Development and Evaluation of a Regional, Large-Scale Interprofessional Collaborative Care Summit

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The Northeastern/Central Pennsylvania Interprofessional Education Coalition (NECPA IPEC) is a coalition of faculty from multiple smaller academic institutions with a mission to promote interprofessional education. An interprofessional learning program was organized, which involved 676 learners from 10 different institutions representing 16 unique professions, and took place at seven different institutions simultaneously. The program was a 3-hour long summit which focused on the management of a patient with ischemic stroke. A questionnaire consisting of the Interprofessional Education Perception Scale (IEPS) questionnaire (pre-post summit), Likert-type questions, and open comment questions explored the learners' perceptions of the session and their attitudes toward interprofessional learning. Responses were analyzed using descriptive statistics and statistical tests for difference and qualitative thematic coding. The attitude of learners toward interprofessional education (as measured by the IEPS) was quite high even prior to the summit, so there were no significant changes after the summit. However, a high percentage of learners and facilitators agreed that the summit met its objective and was effective. In addition, the thematic analysis of the open-ended questions confirmed that students learned from the experience with a sense of the core competencies of interprofessional education and practice. A collaborative approach to delivering interprofessional learning is time and work intensive but beneficial to learners. J Allied Health 2015; 44(2):e23–e28.

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INTERPROFESSIONAL EDUCATION (IPE) is defined as the process where learners from two or more professions learn with, from, and about each other to improve collaboration and quality of care.[1] Ultimately, the goal of the interprofessional learning is to prepare all health professions learners to purposefully work together helping to build safer and improved patient-centered care.[2] Although much of the recent accomplishments and leadership in IPE in the United States comes from large universities and academic medical centers, the reality is the vast majority of health care providers are trained in colleges and universities located in areas of the country that are remote to these centers.

An overview of our regional approach to IPE has been published previously.[3] The NECPA IPEC represents 11 academic institutions with a common goal of providing interprofessional education to learners. The Coalition serves three large separate regions of northeastern and central Pennsylvania which include the metropolitan areas of Scranton, Wilkes-Barre, and Williamsport. The mission of the NECPA IPEC is to provide vision and leadership to foster and support interprofessional education in health care throughout the region (adopted 2010). The centerpiece of activities of the NECPA IPEC has been an annual Collaborative Care Summit. The Summit, held each spring since 2010, is designed to encourage learners from all of the membership areas to participate. In this paper, the development and outcomes of the 2013 Summit are described.

Methods

Summit Overview

The fourth annual NECPA IPEC Collaborative Care Summit was held concurrently, at seven different loca-

TABLE 1. Summit Learning Objectives

Upon completion of the Summit, the participants will:

1. Discuss the importance of working in cooperation with healthcare providers and others who contribute to or support the delivery of health services.
2. Compare and contrast the roles and responsibilities of other health care providers and how interprofessional teams work together to provide safe and effective patient care.
3. Reflect upon individual interpersonal communication skills, such as active listening, encouraging ideas and opinions of team members, and respect for others.
4. Describe the roles and responsibilities of effective interprofessional teams.
5. Recognize the importance of patient-centered care.

tions. Resources, including facilitator guide, videos and other information needed for planning and conducting the Summit have been published and are available for use or adaptation.[4] Attendees at the Summit were learners from 10 different colleges and universities in the region who are part of the NECPA IPEC. The learning objectives of the Summit are listed in Table 1.

The event began with a keynote presentation broadcasted live from The Commonwealth Medical College to the other six sites. After the keynote address, a learner-created video which highlighted the role of the various professions was presented. Subsequently, participants viewed a video created specifically for the Summit, depicting a middle-aged male experiencing an ischemic stroke at home.

At the conclusion of the video, participants were directed to their assigned small groups for discussion. These sessions were facilitated by one or two facilitators, primarily full-time faculty, each representing a different health profession. The small group discussion was designed to allow learners time to discuss the care needs of the patient's pre-hospital, hospital, and post-hospital experience. The 75-minute discussion focused on the importance of interprofessional collaboration and communication as important factors in caring for the health and well-being of patients. Following the small group sessions, participants regrouped to discuss lessons learned.

Summit Preparation

It takes several months to plan for the Summit. The first task is selecting a date that does not conflict with participating institutional schedules. The Summit is held from 4:00–7:00 pm to minimize conflicts with classes. There is a coordinator for each site (a person from the leadership team). The responsibilities of the site coordinators include recruitment of facilitators and identification of learners. Some institutions have more than one healthcare program so the site coordinators may be responsible for coordinating various programs within their institutions. Once the names of the facilitators and learners along with program affiliations are collected, it is sent to one of the three regional coordinators (also members of the leadership team). The regional coordinators are responsible for monitoring for appropriate numbers of participants (learners and facilitators) and distributing the participants to the various sites within their region. Site coordinators then assign participants to interprofessional groups with emphasis on compiling well-balanced groups that represent a variety of health care professions. The site coordinators are also responsible for reserving large and small group meeting space, ordering food, managing other logistics such as directions/parking, and on-site registration.

Communication with participants prior to the Summit is critical. Approximately 2 weeks prior to the event, an email letter is sent to all learner-participants. The letter consists of a general welcome, basic overview of the Summit, goals of the program, and the site assignment. One week prior, learners receive a reminder email. This email letter also included a link to a pre-Summit survey and a link to the NECPA IPEC webpage (www.necpaipec.com) where there is a special learner-page which contains optional pre-reading and directions to all the Summit sites. A final reminder is sent to learners 2 days prior to the event.

Facilitators are sent an email letter 2 weeks prior to the Summit. This communication includes learning objectives, an overview of the Summit, and a description of the facilitators' responsibilities. They are directed to the "Facilitator" area of the NECPA IPEC webpage which includes information for the facilitators.

The Case

The case study was developed by a group of interprofessional faculty members of the NECPA IPEC. The progressive case study is based on a middle aged-man who experiences a stroke in his home after returning with his wife from dinner. The case included relevant demographic, medical, and social information. During the small group discussion, the facilitators guide the learners through the case as the patient is transported from the home to the emergency department, diagnostics, hospital and post-hospital care. As noted earlier, the case is available for use and modification.[3]

Facilitators and Facilitator Preparation

Facilitators include primarily full-time faculty members from participating schools. Clinicians from the community and upper division level learners who previously participated in a Summit also serve as facilitators. In preparation, facilitators are instructed to download the case guide from the "Facilitators" section of the website. The case guide includes the basic details of the case as

well as many guided questions and answers to assist the facilitators in the small group discussion. The NECPA IPEC also created a brief online tutorial on facilitating small, interprofessional group discussions which is also made available on the website. At each site, facilitators are encouraged to come 1 hour early for "just-in-time" training. This training provides a review of the Summit program as well as the opportunity to receive answers to any questions, and to meet other facilitators.

Evaluation

Prior to the Summit, learners are sent an email link to a survey (SurveyMonkey.com) which consists of the Interprofessional Education Perception Scale (IEPS).[5] The IEPS is a psychometrically validated survey that includes 18 Likert-based statements to which the respondent identifies the level of agreement using a 6 item scale (1=strongly disagree, 2 disagree, 3 somewhat disagree, 4 somewhat agree, 5 agree, 6 strongly agree). The tool has four subscales: competency and autonomy, perceived need for cooperation, perception of actual cooperation and understanding others' roles. As originally conceived, weighted mean factor scores were used that were derived from actual factors in computing the scales. Concern about this computation approach has been raised by others.[6] Consequently, in this study, the averages from each subscale were derived and differences between groups were compared using analysis of variance.

One day after the Summit, e-mail letters are again sent to all participants (learners and facilitators) directing them to an online, anonymous post-Summit survey. The first part of the post-Summit survey, presents as a 5-point Likert scale (1=strongly disagree, 3 neutral, 5 strongly agree), and focuses on several aspects of the Summit including: organization, effectiveness, and overall quality. In addition, the learners are asked to repeat the IEPS survey to be used for pre/post comparisons. Learners are also asked open-ended questions relating to what they perceived to have learned at the Summit and how it will affect the way they practice. Reminder emails are sent 4 and 6 days after the Summit. The protocol was reviewed and approved by the IRB's from all participating institutions. Informed consent was obtained from each participant.

A *t*-test was used to compare potential differences in IEPS scores pre and post Summit. The data generated from the comment section of the survey were reviewed and coded by an experienced qualitative researcher and the common themes identified.

Results

Participants

Seven hundred twenty-four learners were expected at the program and 676 ultimately attended. Of the 48 learners who did not attend, 11 had contacted the NECPA IPEC prior. Reasons for not attending were varied but the most common was acute illness. One hundred nineteen facilitators attended the program. There were 10 academic institutions and 16 different health-related professions represented. Table 2 provides the distribution of learners based on their home institution and profession. Table 3 provides the distribution by profession. Nursing, physician assistant, pharmacy, and medicine ranked among the highest frequency of health professions in attendance.

TABLE 2. Distribution of Learners by Home Institution and Profession

Institution and Profession	Total No. of Learners
Johnson College	16
Medical Imaging (Radiologic Technology)	16
King's College*	46
Physician Assistant	46
Lock Haven University	9
Physician Assistant	9
Luzerne County Community College*	40
Nursing	26
Paramedic	14
Marywood University*	101
Athletic Trainer	2
Nursing	39
Nutrition	15
Physician Assistant	39
Social Work	6
Misericordia University*	156
Medical Imaging (Radiologic Technology)	1
Nursing	34
Occupational Therapy	17
Physical Therapy	44
Physician Assistant	17
Social Work	10
Sonography	3
Speech and Language Pathology	30
Pennsylvania College of Technology*	53
Dental Hygiene	6
Medical Imaging (Radiologic Technology)	8
Nursing	7
Occupational Therapy Assistant	7
Paramedic	10
Physician Assistant	10
Surgical Technology	5
The Commonwealth Medical College*	56
Medicine	56
The University of Scranton*	78
Nursing	28
Occupational Therapy	36
Physical Therapy	14
Wilkes University	121
Nursing	50
Pharmacy	71
Grand total	676

*Indicates institutions that served as site for Summit.

TABLE 3. Distribution of Learners by Profession

Profession	No. of Participants
Athletic Trainer (1)	2
Sonography (1)	3
Surgical Technology	5
Dental Hygiene (1)	6
Occupational Therapy Assistant (1)	7
Nutrition (1)	15
Social Work (2)	16
Paramedic (2)	24
Medical Imaging (Radiologic Technology) (3)	25
Speech and Language Pathology (1)	30
Occupational Therapy (2)	53
Medicine (1)	56
Physical Therapy (2)	58
Pharmacy (1)	71
Physician Assistant (5)	121
Nursing (6)	184
Grand total	676

The numbers in parenthesis refer to the number of unique programs at the Summit.

Survey Results

Six hundred four (83%) learners responded to the pre-Summit IEPS survey. Four hundred eighty-two learners and 95 facilitators responded to the post-event survey (71% and 80% response rates, respectively). Responses from 470 (70%) learners were evaluated, because 10 respondents did not give informed consent and 2 did not answer any questions. Nine learner respondents marked "other" for their profession. There was only 1 sonography learner respondent, so this learner was grouped in with the 9 "other" respondents. All facilitators gave informed consent. Seventy-four percent of learner-respondents indicated that the Summit was a required (versus elective) experience.

Table 4 shows the results of the post-Summit survey which focused on learner overall satisfaction and opinion on the quality of the Summit. Ninety-three percent (93%) of the facilitators agreed or strongly agreed that the case discussion approach was effective in teaching interprofessional concepts and 94% believed that they were provided enough guidance to facilitate the session. Of those that completed the online training module, 93% agreed or strongly agreed that it helped them prepare for the Summit. Ninety-six percent (96%) of the facilitators agreed that, overall, the program was effective and would recommend that the Summit be repeated for future learners. Further, facilitators found the Summit to be professionally rewarding (99%).

The results of the pre/post IEPS data are shown in Table 5. When comparing pre- and post-Summit values, there were no statistically significant differences for perceived autonomy, $t(1040)=1.401$, $p=0.162$, need for interdisciplinary cooperation $t(1040)=1.868$, $p=0.062$, actual cooperation $t(1040)=1.451$, $p=0.147$, and understanding the value of other professions $t(1039)=0.708$, $p=0.479$. There were no differences between professions.

Qualitative Analysis

The most common themes identified from the two open-ended questions include a greater understanding of the roles of other professionals and the importance of teamwork. Generated themes and exemplar quotes are listed in Table 6. Few learners commented on how the information learned at the Summit affected individual practice. When the effect on practice was mentioned, data indicated an awareness of advocating for understanding professional roles, communicating more

TABLE 4. Post-Summit Survey Results

Question	SA/A	N	D/SD
The Summit was well organized.	87.1%	7.9%	4.9%
The opening session increased my knowledge of IPE.	66.1%	16.8%	15.7%
The case-discussion approach was an effective way to teach interprofessional concepts.	81.7%	10.0%	6.8%
The facilitators in my small group were effective.	84.9%	6.6%	6.6%
The closing segment effectively summarized the learning points from the seminar.	70.8%	15.3%	12.1%
After attending the Summit I am able to discuss the importance of working in cooperation with healthcare providers and others who contribute to or support the delivery of health services.	88.4%	6.6%	3.9%
After attending the Summit, I am able to compare and contrast the roles and responsibilities of other health care providers and describe how interprofessional teams work together to provide safe and effective patient care.	88.0%	6.6%	4.3%
After attending the Summit, I am able to reflect upon individual interpersonal communication skills, such as active listening, encouraging ideas and opinions of team members, and respect for others.	87.1%	7.7%	4.4%
After attending the Summit, I am able to describe the roles/responsibilities of effective interprofessional teams.	89.9%	6.1%	3.9%
After attending the Summit, I am able to recognize the importance of patient centered care.	91.0%	4.4%	3.5%
I would recommend this Summit to other learners.	78.7%	11.8%	9.2%
Overall, this program was effective.	82.3%	8.3%	8.3%

SA/A = Agree Strongly / Agree; N = Neutral; D/SD = Disagree / Strongly Disagree.

TABLE 5. Results of Interprofessional Education Perception Scale (IEPS)

Subscale	Pre-Summit	Post-Summit
Competence and Autonomy	5.1	5.0
Perceived need for cooperation	5.3	5.2
Perception of actual cooperation	5.2	5.1
Understanding others roles	4.5	4.5

openly with other professionals, and being more willing to participate on healthcare teams to improve patient outcomes.

Discussion

This large-scale interprofessional effort spans not only across (many professions) and universities/colleges but also across a wide geographical area. Our program is also unique in the variety of professions included. The goal of our study was to determine student satisfaction and perception with the program and to determine if our program had an influence on the overall perception of IPE. In response to many of the questions regarding the organization and overall quality of the Summit, more than 80% of the students agreed or strongly agreed with each question. We did not detect a large difference in perception of IPE before and after the summit, most likely because attitudes (as measured by the IEPS) were already quite high even before the event. Results from the thematic, qualitative analysis of responses from learners was consistent with the quantitative survey data and suggests that learners were gaining from the experience in areas of the Core Competencies of communication, teamwork and roles/responsibilities.

There are many challenges to coordinating this type of event: beginning with the logistics such as site and room assignments through and including the learner assignments. Some programs require learner participation while others make it available on a volunteer basis. Late cancellations and "no-shows" appeared to be more common when participation in the Summit was on a volunteer basis. When a learner cancels with short notice or "no-shows" it changes the small group dynamic since the team discussing the case is now without representation of that particular discipline. This was the first year that a single keynote speaker was used and so technology issues were more complex and IT

TABLE 6. Qualitative Analysis Themes and Exemplar Quotes

1. Learning about the roles and responsibilities of other professionals (ROLES)
   - "The most important thing I learned during the Summit was the different **roles** of each profession and how they all fit together for the best **outcome** for the **patient**. I will be able to apply this to my practice by fulfilling my role as part of the **team**." (Nursing learner)
   - I learned "the unique **role** each provider play in order to reach the same goal." (Paramedic learner)
2. Learning about the importance of working together (TEAMWORK/COLLABORATION)
   - I learned that "**collaborative** care and teamwork results in the most efficient **patient outcomes**." (Medical learner)
   - "The most important thing I learned during the Summit was the different **roles** of each profession and how they all fit together for the best **outcome** for the **patient**. I will be able to apply this to my practice by fulfilling my role as part of the **team**." (Nursing learner)
   - "I learned that no one person on a healthcare team is an island. The best service **quality** for the **patient** comes when we work together." (Social work learner)
3. Learning about the necessity of interprofessional communication (COMMUNICATE/COMMUNICATION)
   - "I learned that all healthcare professionals must come together as a team and **communicate** to benefit the safety of the patient." (Medical imaging learner)
   - I learned "how important it is to **collaborate** and **communicate** clearly with all medical professionals to supply the **patient** with the most effective **care**." (Nutrition learner)
   - I learned that "in order to be an effective practitioner it is imperative for me to **collaborate** and effectively **communicate** with all departments involved in **patient care**." (Physical therapy learner)
4. Learning about the value of respect for each other's contribution to the healthcare team (RESPECT/TRUST/EQUALITY)
   - I learned "that everybody plays an important **role** in patient safety and care. Everybody should be treated with **respect**." (Surgical technology learner)
   - "I learned what each individual profession brings to patient care. Before the Summit I had little knowledge of what other professions actually did. I learned more about other health care professions and gained more **respect** for them." (Nursing learner)
5. Learning how teamwork and communication produce the best outcomes for the patient (PATIENT OUTCOME/QUALITY CARE)
   - "The most important thing I learned during the Summit was the different **roles** of each profession and how they all fit together for the best **outcome** for the **patient**. I will be able to apply this to my practice by fulfilling my role as part of the **team**." (Nursing learner)
6. Learning how to make the patient the center of the healthcare team (PATIENT CENTERED CARE/ADVOCACY)
   - "I learned about the importance of **collaborative** care and **communication** between medical healthcare professionals. It will help me to coordinate a **teamwork** approach that is **patient centered**." (Physician assistant learner)
   - "I learned about maintaining the **patient** as the **center** of **care**." (Pharmacy learner)
   - "I learned how important it is to have open lines of **communication** between all practices and professionals so we can achieve the highest level of **patient centered care**." (Speech language pathology learner)

issues probably detracted from the overall quality of the introductory part of the program. There is a relative imbalance of professions participating. For example, there were two or three nursing and physician assistant learners in every group but not nearly enough paramedic, social work and other learners for group equality. Despite having 16 unique professions at the Summit, learners commented that they wished there was more variety in their small groups.

There are limitations to this study. Although the IEPS is a validated survey, it is limited to learner perceptions rather than a measurement of a skill or other competency. As noted above, the IEPS data also indicate that the attitude of our learners prior to the Summit was already positive so demonstrating a change in perceptions is difficult. Other confounders in interpreting the IEPS results include different educational levels and different exposures to IPE early in their academic curriculum. Additionally, the survey data was all individual based. In IPE assessing the team or group experience is a new and pressing challenge. Competency of individuals has been at the forefront of assessment in health professions education but it is becoming more complex as we consider not only individual competence but competence of the team.[7]

Overall, the 2013 Summit was successful. Learners and facilitators reported a high level of satisfaction with the program. Freeth and colleagues suggest that an IPE initiative can be considered effective if it meets three criteria including: has positive outcomes, is at an acceptable cost, and without unacceptable side effects.[8] The Summit met each of these criteria which suggest that the initiative was effective. Evidence supporting the first criteria includes: survey results indicating that the participants (learners and facilitators) had positive reactions to the learning experience, and the results of the IEPS which suggest that the learners' perceptions were positive prior to the Summit and remained high at the end. Funds for the food and drinks were provided through the NECPA IPEC from annual contributions made to the Coalition from each member institution. There were costs in the form of faculty time and physical resources. The faculty time does not seem to be a factor based on the positive reactions of the faculty facilitators to the Summit. Locations for the Summit sites were based on the ability to comfortably hold a large number of participants. Since each site was not overbooked in terms of learners, the physical resources were not stressed. Scheduling the Summit far in advance is vital to providing the space necessary for the opening and closing sessions large group as well as the multiple small group break-out rooms. The results support that the learning which occurred may transfer to the learners' future workplace, suggesting no unacceptable (or negative) side effects. Taken together, the Summit was effective in both educational results and in cost. Inasmuch as it is generalizable across a variety of health professions institutions, academic centers looking to implement an IPE initiative may want to consider a similar Summit.

Conclusion

To our knowledge, this is one of the largest and certainly most diverse types of interprofessional learning experience. A challenge with any type of IPE event is scheduling IPE programs within the already full curriculum of healthcare programs. Initiatives such as the Summit demonstrate that these barriers are not insurmountable and that learners can benefit significantly.

The NECPA IPEC wishes to acknowledge the contributions of our many facilitator-volunteers who dedicate their time to our learners.

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