using that may provide richer information about interprofessional learning.

Continued interprofessional education in the core curriculum informing students about other professions, their approaches (roles), and scope of practice is also vital due to the nature of collaboration and team-approaches in health care. Addressing this early in the core curriculum, especially prior to participation in simulation experiences, should further bolster role-clarification and confidence within the students/future providers through increasing their understanding of the roles and responsibilities of all team members and of how each contributes to goal achievement. An example early in core curriculum in social work education, would be to introduce IPE simulations in *Introduction to Social Work* classes. These courses provide an ideal opportunity for interprofessional instruction. Many schools use introduction classes as a recruitment tool to the major. Interprofessional simulation exercises in such classes may create more interest in the profession and allow

other students in different majors to have exposure to how professions work together. Assumingly, this would also enhance future collaborative skills and solidify professional identity.

Another area illuminated for future development is in preparing students for working with and managing relevant, pressing patient challenges, and ethical issues (e.g. falls, alcohol abuse, addiction) which often accompany a patient's primary diagnosis or reason for treatment. Increasing education about prioritizing patient needs due to comorbidities or other personal and/or environmental challenges, (there is rarely a textbook example patient) will help students learn how to manage multiple factors to achieve specific outcomes. An example during the second simulation was student participants appearing uncomfortable addressing the patient mixing alcohol with his medications during the home scenarios. While each discipline emphasizes the importance of self-determination, simulation exercises provide an opportunity to see how each profession applies the value of self-determination, particularly when a patient was exhibiting an unhealthy behavior. More education and practice with addressing these types of concerns could increase student confidence. Like this, is developing additional scenarios which address diversity in multiple forms (e.g. age, gender, ethnicity, language, health conditions). This can only improve overall provider competence when working with diverse clientele.

Lastly, including other allied health disciplines such as medicine, nutrition, physical and occupational therapies can also increase understanding of other providers, their roles, responsibilities, and scope of practice. Early exposure to, and emphasis using multidisciplinary approaches to managing and treating health conditions in an individual and community, can only increase interprofessional communication and team approach to patient centered care.

Conclusion

Over a 2-week period a 2-part unfolding IPE simulation was conducted including three disciplines from a public university in the southeastern United States. Both IPE simulations concluded with all student-participants completing the RIPLS and responding to questions in a reflective journal. Results from the RIPLS and reflective journals revealed positive attitudes towards interprofessional learning by all students. Additionally, data from a subscale of the RIPLS indicated positive professional identity by all students in each of the three disciplines (social work, recreation therapy, and nursing).

Providing these interprofessional experiences, students' academic knowledge was enhanced while supporting translation of that knowledge into practice. This benefits each student in each discipline, as well as collectively, by improving skills, confidence, attitudes, and competence. Moving forward, developing other unfolding simulations using multiple disciplines and settings will further support the aim of improved communications between disciplines to benefit patient care and achieve outcomes. While not every student may be able to participate in every simulation, the benefit of live stream into classrooms or pre-recorded audio and video links incorporated into curriculum via lecture or assignments, would enable full participation for all students, and further augment pre-professional education in health care programs.

Introduction of interprofessional practice early in social work education is essential for future collaborative practice. Social workers, particularly in health care, are often in settings with professionals from other disciplines. The literature supports allied health professions learning together and simulation laboratories provides creative and unique opportunities for students to practice in a low risk setting and safe space. In practice, social workers often must be innovative and resourceful to best serve the needs of their clients. By using IPE and simulated learning experiences social work educators could teach other disciplines about thinking outside the box when it comes to preparing future practitioners.

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Author note: Address correspondence to Cara Gray, University of North Carolina Wilmington, 601 S. College Road, Wilmington, NC, 28403. E-mail: grayc@uncw.edu