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Correct spelling of author name 1/29/18 Fixed layout error 6/8/18

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# An Innovative Interprofessional Simulation: Preparing Students to Tackle the Challenge of Care Transitions

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## Abstract

**INTRODUCTION** Transitions of Care (TOC) are associated with communication breakdowns that contribute to medical errors, medication mistakes, and hospital re-admissions. The purpose of this one-day workshop was to teach interprofessional (IP) skills to healthcare students, focusing on verbal and written communication during a TOC of a standardized patient (SP).

**METHODS** Forty-seven students, representing six healthcare disciplines, worked in IP teams to plan a family meeting for a hospitalized SP who had recently experienced a stroke. Students were to communicate pertinent medical, social, and physical issues to the SP, as well as make discharge recommendations. Discharge summaries were entered into an electronic medical record and transmitted to IP teams simulating either a rehabilitation setting or ambulatory care. IP teams utilized these summaries in their family meeting with the SP. After each scenario, students debriefed, focusing on IP competencies.

**RESULTS** Significant improvements were found in nine of fourteen areas measured by the Attitudes Towards Healthcare Teams Scale. Significant improvements were found for confidence in writing an accurate and concise note as well as gleaned information from a discharge summary.

**CONCLUSION** This study demonstrated the effectiveness of a short workshop on improving IP verbal and written communication and confidence in TOC scenarios in acute care, rehabilitation, and ambulatory care.

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## Implications for Interprofessional Practice

- Transitions of care from one healthcare setting to another are fragmented and contribute to poor health outcomes.
- Educational programs need to teach both written and verbal communication skills for interprofessional teams to enhance transitions.
- Interprofessional training in transitions of care should include a variety of settings such as rehabilitation facilities, nursing homes, assisted living, and physician's offices.

## Introduction

Transitions of care (TOC) between healthcare providers, settings, and organizations can greatly affect patient outcomes (Healthcare, 2014). The American Geriatrics Society defines TOC as, "A set of actions designed to ensure the coordination and continuity of health care as patients transfer between different locations or different levels of care within the same location. . . . It includes logistical arrangements, education of the patient and family, and coordination among the health professionals involved in the transition" (Nelson & Carrington, 2011; Snow et al., 2009). When the processes of TOC are insufficient or not coordinated, pertinent medical and social information may not be adequately conveyed to the patient, family, or healthcare practitioners assuming care for the patient. Insufficient or incomplete information can result in confusion, medical errors, and diminished patient outcomes (Hunter, Nelson, & Birmingham, 2013; Mansukhani, Bridgeman, Candelario, & Eckert, 2015; Moore, Wisnivesky, Williams, & McGinn, 2003; Polnaszek et al., 2015; Puhr & Thompson, 2015). Interprofessional care that emphasizes collaboration and communication are essential to improving the accuracy and efficiency of transitions, possibly reducing errors and improving patient outcomes (Broderick & Abir, 2015).

## Literature Review

On a yearly basis, approximately 20% of Medicare beneficiaries are re-hospitalized within 30 days of discharge from a hospital (Jencks, Williams, & Coleman, 2009). Patients' perception of poor discharge teaching and preparation occurs frequently, and has been asso-

ciated with hospital re-admission rates (Knier, Stichler, Ferber, & Catterall, 2015). In addition, incomplete discharge summaries contribute to confusion over diagnostic findings and erroneous medication reconciliation (Mansukhani et al., 2015). When discharged from a rehabilitation setting, 50% of patients do not receive proper instructions regarding level of assistance needed and safety precautions at home, possibly contributing to increased rates of 30-day readmission, emergency room visits, and death in Medicare beneficiaries (Polnaszek et al., 2015).

King et al. (2013) and Block, Morgan-Gouveia, Levine, and Cayea (Block, 2014) noted that lack of training in TOC for a variety of healthcare disciplines likely contributes to the perpetuation of poor transfers, medical errors, and patient dissatisfaction. Accrediting agencies now strongly encourage or require academic programs to prepare the next generation of healthcare providers to work collaboratively with other professions to improve TOC and patient outcomes (ACPE, 2015; CAPTE, 2015-2016 update). The National Center for Transfer of Care and the Society for Post-Acute and Long-Term Care Medicine support the use of a universal transfer form to enhance and standardize communications between settings (Mansukhani et al., 2015). Until some entities have been slower to embrace electronic medical records and documentation systems, especially in post-acute care settings (Mansukhani et al., 2015). However, until implementation of a universal documentation system, IP teams need to enhance both verbal and written communication amongst the team, between healthcare settings, and with the patient/family.

Through IPE training with standardized patients (SP),

students develop positive attitudes toward simulated care team experiences and believe such practice will influence their future behavior (Furseth, Taylor, & Kim, 2016; Stevenson et al., 2015; van Schaik, Regehr, Eva, Irby, & O'Sullivan, 2016). IPE training has been found to increase understanding of team-based problem solving, attitudes towards collaboration, self-efficacy in team collaboration, and team communication skills (Bolesta & Chmil, 2014; Furseth et al., 2016; Hagemeyer, Hess, Hagen, & Sorah, 2014; Saylor, Vernoony, Selekman, & Cowperthwait, 2016; Tsakitzidis et al., 2015; Van Winkle et al., 2012). Despite this growing body of research in IPE, studies that examine TOC in settings other than ambulatory care are lacking. In a qualitative study by King, Gilmore-Bykovskiy, Roiland, Polnaszek, Bowers and Kind (2013) nurses working in a skilled nursing facility stated that "bad transitions" were the norm and they could not recall any "positive" transfers to their setting. King et al. also noted that inconsistent information from the acute care setting resulted in delay of care, increased risk for re-hospitalization, and patient dissatisfaction.

The purpose of this study was to assess the effectiveness of a one-day workshop on improving healthcare students' confidence in interprofessional skills, attitudes towards IP care, and documentation in a TOC scenario. This study broadens the knowledge base regarding the effectiveness of IPE training and expands the literature to include post-acute care settings.

## Methods

### *Participants*

Students were recruited from two universities. Students in occupational therapy (OT), pharmacy, and physical therapy (PT) from the University of the Sciences and students in medicine, nursing, and social work (SW) from the University of Pennsylvania participated in the study. The institutional review boards at both universities approved this study. Participation was voluntary or as part of course requirements. All students were 18 years of age or older and in the professional phase of their respective programs. Students were randomized to IP teams in one of three practice settings: acute care hospital, rehabilitation facility, or ambulatory care. Each mock setting was populated with the disciplines that would typically be present. All disciplines participated in the acute care practice setting. Nursing, OT, and PT students participated in the mock rehabilitation

setting. Students in medicine, nursing, pharmacy, and SW participated in the mock ambulatory care setting. The observation group consisted of OT students who watched a live stream of an interprofessional team interaction with a SP. They debriefed with a faculty facilitator, focusing on the Interprofessional Education Collaborative (IPEC) core competencies.

### *Pre-workshop preparation*

Students completed readings in TOC and interprofessional education, culled from a collaborative of six national professional organizations known as IPEC. These core competencies include values and ethics, roles and responsibilities, communication, and teamwork. In their pre-assigned teams, students participated in a 20 minute live video call using Google Hangouts<sup>®</sup>. (© 2015 Google Inc. All rights reserved. Hangouts<sup>™</sup> is a trademark of Google Inc.). Students introduced themselves and briefly described their professions' roles on an IP team. Additionally, utilizing a modified patient case from McMurray et al. (2013), the students detailed critical points they would discuss with the mock patient as well as key information that should be included in a discharge summary. Students also strategized how to manage a family meeting. The purpose of the Google Hangout<sup>™</sup> was to reduce student anxiety on the day of the workshop, facilitate introductions, and to provide practice before interacting with a SP.

### *Standardized Patient Training and Patient Case*

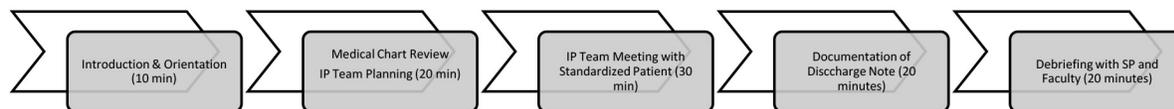
Spirit Communications provided the SPs for the workshop. SPs trained with the patient case and response prompts for a variety of anticipated student questions and reactions. SPs played the role of the adult child of a 62-year-old female who presented to the emergency room with slurred speech, left sided weakness, and a fall. The patient was admitted to the hospital with a diagnosis of a stroke due to new onset atrial fibrillation. She had health insurance with high copayments, was occasionally noncompliant with her medications, and was a significant active user of alcohol.

### *Acute Care Scenario*

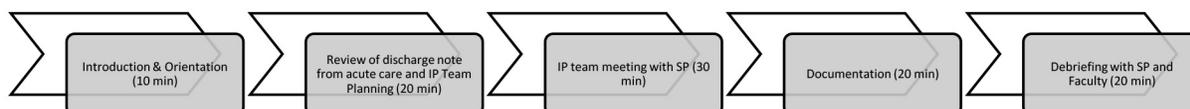
Four acute care simulations ran simultaneously (See Figure 1). Each team had twenty minutes to review the medical chart and discipline specific notes. The IP team discussed the medical chart, formulated a discharge plan, and developed a strategy to manage the family meeting. Faculty reminded students of the team meet-

ing goals which included; conveying pertinent medical, physical, and social information, recommending a discharge plan, and practicing skills outlined in the IPEC Core Competencies (IPEC, 2011). In the next thirty minutes, students interacted with the SP to achieve the aforementioned goals. To enhance the realistic nature of the acute care interaction, in two scenarios the SP refused discharge to a rehabilitation facility and demanded to go home. In the other two scenarios, the SP accepted the recommendation for discharge to a rehabilitation facility. After the SP interaction, all disciplines individually documented a discharge note in an electronic medical record. Lastly, a twenty-minute debriefing occurred with the SP and faculty facilitators, which focused on self-reflection on performance, the IPEC core competencies, team communication, and documentation to improve TOC (Figure 1).

**Figure 1.** Schematic of Simulation Experience: Acute Care Setting (4 Simulations). \*IP = Interprofessional



**Figure 2.** Schematic of Simulation Experience: Rehabilitation Setting (2 simulations) and Ambulatory Care Setting (2 simulations)



recommendations from acute care and to clarify medical, social, and physical issues. At the end of the team meeting with the SP, each discipline documented a visit summary and then debriefed with the SP and faculty, again focusing on IPEC core competencies, documentation, and TOC.

### Data Collection

Pre and post assessments were distributed to all participants and included: Attitudes Toward Health Care Teams (ATHCT) scale (Curran, Heath, Kearney, & Button, 2010), confidence scales in verbal and written communication, importance and commitment to IPE, as well as exposure to interprofessional teamwork. This scale has 14 items that are rated on a five-point Likert scale that ranges from 'strongly disagree'

### Rehabilitation and Ambulatory Care Scenarios

The rehabilitation and ambulatory care scenarios occurred after completion of the acute care scenarios. The teams in the mock rehabilitation setting received a randomly selected discharge note from an acute care team who recommended discharge to rehab. The teams in ambulatory care scenarios received a discharge note from an acute care team that recommended discharge to home. The teams had twenty minutes to review these notes and plan for a team meeting with the SP (Figure 2).

The focus of the rehabilitation team meeting was to discuss expectations for the rehabilitation stay and to summarize the patient's medical condition, potential for physical recovery, medications, and social issues. The focus of the ambulatory care visit was to identify the extent to which the patient followed the discharge

to 'strongly agree.' Higher scores indicate a positive attitude towards interprofessional healthcare teams. The ATHCT scale has good internal consistency as reported by Hayashi (Hayashi et al., 2012) and Curran (Curran, 2008). The confidence scale had eight items on a five point Likert scale that ranged from, 'Not confident' to 'Very confident.' Demographic information collected included: year of study, degree program, years of clinical practice, ethnicity, and exposure to IPE to determine any modifying effects of these variables on outcomes. The post-workshop survey also included the following open ended questions: "Please describe something you appreciated about the role of another health profession in working with a standardized caregiver in an interprofessional team. Please specify the profession (not your own) and what you found helpful

in working with them. What did you learn from writing a discharge summary? What did you learn from interpreting a discharge summary?” The observation group did not complete the post confidence scales for writing and interpreting a DC summary as they did not actively write or interpret discharge notes.

### Data Analysis

Descriptive statistics were used to characterize the sample. For continuous variables, Wilcoxon Signed Rank tests were to determine pre and post differences in the ATHCT scale and the confidence scales. A one-way analysis of variance (ANOVA) with Tukey’s HSD pairwise comparisons for post-hoc testing of means was used to assess differences mean responses to quantitative survey items. For categorical variables, chi-2 analysis was used for bivariate comparisons of item responses. Stata 13 software was used for the analysis. (“Stata Statistical Software: Release 11,” 2011) Expected values for response cells were estimated using the “expected” option included in reported output using Stata’s “tabulate two-way, chi<sup>2</sup> expected” command to aid in interpreting results. Analyses compared responses across groups defined by learner type to explore the impact of professional training background on self-reported IPE confidence and attitudes toward IPE teams. Responses were also examined across year in training categories to assess the impact of level of training on participant responses. Statistical significance set at  $\alpha = 0.05$ , recognizing that tests of statistical significance are approximations that serve as aids to interpretation and

inference. Written documentation was analyzed using a reductionist thematic approach by two independent researchers. Emerging themes were then discussed and final themes were determined.

## Results

### Sample

Forty-seven participants completed pre and post questionnaires. Forty participated directly with the SP (mixed disciplines), and 7 OT students were in the observation group. Sixty-five percent of participants were female. Eighty-one percent of the sample was Caucasian, 9% Asian or Pacific Islander, 8% African-American, and 2% did not respond. Forty-two percent of the sample were OT majors, 17% pharmacy, 13% advanced nursing, 11% each PT and SW, and 6% medical students. The majority of participants had little to no clinical experience, with the exception of the advanced practice nursing students. Four of these students had 0-5 years’ experience and two had 6 to greater than 10 years of experience. The other students were in the first, second, or third year of their professional training. The majority of students self-reported that they “learned” about IPE concepts in the clinic and/or the classroom (see Table 1).

### Attitudes towards Healthcare Teams Scale

Significant differences between pre and post scores on the Attitude Towards Healthcare Teams Questionnaire (ATHCT) were found for nine of the sub-scale items

**Table 1.** *Exposure to Interprofessional Education in Class and Clinic*

Prompt	Classroom Exposure	Clinic Exposure
I learned how to work with individuals of other professions to create a plan of care for an older adult	44.7% (n=21)	55.3% (n=26)
I learned how to apply the knowledge of my professions to appropriately assess and address health care needs of a patient with a life-limiting illness and their caregiver	78.7% (n=37)	57.5% (n=27)
I learned how to explain the role other professionals play in an interprofessional team	70.2% (n=33)	59.6% (n=28)
I learned how to communicate with other healthcare professionals, patients, and caregivers about the care of a patient with a life limiting illness	61.7% (n=29)	66% (n=31)
I learned how to 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	63.8% (n=30)	53.2% (n=25)
I learned how to facilitate and/or participate in a family conference for a patient with a life-limiting illness	48.9% (n=23)	48.9% (n=23)

(see Table 2). There were no significant differences on the ATHCT questionnaire for five of the items. A few findings warrant further explanation, as the descriptive statistics are needed to determine directionality. There was a significant difference found for the prompt, “In most instances, the time required for IP consultations could be better spent in other ways.” Most of the students disagreed (n=27) or strongly disagreed (n=12) prior to the workshop, with a movement towards more disagreement afterwards (disagree n= 18, strongly disagree n=23). Although it did not reach statistical significance, students indicated that interprofessional plan-

ning is not “excessively time consuming.” Prior to the workshop, 24 students disagreed or strongly disagreed that IP planning is time consuming compared to 31 post workshop. Participants also strongly disagreed or disagreed that IP care “unnecessarily complicate things.” More participants strongly disagreed or disagreed with this statement post workshop. There was also a small but non-significant shift towards disagreement with the statement that the IP approach makes the “delivery of care more efficient.” In total, these trends indicate that students did not find IP care planning and communication to be overly burdensome.

**Table 2.** Attitudes Towards Healthcare Teams \* = Interprofessional \**p* < 0.05  
Scale: 1 – Strongly Disagree; 2 – Disagree; 3 – Neutral; 4 – Agree; 5 – Strongly Agree

Prompt	N	Pre		Post		Within Person Diff.	
		Mean	SD	Mean	SD	Mean	SD
Patients/clients receiving IP* care are more likely than others to be treated as whole persons	45	4.13	0.98	4.51	0.87	-0.28*	1.03
Developing an IP patient/client care plan is excessively time consuming	46	2.54	0.81	2.39	0.88	0.15	0.84
The give and take among team members helps them make better patient/client care decisions	46	4.33	0.79	4.65	0.64	-0.33*	0.94
The IP approach makes the delivery of care more efficient	46	4.33	0.92	4.43	0.96	-0.11	1.06
Developing a patient/client care plan with other team members avoids errors in delivering care	46	4.17	0.95	4.43	0.69	-0.26	0.95
Working in an IP manner unnecessarily complicates things most of the time	46	1.85	0.79	1.83	0.88	0.02	0.86
Working in an IP environment keeps most health professionals enthusiastic and interested in their jobs	46	3.63	0.90	4.13	0.86	-0.50*	1.11
The IP approach improves the quality of care to patients/clients	46	4.50	0.75	4.74	0.49	-0.24*	0.77
In most instances, the time required for IP consultations could be better spent in other ways	46	2.00	0.92	1.78	1.11	0.22*	0.96
Health professionals working as teams are more responsive than others to the emotional and financial needs of patients/clients	45	3.83	0.90	4.36	0.80	-0.43*	1.20
The IP approach permits health professionals to meet the needs of family caregivers as well as patients	45	4.20	0.78	4.53	0.66	-0.24*	1.04
Having to report observations to a team helps team members better understand the work of other professionals	46	4.30	0.81	4.65	0.57	-0.35*	0.85
Hospital patients who receive IP team care are better prepared for discharge than other patients	46	4.07	0.90	4.35	0.87	-0.28	1.03
Team meetings foster communication among team members from different professions or disciplines	46	4.48	0.75	4.85	0.36	-0.37*	0.71

## Confidence, Importance, and Commitment Scales

In the pre and post confidence, importance, and commitment scales, there were significant improvements in confidence for seven of the eleven areas (see table 3). No significant differences were found in the following areas: “How important is verbally communicating with other health care professionals for you to be effective in your profession?,” “How important is communicating with other healthcare professions via written documentation for you to be effective in your profession?,” and “How committed are you to work on interprofessional communication skills during your training?” A significant difference was found for importance of communicating with other healthcare professionals via written documentation. No significant differences were found for the other two questions about importance of communication (see table 3).

Both the attitudes and confidence scales were internally consistent, with respective Cronbach alphas coefficients of 0.868 and 0.942.

## Written Documentation

Significant differences were found in students' confidence in writing an accurate and concise note ( $p < 0.0036$ ) as well as confidence in gleaning information from a discharge summary ( $p < 0.0085$ ; See Tables 4 and 5). Physical therapy and SW students were the most confident in their ability to write an accurate note prior to the workshop. However, advanced nurse practitioner students and medical students had the largest improvement in their confidence scores post workshop (see Tables 4 and 5). Prior to the workshop, PT and advanced practice nursing students rated themselves the highest in their ability to incorporate written notes into a plan of care. Social work students demonstrated the largest improvements in this area post workshop. Positive themes that emerged in the acute care summaries were: Complete and accurate medication summaries by both pharmacy and medical students, and accurate medical summaries by nursing and medical students. Informational gaps by all disciplines were seen in documentation of the patient's functional status. In addition, there was inadequate or inconsistent descriptions of social needs, and poor descriptions of patient teaching/learning needs in relation to medications and behavior change. In the scenarios where the SP refused discharge

to a rehabilitation setting, there was inconsistent documentation of this refusal. Themes from the analysis of the family meeting in the rehabilitation setting included; inconsistent documentation of other disciplines input, and inconsistent documentation of learning needs.

## Discussion

This one-day workshop was designed to provide safe practice and feedback for healthcare students regarding interprofessional collaborative care during a TOC. This study was novel in that it included issues surrounding transition to a rehabilitation setting as well as ambulatory care, whereas most studies have focused on physician hand-offs (King et al., 2013).

There were significant changes in pre- and post-test scores for the ATHCT questionnaire that were consistent with the goals of integrated IP care; enhanced decision-making, patient centered care, improved understanding of the expertise of each profession, and improving the overall quality of care (Table 2). A trend from the ATHCT indicated that students did not find IP care planning and communication to be overly burdensome. The results may not have reached statistical significance as we intentionally slowed down and drew out the process of team planning and communication to enhance learning. This structure may have given students the impression that IP communication takes up a significant amount of time.

## Confidence Scales

In the pre and post confidence scales, students significantly improved their confidence in seven of the eleven areas because of the workshop. Students felt more confident in their ability to participate in team meetings, communicate with other professions, explain their role, and apply their discipline specific knowledge to improve patient care. This is an important finding, as confidence in communication skills and knowledge of other professions has been shown to enhance collaborative practice in nursing and improve self-efficacy in other professions (Pfaff, Baxter, Jack, & Ploeg, 2014; Watters et al., 2015). This workshop focused on TOC, so the findings of writing and interpreting discharge notes was of particular importance. There were no significant changes in three scales regarding the importance of verbal communication to effective patient management, the importance of written communication, and commitment to working on IP communication skills

**Table 3.** *Pre and Post Workshop Confidence and Importance Scales* \*  $p < 0.05$  \*\* $p < 0.10$   
*Scale: 1 – Not Confident At All; 2 – Not Very Confident; 3 – Neutral; 4 – Somewhat Confident; 5 – Very Confident*

Prompt	Pre		Post		Within Person Diff.	
	Mean	SD	Mean	SD	Mean	SD
Overall, I feel confident I can work with individuals of other professions to create a plan of care for an older adult	3.75	0.87	4.23	0.81	0.72*	1.14
Overall, I feel confident that I can apply the knowledge of my profession to appropriately assess and address health care needs of a patient and/or their caregiver	3.87	0.84	4.23	0.79	0.53*	1.10
Overall, I feel confident I can explain the role other professionals play in an inter-professional team	3.49	0.87	4.06	0.96	0.72*	1.12
Overall, I feel confident I can verbally communicate with other healthcare professionals, patients, and caregivers about the care of a patient	3.96	0.80	4.34	0.70	0.55*	0.97
Overall, I feel confident I can 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	3.49	1.05	4.21	0.95	1.02*	1.29
Overall, I feel confident I can facilitate and/or participate in a family conference for a patient	3.42	1.06	4.06	0.89	0.79*	1.14
Overall, I feel confident I can accurately and concisely document a discharge note for a patient	2.91	1.28	3.40	1.10	0.62*	1.24
Overall, I feel confident I can incorporate information from a discharge summary note into my plan of care for a patient	3.14	1.27	3.80	1.15	0.79*	1.18
How important is verbally communicating with other health care professionals for you to be effective in your profession?	4.73	0.54	4.83	0.38	0.30**	1.10
How important is communicating with other health care professionals via written documentation for you to be effective in your profession?	4.75	0.59	4.72	0.58	0.68*	1.66
How committed are you to work on interprofessional communication skills during your training?	4.71	0.59	4.81	0.40	0.30**	1.16

**Table 4.** *Confidence in Writing an Accurate and Concise Discharge Note by Discipline*

Discipline	Average Pre	SD	Average Post	SD
	(n=44)		(n=46)	
NP	3.17	1.47	3.83	0.98
MD	2.00	1.41	3.00	1.00
OT	2.47	0.96	3.00	0.97
Pharm	2.88	1.46	3.50	0.93
PT	4.40	0.89	4.40	0.89
SW	3.20	1.30	3.60	1.67
All disciplines combined	2.91	1.28	3.40	1.10

**Table 5.** *Confidence in Incorporating Information from a Discharge Summary by Discipline*

Discipline	Average Pre (n=45)	SD	Average Post (n=47)	SD
NP	3.67	1.37	4.17	1.17
MD	3.00	1.41	3.67	1.53
OT	2.56	0.98	3.21	1.13
Pharm	3.13	1.36	4.00	1.07
PT	4.60	0.55	4.80	0.45
SW	3.20	1.48	4.40	0.55
All disciplines combined	3.14	1.27	3.80	1.15

while in training. Students rated these areas as very important prior to the workshop and sustained this commitment to IPE values throughout the workshop. There was shifting in the positive direction in all of these areas from important to very important or committed to very committed, underscoring the value students placed in these skills. These positive changes in attitudes and confidence are striking given that at least half of the participants already had exposure to IPE concepts in the clinic and in the classroom prior to the workshop. This indicates a novel finding that IPE teaching later in the training of healthcare professionals, even after clinic exposure, provides positive results and may extend student's ability to work on an IPE team.

#### *Documentation in Transitions of Care*

Two questions specifically targeted students' confidence in written documentation in TOC. There were significant differences in students' confidence in writing an accurate and concise discharge note and in their confidence in incorporating information from a discharge summary into the plan of care. Examination of discipline specific trends revealed that PT students were the most confident in writing and utilizing notes both prior to and after the workshop. PT students had recently completed a full-time eight week rotation, which may have bolstered their confidence. Nursing and medical students demonstrated the largest improvement in note writing confidence, while SW students had the largest improvement in their confidence in integrating discharge notes into the plan of care. These findings are important, as there are significant errors in TOC documentation that impact the health of patients. In a study by Karapinar-Carkit et al. (2014), only 46.6% of medi-

cation records in a community pharmacy were accurate after a discharge from acute care. Moreover, patient satisfaction and readiness for discharge improves with an interprofessional discharge planning process (Knier et al., 2015). Despite the students' overall self-rating of confidence in note writing and interpretation, the qualitative analysis revealed significant informational gaps. Overall, students demonstrated accurate summaries of medical information, but there was a lack of sufficient documentation of physical and functional status. In the scenarios where the SP refused a rehabilitation placement, there was inconsistent documentation of this refusal, which is an important aspect of complete documentation (Ngo, Patel, Chandrasekaran, Tajik, & Paterick, 2016). In student's open-ended responses to the prompt, "What did you learn from documenting a discharge summary," common themes were difficulty being concise, reliance on others for information, and the importance of documentation for continuity.

In the documentation of the rehabilitation team meeting, there was also insufficient integration of data from other disciplines, possibly indicating a continuation of working in parallel with other professionals instead of collaborating. Common themes in the open-ended question about integrating discharge summaries into their plan of care were: disparate terminology amongst healthcare professions, vague patient information, and missing information.

#### *Limitations*

ATHCT is a validated tool; however, some components did not align with the structure of the study, and the practice settings utilized. This may have limited the ability to detect differences in attitudes. The confidence

scale used was created by the authors and not validated. There was no intended analysis examining the relationship between this workshop and application of skills in a clinical setting, limiting the ability to determine if an IPE workshop translates into changes in the clinic, nor was there long term follow up. There was also selection bias, as some students volunteered for this workshop and may not be representative of the typical student body. Moreover, students' self-report of "learning" IPE prior to the workshop is difficult to interpret and may have primed them to have a positive experience with the workshop. The authors interpreted their reports of "learning about IPE" as exposure to the concepts of IPE prior to this study. Students were not informed that the IPE workshop intentionally slowed down interprofessional communication to enhance learning, giving the false impression that IPE collaboration may be time consuming. However, notifying the students of this before the study may have biased them in their attitudes towards IPE efficiency. Finally, the improvements in written communication should be interpreted with caution because of low subject numbers in each discipline.

## Conclusions

Research studies have focused on the TOC or "handoff" for physician and nurses, with little attention to other healthcare disciplines or settings outside of acute care and ambulatory care. This one-day workshop focusing on TOC to a mock rehabilitation or ambulatory care setting was effective in improving students' confidence in written and verbal communication and attitudes towards interprofessional healthcare teams. Future studies should focus on documentation and communication that is consistent with best practice guidelines that incorporate collaborative, patient-centered care. Future studies should also examine the translation of IP skills acquired in the classroom to behaviors and outcomes in clinical care.

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