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Preparing Nursing Students for Interprofessional Practice: The Interdisciplinary Curriculum for Oncology Palliative Care Education

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Abstract

Interprofessional educational experiences for baccalaureate nursing students are essential to prepare them for interprofessional communication, collaboration, and team work. Nurse educators are ideally positioned to develop and lead such initiatives. The purpose of this article is to describe the development and implementation of an interprofessional education (IPE) project involving students in nursing, medicine, social work, and chaplaincy. The Interdisciplinary Curriculum for Oncology Palliative Care Education (iCOPE) project uses team based palliative oncology education as the framework for teaching students interprofessional practice skills. The need for IPE is apparent, but there are very few comprehensive, successful projects for nurse educators to use as models. This article describes the development of the curriculum by the interprofessional faculty team. Issues encountered by nursing faculty members as they implemented the IPE experience are discussed. Solutions developed to address the issues as well as ongoing challenges are presented. This project can serve as a model of a successful IPE initiative involving nursing students.

Keywords

interprofessional education; nursing education; health professions students; interprofessional practice

The Interprofessional Education Collaborative, a collaboration of key educational associations including the American Association of Colleges of Nursing (AACN), established core competencies for interprofessional collaborative practice which apply to all students of the health professions (Interprofessional Education Collaborative Expert Panel, 2011). Preparing baccalaureate nursing students to practice as members of interprofessional teams in alignment with the core competencies is a challenge facing nursing programs.

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Adding interprofessional education (IPE) to already crowded curricula, fostering the development of faculty, and building collaborative relationships with other schools are activities essential to IPE, but faculty and administrators of schools of nursing may lack the necessary time, resources, and commitment essential for successful IPE endeavors.

The need to meet the challenge of preparing nursing students to practice as members of interprofessional teams is evident as interprofessional collaboration leads to better health outcomes (Zwarenstein, Goldman & Reeves, 2009). The AACN has identified "Interprofessional Communication and Collaboration for Improving Patient Health Outcomes" as one of nine essential outcomes of baccalaureate education for professional nursing practice (American Association of Colleges of Nursing, 2008). Team work and collaboration are core pre-licensure competencies that nursing students should attain according to the *Quality and Safety Education for Nurses* (QSEN) initiative (Cronenwett, 2007). The key to preparing nursing students for interprofessional communication, collaboration, and team work may lie in interprofessional educational experiences in the baccalaureate program. IPE "occurs when two or more professions learn about, from, and with each other to enable effective collaboration and improved health outcomes" (World Health Organization, 2010, p. 13). Although the need for IPE is apparent, there are few successful models for IPE experiences particularly at the undergraduate level. This article describes the development and implementation of an IPE project involving students in nursing, medicine, social work, and chaplaincy. The project uses team based palliative oncology education as the framework for teaching students interprofessional practice skills.

Background

The Mandate for IPE

The need to educate health professions students collaboratively was recognized many years ago and has been cited as a way to improve patient outcomes, particularly those related to quality and safety (National Research Council, 2003). Evidence supports the notion that team delivered health care is more effective and efficient (National Academies of Practice, 2011). Recent reform efforts mandate team based, collaborative care as the healthcare model; thus, nursing students must understand and appreciate the roles of other professionals (Interprofessional Education Collaborative Expert Panel, 2011). Perhaps the most effective way to facilitate health professionals' understanding of the roles of other disciplines is to provide shared experiences for students during their initial educational program. Unfortunately, the education of the vast majority of health professions students, including nursing students, takes place in silos with very little interaction among the disciplines. Including IPE educational experiences as part of the transformation of nursing education was a resounding recommendation of *The Future of Nursing: Leading Change, Advancing Health* report (Institute of Medicine, 2010) but incorporating IPE experiences into existing nursing curricula is often daunting to nurse educators.

Understanding the meaning of IPE is imperative for its successful integration into nursing curricula. Numerous educational associations, including the AACN, partnered to form the Interprofessional Education Collaborative (IPEC) and jointly established Core Competencies for Interprofessional Collaborative Practice to guide IPE efforts

(Interprofessional Education Collaborative Expert Panel, 2011). Following the release of the core competencies, action strategies for implementing IPE were developed by the IPEC along with the Health Resources and Services Administration, the Josiah Macy Jr. Foundation, the Robert Wood Johnson Foundation, and the ABIM (American Board of Internal Medicine) Foundation. The four competency domains are values/ethics for interprofessional practice, roles/responsibilities, interprofessional communication, and teams and teamwork. Table 1 lists the IPEC core competency domains and identifies specific competencies addressed in this IPE project. Competencies and strategies for IPE are clearly outlined; however, developing and implementing IPE activities at the grass roots level is challenging for a wide variety of reasons. Barriers to IPE include difficulty scheduling students, lack of funding, inadequate faculty preparation, scarcity of collaborators across disciplines, and insufficient administrative support (Abu-Rish et al., 2012; Busen, 2014).

The literature contains a few examples of IPE endeavors that include baccalaureate nursing students; however, most endeavors have been on a one-time basis for a limited number of students and often involving students from only two professions. Examples of ongoing IPE experiences that were a mandated part of the required curriculum for all nursing, medical, social work and chaplaincy students were not found in the literature. In this article, we share the development and implementation of our mandatory IPE project involving senior baccalaureate of science in nursing (BSN) students as an example of the possibilities that exist for IPE initiatives.

The Mandate for Education in Oncology Palliative Care

A core tenet of palliative care is interdisciplinary, team-based care (World Health Organization, 2014). (Note: interdisciplinary, as opposed to interprofessional, is the commonly used terminology in palliative care). The focus on team-based care has gained considerable momentum in recent years partly due to the approaches encouraged by the Patient Protection and Affordable Care Act which underscores the need for collaboration among disciplines to deliver safe, effective health care (Kaprielian & Dean, 2013). Team-based interdisciplinary care has been the practice of hospice and palliative care organizations since the inception of the modern hospice movement in the late 1960s. In the past several years, leading cancer care organizations such as the Association of Clinical Oncology (Smith et al., 2012) and the National Comprehensive Cancer Network (National Comprehensive Cancer Network, 2014) recommended the integration of palliative care throughout the cancer trajectory. Many, if not most, of today's healthcare professionals work directly or indirectly with cancer patients or patients having cancer as a co-morbidity and should be familiar with the concepts and essential nature of palliative care. In addition, the World Health Assembly recently passed a resolution calling for the integration of hospice and palliative care into national health services and the inclusion of palliative care in all national health policies and budgets and in the curricula for health professionals (World Health Assembly, 2014). Palliative care is becoming an essential component of healthcare in America and throughout the world making it critical that those entering the health professions understand the principles and practices of quality palliative care across the continuum of healthcare.

When considering IPE approaches, using palliative oncology care as the framework for teaching interprofessional competencies combines essential training in both palliative care and team-based practice. Over the years, palliative care has developed standards of practice and evidence-based knowledge related to interdisciplinary communication, collaboration, and techniques (such as giving bad news and conducting family meetings) which serve as a foundation to IPE. The marriage of IPE and palliative care allows for dual benefits and joint synergy in teaching two important aspects of contemporary healthcare practice -- interdisciplinary practice and palliative care principles.

Project Development, Implementation and Evaluation

Proposal Development

An interprofessional team met and strategized to design an IPE experience focused on palliative oncology care. The team, consisting of representatives from nursing, medicine, and social work, had previously collaborated on several palliative care education projects. Team members quickly identified chaplains as key members of palliative care teams; thus, chaplains from the university affiliated hospital were asked to join the team. The team went to work preparing a proposal to fund the project. Representatives from all of the disciplines were involved in each step of proposal development. Numerous activities considered key to a well-developed proposal were completed prior to submission (Table 2). The proposal was written as a collaborative effort of all included disciplines and involved numerous meetings as well as half day retreats. A proposal was submitted to the National Institutes of Health and a Cancer Education Grant was received from the National Cancer Institute for a five-year period. The aims of the project were to: (1) design and implement an innovative interdisciplinary oncology palliative care curriculum for nursing, medical, social work, and chaplaincy students that was sustainable and patient-centric; and (2) develop an evaluation system to measure the effectiveness of the curriculum and learner outcomes. The IPE project focused on palliative care content for the advanced cancer patient as well as collaborative practice as a member of an interdisciplinary team. After much deliberation, the team decided that the students involved would be fourth year BSN students, third year medical students, master's level social work students whose emphasis of study was health care social work, and chaplaincy residents completing a Clinical Pastoral Education program. Core tenets of the curriculum were agreed upon and included: use of innovative as well as traditional educational modalities; avoidance of redundancy of content already in established curricula; strong learner to learner interaction; use of novel teaching modalities; mandatory completion by all students; portable and sustainable; driven by evidence and best practices; and demonstration of palliative care's core principles of holistic care.

The project included one year for planning and year two for pilot implementation of the curriculum. In years three and four, we continued curriculum implementation, conducted formative evaluation, and made revisions to the curriculum. The focus of the final year was on data analysis and dissemination of findings.

The framework chosen to guide curriculum development was based upon the Clinical Practice Guidelines for Quality Palliative Care developed by the National Consensus Project for Quality Palliative Care (National Consensus Project, 2013). These guidelines address

eight core domains of care: structure and processes; physical aspects; psychological and psychiatric aspects; social aspects; spiritual, religious and existential aspects; cultural aspects; care of the patient at the end of life; and ethical and legal aspects. Because of the project's strong focus on teamwork and collaboration, interdisciplinary communication content and skills were woven throughout the entire curriculum. Each domain was reviewed and student core competencies were determined for each one by the team. Following identification of student competencies, interdisciplinary learning objectives were developed using various palliative care and oncology clinical guidelines as well as professional standards and competencies for the various disciplines. Table 3 provides an example of content areas, corresponding objectives, and student learning outcomes.

IPE Curriculum Development

Following notification of funding, the core interprofessional team recruited others to join from the various disciplines. One nursing faculty member and a faculty member from the School of Medicine who was a registered nurse were members of the core interprofessional team that wrote the original grant. Two more nursing school faculty members were asked to join to provide greater nursing representation. The team began meeting as a whole to strategize on project implementation. The name iCOPE (**I**nterdisciplinary **C**urriculum for **O**ncology **P**alliative care **E**ducation) was chosen, and the team was termed the iCOPE Council. Subgroups were formed to develop the curricular components (i.e., didactic modules, clinical rotations, interdisciplinary learning activities). Each discipline was represented on every subgroup with the exception of the evaluation subgroup. Because of the uneven number of faculty members from each discipline (weighted in the following order: medicine, social work, nursing, and chaplaincy), some members served on more than one subgroup. An online education-based platform site was created for sharing documents and files among the team members and subgroups.

It was quickly realized that a great deal of “ground work” had to be accomplished prior to developing the curricular components. Each discipline completed a curriculum review related to palliative care and team work/collaboration to avoid redundancy between discipline specific curricula and the iCOPE curriculum. In addition, it became obvious that iCOPE council members were not aware of curriculum specific criteria related to each discipline such as levels of education, paths to a degree, scope of practice, curriculum structure, scheduling of classes, program/course content, and number of students. A representative from each discipline presented this information to council members so all team members had a better understanding of each discipline's educational structure, processes, and policies. Subgroups met frequently to develop the curricular components. The iCOPE Council met monthly to keep team members abreast of the development of each learning activity and to elicit their input.

Expert Consultant Evaluation and Subsequent Curriculum Changes

Sixteen months after the Council began the initial work of developing the curriculum, four nationally recognized palliative care content experts, one from each discipline, reviewed the curriculum and spent a day with the iCOPE team to provide feedback. The discussion that took place during the daylong meeting resulted in major revisions of the curricular

components as well as clarification of the purpose of the iCOPE curriculum. The most salient contribution was clarification of the ultimate goal of the curriculum. After lengthy discussions, the team agreed that the goal was to provide palliative care content applicable to many care settings and prepare students to work collaboratively as an interdisciplinary team member, regardless of practice setting. The overarching goal of the curriculum was finalized: After this experience, the learner will be able to apply the general principles of interdisciplinary palliative care to patients affected by cancer. Next, the curricular objectives were developed. In the care of cancer patients with advanced disease, the objectives were to provide students with the opportunities to develop the knowledge, skills, and attitudes needed to:

- work effectively with colleagues of multiple professions, across multiple settings
- provide effective physical care to address palliative care needs
- provide patient/family-centered care that addresses their unique psychological, spiritual, social, and cultural resources and needs
- identify and address ethical and legal issues
- communicate effectively with patients, families, and colleagues

All curriculum learning objectives were tied to student learning activities and outcomes.

Clarification of the purpose of the iCOPE curriculum and the objectives allowed restructuring of the curricular components to assure a generalist, palliative care focus. In addition, content and experiences related to providing team based, collaborative care was strengthened throughout the curriculum. Although some objectives and learning activities were revised, commitment to the original core tenets of the curriculum remained. Following the visit with the expert consultants, learning activities were streamlined. The final curriculum consisted of four distinct components: four online didactic modules, a palliative care clinical experience, a critical reflective writing assignment, and an interdisciplinary case management experience. The iCOPE curriculum was piloted for one year to obtain student and faculty feedback. Students gave feedback via online evaluations. In addition, student focus groups and focus groups of faculty involved in the project were conducted to solicit additional feedback regarding the student's experience with the curriculum. Each of the curricular components, including changes that resulted from the evaluations, is described below.

Online didactic modules—Initially, 16 topic-based modules were developed. Topics were chosen based upon a review of the topics taught in established palliative care training programs (such as Education in Palliative and End-of- Life Care for Oncology [EPEC™-O] (Education in Palliative and End-of-Life Care Project, 2013) and the End-of-Life Nursing Education Consortium Core Curriculum [ELNEC-Core] 5American Association of Colleges of Nursing, 2015). Two factors led to a significant rewrite of the didactic modules: the decision to focus on teaching generalist versus specialist palliative care principles and the realization that completion of 16 modules was not practical or feasible for the students. The revised modules were written in accordance with problem-based learning principles. One module focused solely on the interdisciplinary team and used patient scenarios to illustrate

interdisciplinary care planning. The other three modules were built around three unique patient cases: an upper class retired male diagnosed with advanced colon cancer; a Hispanic horse farm worker with advanced pancreatic cancer; and an Islamic woman diagnosed with advanced lung cancer after being involved in a motor vehicle accident. In these case-based modules, the core concepts of generalist interdisciplinary palliative care are integrated as the patient scenario evolved. Softchalk© was used to create the modules. This software allows for insertion of links to other sites, video clips, and insertion of quizzes and interactive activities.

Palliative care clinical experience—The length and intensity of the clinical rotations varied by discipline. Originally students were to do clinical experiences as a team with representatives from all four disciplines. This was not feasible because of unequal numbers of students from each discipline, lack of clinical sites that could accommodate teams of students, and the vast differences in schedules among the disciplines. As an alternative to attending clinical as part of a team, the nursing students were assigned to spend two clinical days (8 hours each) following a palliative care nurse. This experience was observational (as opposed to providing direct patient care). Students were encouraged to talk with patients and families but were not expected to do hands-on care. Students were given questions to address in their reflective writing assignment related to their observations of interdisciplinary care and each discipline's role on the team. Sites for the nursing students' experiences included a hospice in-patient unit, hospice homecare, inpatient palliative care units in both a private and a Veteran's hospital, and inpatient palliative consult teams (adults and pediatric facilities).

Based upon formative evaluation, the nursing clinical experience was altered after the first pilot year of the project. The student experiences varied widely; some students observed excellent team based palliative care but others had limited exposure due to the timing of their experience. Because of the variability in experiences, the time spent at the clinical site was decreased to one day and all nursing students watched a documentary detailing the hospice care provided to three very different patients. This change ensured that all nursing students had significant exposure to team-based end-of-life care.

Critical reflective writing assignment—Students wrote a critical reflection in which they briefly described their observations about one patient during their clinical rotation or in the documentary film. They discussed and critiqued the care provided by the team and shared what they learned from the experience and how it will impact their future practice. Faculty members provided written feedback to the students. Next, students met in interprofessional groups with a faculty member and discussed their observations and the impact of the clinical experience. To prepare faculty to respond to student reflections, iCOPE faculty members attended a faculty development seminar prior to their participation in this part of the curriculum. This was instrumental because experience with reflective writing assignments varied among the faculty members.

Interdisciplinary case management experience (ICME)—This experience focused on teaching students of the four disciplines to deliver patient-centered care and use evidence-based practice in a simulated real-life environment. Students worked together face-

to-face in the classroom in interdisciplinary teams to plan care for a patient with advanced cancer. Each team had at least one representative from each discipline (nursing, medicine, social work, and chaplaincy) and an iCOPE faculty facilitator. After the team development exercises, a written patient case study was shared followed by video clips in which the various disciplines interacted with the case study patient depicted by a standardized patient. Students identified patient issues from their discipline's perspective viewing the patient in a holistic manner. Students also observed a videotaped family meeting involving the patient and the patient's family. The meeting was conducted by an interdisciplinary team portrayed by iCOPE faculty. Students put themselves in the place of the professional from their discipline and worked together as an interdisciplinary team member on several interactive activities including assessment, care planning, and critiquing of the observed video interactions. As with the didactic modules, three diverse cases were developed to be used during ICME. These included: a divorced, retired school teacher and single mother who has advanced breast cancer and cares for her child with Down's Syndrome; a middle-aged banquet planner with advanced lung cancer and financial concerns and who is the father of two and divorced from their mother and remarried; and an elderly gay man with metastatic prostate cancer whose partner of over 30 years and healthcare surrogate is not well accepted by his children.

As with the other curricular components, the structure of the ICME learning activity evolved over time based upon formative evaluation. Initially, the students completed ICME in two separate sessions and were to write a progress note on an observed clinical interaction between the two meeting times. This proved inconvenient and unnecessary; students were required to be on the campus twice, and it was not the home campus of the social workers and chaplains. Therefore, content was condensed into one longer session and coupled with the critical reflection groups requiring students to travel only once rather than three times to complete both activities. The total time required was one hour for reflective writing discussion and three hours for ICME which included time for writing the progress note.

By using case-based, problem focused teaching methods in the didactic modules, providing clinical experiences in which students observed and participated in team-based, collaborative care, and conducting sessions in which students participated as members of an interdisciplinary team, we were able to imbed the competencies established by IPEC throughout the curriculum. We are currently finishing the second year of full implementation of the iCOPE project. To date, a total of 253 nursing students, 186 medical students, 71 social work students, and 34 chaplaincy residents have participated. Formative evaluation is ongoing. Pre and posttests of students completing the curriculum have revealed statistically significant positive changes on two standardized scales measuring readiness for interprofessional learning and end-of-life professional caregiver skills.

Challenges and Recommendations

This discussion focuses on issues encountered by nursing faculty members as they implemented the IPE experience for baccalaureate nursing students. Solutions developed to address the issues and ongoing challenges are discussed.

Curriculum Development

The task of curriculum development began with deciding what content to teach and how. It was apparent that getting learners from all disciplines together in one room would be difficult; therefore, face-to-face contact was reserved for team based work. Online modules were chosen as the method to deliver didactic content. Deciding what to teach was a more difficult task. Curriculum reviews done by each discipline indicated the amount of content related to palliative care principles and teamwork varied dramatically between the disciplines. Not surprisingly, nursing and medicine had palliative care content in their existing curricula. All disciplines had varying degrees of content on teamwork and communication skills.

Developing content for IPE experiences presented issues not encountered when developing content for one discipline. Each student comes with a different knowledge base, particularly if they have progressed well into their discipline's curriculum. Duplication of content must be avoided if students are to view the IPE experience as “value added”. Content that is too basic will bore students, but content that is too advanced may lead to student frustration. The original 16 online modules were lengthy and contained a great deal of content, some of which was redundant for nursing students. Even after the reduction to four modules, some students admitted they “skimmed” the information. Social work and chaplaincy students indicated there was too much in-depth medical/nursing information. Changing to shorter, case based modules with medical/nursing content made optional for social work and chaplaincy students using branching techniques available through Softchalk©, proved to be a good solution.

Perhaps the greatest issue related to curriculum development was agreeing upon the level of detail of content. For example, what depth of information do nurses need to have regarding spiritual assessment? How much expertise do chaplains need regarding symptom management? Reconciling the issues of “need to know” and “nice to know” was a lengthy process. Each faculty member brought their own discipline's perspectives and teaching methodologies, and it was often painful to “let go” of content and experiences. The external consultants were instrumental in helping the team collaborate and negotiate regarding content and experiences. In addition, student evaluations from the pilot year provided valuable information related to appropriate depth and amount of content.

The faculty development activity related to reflective writing was extremely useful for team members who had not previously participated in similar learning activities. Areas of faculty development that were not included but would have been helpful were learning to teach as part of an interprofessional team and being an effective group facilitator. For many teams instituting IPE, these may be areas that would need considerable attention if team members lack these skills.

Curriculum Placement

Incorporating parts of the iCOPE experience into each of the four semesters of the upper division curriculum was discussed. The decision to have students participate during their final semester was made for several reasons. Coordinating approximately 70 nursing

students each semester to participate in the IPE project was very difficult. Organizing four different classes of approximately 70 nursing students each was deemed impossible. Incorporating the project across the curriculum would also dramatically increase the number of faculty members who must understand, support, and participate in the experience. Having the iCOPE project solely in one course allowed two baccalaureate nursing faculty members serving as “champions” for this project to integrate it into the course and propel it to success. iCOPE involves graduate level students from the other three disciplines: third and fourth year medical students, graduate social work students, and chaplains doing a residency. Nursing students in their final semester were the most prepared and confident to participate in the project with graduate level students without being intimidated or overwhelmed. This proved to be true, as nursing students contributed freely during the team based ICME discussions, often emerging in a leadership role. While having the IPE experience solely in one course has worked well because of logistics, it was an ongoing challenge to keep nursing faculty members not involved in that course aware and supportive of the IPE project.

Scheduling

A daunting challenge of this IPE project was scheduling face-to-face interprofessional sessions with four disciplines, each with its own unique academic calendar. Medical students operate on a 12 month calendar and while they are tightly scheduled to follow a continuously rotating clinical schedule, they were available for IPE activities over many months compared to baccalaureate nursing students who were available for only a few weeks during academic semesters. The academic calendar for the school of social work differs from both nursing and medicine. This compresses the available time to schedule IPE face-to-face sessions.

In addition to the difference in the disciplines' schedules, the manner in which student schedules are devised varies among the disciplines. Our nursing program operates under a credit hour/contact hour ratio and there are limited hours that can be required. Other students involved in our iCOPE project do not have credit hour/contact hour restrictions and can more easily add hours for the iCOPE project. Students of medicine and chaplaincy are more likely to be on campus full time, as opposed to nursing and social work students who may be on campus only one or two days a week or may be employed outside their academic commitment. Nursing students were completing a 200 hour precepted clinical experience during the semester they were involved in the iCOPE curriculum. Coming to campus for a one or two hour iCOPE experience in the middle of the day caused them to miss an entire 12 hour shift in the clinical setting. Recognition of these issues led us to consolidate the face-to-face activities to one day. The iCOPE Council of faculty members met regularly to create, revise, and re-revise schedules to benefit all students' different academic needs. This approach and spirit of cooperation was successful in planning iCOPE sessions throughout the academic year.

Scheduling has been consistently reported as a continuing challenge to IPE (Barnsteiner, Disch, Hall, Mayer, & Moore, 2007; Conrad, Gray, & MacRae, 2012; Interprofessional Education Collaborative Expert Panel, 2011); yet, despite the longevity and persistence of

this challenge, few solutions have been offered in the literature. A few universities have moved to an academic calendar that is common to all disciplines (Interprofessional Education Collaborative Expert Panel, 2011). This option is not feasible for many schools and would likely not be practical for institutions that need to share resources for IPE. Blended learning approaches using some online asynchronous strategies with common clinical experiences reduce the time needed for face-to-face learning experiences as we learned in this IPE project. Nonetheless, some face-to-face sessions must be included to allow students to practice important skills needed for interprofessional practice.

The development of a separate college credit course for IPE in which all disciplines are enrolled to work together could be used to address scheduling difficulties. Diverse approaches are described in the literature including the use of a defined IPE course as the vehicle for bringing interprofessional student groups together (Church et al., 2010; Gonzales, Gangluff, & Eaton, 2004; Russell & Hymans, 1999). Developing an IPE course or courses would assure academic administrative support including the provision of resources such as faculty time and designated space and provide a regularly scheduled time and place for interdisciplinary classroom activities.

Partnering with Other Disciplines

Social work and chaplaincy programs have small numbers of students compared to the medicine and nursing programs. The uneven number of students presented difficulties for the face-to-face reflective writing and ICME sessions. In fact, pilot year data revealed students' dissatisfaction when all disciplines were not represented during team based activities. This feedback demonstrated the value students place on interprofessional team work, but raised the issue of how to equalize representation with such disparate numbers of students. To address this issue, we recruited social work students and chaplain residents to attend multiple sessions. Another solution used in the ICME activity was having a faculty member represent a discipline; sometimes their own discipline, but often a different discipline. For example, if a chaplain was not present, a nursing faculty member might have served in that role. The process was made easier by having discipline specific assessments and progress notes available for faculty members who were role playing a different discipline. Neither of these solutions was ideal as it is best to have equal student representation if at all possible.

Nursing programs not situated within health science centers have less opportunity for their students to collaborate with students in other disciplines (Institute of Medicine, 2010). A possible solution for these schools may be to develop a relationship with nearby colleges or universities with professional schools that can provide this experience. Schools of nursing may partner with a professional school virtually. Conferencing software is available that allows synchronous student activities. Asynchronous activities can be arranged using blogs or discussion boards.

Outcomes Measurement

Students across disciplines (pharmacy, nursing, medicine, social work) tend to express positive attitudes toward interprofessional teamwork (Curran, Sharpe, Forristall, & Flynn,

2008). While attitudes toward IPE have been examined, there is a paucity of randomized controlled studies evaluating outcomes of IPE (Lapkin, Levett-Jones, & Gilligan, 2013). Therefore, it is essential that projects include detailed evaluation plans to measure the impact of the experience.

A detailed evaluation plan was in place for the iCOPE project. Students evaluated all aspects of the project including each curricular component as well as the overall iCOPE experience. In addition, data were collected using standardized instruments to measure palliative care educational needs, self-efficacy perceptions related to learning on interprofessional teams, and palliative care knowledge. Analysis of these data will be completed at the end of the project. This comprehensive evaluation should advance the knowledge related to IPE.

Finding psychometrically sound instruments to measure IPE related outcomes was an issue. Different health professions and even specialties within those professions have discipline specific competencies by which they evaluate outcomes, but those competencies do not and cannot encompass the broad scope of IPE and practice. IPE assessment tools that broadly evaluate the interprofessional approach are needed. Curricula must be rigorously evaluated to ensure that core competencies common to all the health professions are being met. The degree to which curricula content interfaces with and compliments the five core competencies of the Institute of Medicine for all health professionals (Committee on the Health Professions Education Summit, 2003), and the four domains for interprofessional collaborative practice developed by IPEC (Interprofessional Education Collaborative Expert Panel, 2011) must also be evaluated.

As with the majority of studies related to IPE (Abu-Rish et al., 2012), all of our outcomes were measured only while students were participating in the iCOPE project. An ongoing issue with IPE is measuring long term effects. Future research that examines the long term effects of student participation in IPE experiences is needed.

Sustainability

Instrumental to the success of the iCOPE project was the NCI funding that supported faculty release time and a full time project director. Grant support was not divided equally by discipline for the iCOPE project and this presented issues related to division of labor. Two baccalaureate nursing faculty members championed the incorporation of the iCOPE content into the curriculum because they valued IPE as well as the area of palliative care even though they did not have grant support. Faculty members in other disciplines participated without salary support for release time. The team's commitment to IPE and palliative care undergirded the effort put forth by the various faculty members.

As the end of our grant funding approaches, we face the challenge of sustainability of the IPE activities in the curriculum. IPE activities may be viewed as “extra” experiences that are “nice to have” but not a necessity. The message is clear that IPE is not an option for nursing or education of other health care professionals. AACN (American Association of Colleges of Nursing, 2008) includes IPE in BSN Essential I and support for IPE from academic administration is a recommendation of the Institute of Medicine's *Future of Nursing: Leading Change, Advancing Health* report (Institute of Medicine, 2010). An analysis of

accreditation documents for 10 health professions identified 60 statements significant to IPE (Zorek & Raehl, 2013). The iCOPE team has met with the deans of nursing, medicine, and social work and discussed plans to sustain IPE at the end of the grant period. Institutional support for faculty and staff time to ensure the iCOPE curriculum can continue to be implemented is being sought. Funding mechanisms for developing and testing new methods of IPE are needed (Institute of Medicine, 2010). Before we can expect nursing faculty to develop and implement IPE, faculty development is needed to increase their comfort in instructing students from other professions.

Conclusion

Interprofessional practice plays a key role in the success of health care reform (National Academies of Practice, 2011). No longer can health professionals be educated in silos and be expected to function as effective interdisciplinary team members in today's complex health care environment. Nurse educators are ideally positioned to develop and lead IPE initiatives. Success will ultimately be measured by sustainability and long term outcomes. It is hoped that this project serves as a model for the development and implementation of successful IPE initiatives involving nursing students.

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Highlights

- Interprofessional education prepares nursing students for collaborative practice.
- A model of a successful interprofessional education project is presented.
- Solutions to the various barriers that were encountered are discussed.
- Nurse educators can use this model when designing interprofessional education.

Table 1
IPEC Competency Domains and Related Competencies Addressed by iCOPE Curriculum

Domain	Related Competencies Addressed in the iCOPE Curriculum Content and Activities
Values/Ethics for Interprofessional Practice	Place the interests of patients at the center of interprofessional healthcare delivery.
	Embrace the cultural diversity and individual differences that characterize patients and the team.
	Respect the unique cultures, values, roles/responsibilities and expertise of other healthcare professionals.
	Demonstrate high standards of ethical conduct and quality of care in contributions to team-based care.
	Maintain competence in one's own profession appropriate to scope of practice.
Roles/Responsibilities	Communicate one's roles and responsibilities clearly to patients, families, and other professionals.
	Recognize one's limitations in skills, knowledge, and abilities.
	Explain roles and responsibilities of other care providers and how the team works together to provide care.
	Communicate with team members to clarify each member's responsibility in executing components of a treatment plan.
	Use unique and complementary abilities of all members of the team to optimize patient care.
Interprofessional Communication	Express one's knowledge and opinions to team members involved in patient care with confidence, clarity, and respect, working to ensure common understanding of information and treatment and care decisions.
	Listen actively, and encourage ideas and opinions of other team members.
	Recognize how one's own uniqueness, including experience level, expertise, culture, power, and hierarchy within the healthcare team, contributes to effective communication, conflict resolution, and positive interprofessional working relationships.
	Communicate consistently the importance of teamwork in patient-centered and community-focused care.
Teams and Teamwork	Describe the process of team development and the roles and practices of effective teams.
	Engage other health professionals in shared patient-centered problem-solving.
	Integrate the knowledge and experience of other professions to inform care decisions.
	Share accountability with other professions for outcomes relevant to healthcare.
	Use available evidence to inform effective teamwork and team-based practices.

Adapted from Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel. IPEC, May 2011.

Table 2
Key Activities Prior to Proposal Submission

Obtained commitment from deans and key faculty from each school in support of the IPE initiative.
Developed clear aims for the project including a framework for curricular development, student objectives/core competencies and learning activities.
Conducted an assessment survey of current students to justify the perceived need among students for IPE experiences.
Designed a detailed formative and summative evaluation plan.
Identified content experts to serve as consultants during curriculum development.

Table 3
iCOPE Curriculum Vision, Goals and Objectives

Content Area	Curricular Learning Objectives	Student Learning Outcomes
	In the care of patients with advanced cancer, provide students with opportunities to develop knowledge, skills & attitudes needed to:	By the end of this curriculum the student will be able to:
Collaboration	work effectively with colleagues of multiple professions, across multiple settings.	initiate an interdisciplinary collaboration in the care of a patient.
		distinguish the roles & contributions of disciplines on an interdisciplinary team (IDT) in the care of a patient.
		demonstrate the ability to work effectively on an IDT.
		compare & contrast the range & value of various venues for palliative care.
		value the roles & contributions of members of an IDT.
Physical Care	provide effective physical care to address palliative care needs.	assess the physical symptoms affecting the patient.
		formulate discipline specific interventions addressing physical symptoms.
		construct an interdisciplinary plan of care for addressing physical symptoms.
Psychosocial, Spiritual & Cultural Care	provide patient/family-centered care that addresses their unique psychological, spiritual, social & cultural orientation & needs.	assess the psychosocial, spiritual, & cultural needs & resources of the patient & family.
		formulate specific interventions addressing psychosocial, spiritual & cultural needs of the patient & family.
		construct an interdisciplinary plan of care for addressing psychosocial, spiritual & cultural needs of the patient & family.
Ethical/Legal	identify & address ethical & legal issues impacting patients & families dealing with advanced cancer.	apply ethical & legal principles to the practice of palliative care.
		recognize how one's own values, beliefs & feelings influence practice.
Communication	communicate effectively with patients, families & colleagues.	demonstrate effective communication skills in interactions with patients, families & colleagues.

Vision: iCOPE will employ both innovative and traditional educational modalities; include strong learner-to-learner interaction; avoid redundancy of established curricular components; be novel, mandatory, centrally driven, portable and sustainable; reflect best practices; demonstrate palliative care's core principles of holistic care; and integrate interprofessional learning and practices.
Overarching Goal: After this experience learners will be able to apply general principles of interdisciplinary palliative care to those affected by cancer.