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Abstract

Purpose: The purpose of this article is to describe the processes of exploring and implementing an academic-clinical study, engaging nursing staff in

research, and maintaining their enthusiasm within the context of an academic-clinical research partnership.

Description: The core competencies of the clinical nurse specialist (CNS) role address evidence-based practice, quality improvement, and research. Studies and exemplars of the CNS role in the literature illustrate expert practitioner and facilitator of evidence-based practice, but less attention is given to methods used by the CNS to engage staff in clinical research.

Outcome: The CNS was successful in obtaining staff engagement in the research project from exploration through sustainment.

Conclusion: Collaborative research between academic and clinical partners enhances the educational and professional environment for students and clinicians, promotes evidence-based practice, and from this project may promote Veteran and family-centered care. The CNS played a key role in engaging and sustaining staff commitment, which contributed to the success of this study.

The clinical nurse specialist (CNS) is vital to model expert practice, facilitate the implementation of evidence-based practice, and promote clinical research. The core competencies of the CNS role developed by the National Association of Clinical Nurse Specialists address evidence-based practice, quality improvement (QI), and research.¹ Studies and exemplars of the CNS role in the literature illustrate expert practitioner and facilitator of evidence-based practice.²⁻⁴ Less attention is given to ways in which the CNS engages nursing staff in clinical research.

A foundational document from 2011 identified 4 "rights" or guidance for CNS research activities, including role focus, project importance, CNS skill level, and sufficient resources.⁵ The research skills of CNSs progress along the novice to expert model. Ensuring "smooth research processes" is one aspect of skill development.⁵ In a small sample of CNSs, their work and priorities were measured using the CNS competencies as a framework.⁶ Clinical nurse specialists reported research as a lower priority than other competencies such as QI, clinical practice, and education. Their work quantification revealed a similar pattern, with less time spent in research activities than in the other competencies. However, CNSs who were in the role longer and in certain specialties dedicated more time to research.⁶

The CNS has a key position as a research leader to guide, promote, and facilitate nursing research within an organization; this includes mentoring others through the steps of the research process in the clinical setting with the overall aim of increasing and adding to

the body of scientific nursing knowledge.⁷ Collaborative relationships between academic and clinical settings promote strategies that boost confidence, generate research ideas and projects, and advance nursing knowledge.⁸ Partnerships complement the strengths of each member. Faculty can provide research expertise and inspire staff confidence in pursuing research while clinicians can facilitate access to patients and insights into unique clinical issues.⁸

The purpose of this article is to describe the processes of exploring and implementing an academic-clinical study, engaging nursing staff in research, and maintaining their enthusiasm within the context of an academic-clinical research partnership. After exploring and confirming a partnership, the implementation process is described in 3 phases: engaging frontline clinic staff, sustaining engagement, and reporting back on the study. To better understand the context of this partnership, a brief description of the study is provided.

The aim of this funded study is to evaluate the feasibility of an educational intervention that prepared family carers to recognize and take appropriate action when delirium symptoms are observed in older adults after elective arthroplasty of the hip or knee.⁹ Delirium is the most common complication in older adults after major surgery and hospitalization.¹⁰ The occurrence of delirium in this population creates a cluster of adverse outcomes, which may include increased length of stay, additional postoperative complications, functional and cognitive decline, and death.^{10,11} Because of the morbidity and mortality associated with delirium in elders, this is a clinically significant area for research. In addition, family members are more likely to recognize changes in behavior and cognition of their older family members but lack knowledge of delirium and how to take action.¹² Thus, education for family carers may improve outcomes for their older adult family members having surgery.

Human subjects review was completed by the institutional review boards of the medical center and university. Individuals 70 years or older were recruited from an orthopedic clinic at least 3 weeks before surgery. The older adults and family carers, who agreed to participate, provided written consent. Family carers completed 4 telephone-based education modules regarding possible causes of delirium, symptoms, and appropriate actions to take if delirium symptoms are suspected. Interviews were conducted at 3 time

periods: before surgery and at 2 weeks and 2 months after the older adult's planned postoperative hospitalization. The educational intervention appears feasible: the 34 family carers who began the education were able to complete the 4 education modules, use the strategies they were taught, and were highly satisfied with the modules and procedure. Family carers' knowledge of delirium symptoms significantly increased from preintervention to 2 weeks after intervention and remained at the same level at 2 months after the older adult's hospitalization.⁹ These research findings contribute to the knowledge base of older adult care and nursing practice for delirium recognition.

Academic-Clinical Partnership for Research: Exploration And Development Process

An initial communication between the academic researcher and the medical center nurse scientist started the process. Next, at a meeting between the academic researcher and medical center nurse scientist and perioperative CNS, interest in the study was explored. Clinicians acknowledged delirium as a significant concern for the older adult orthopedic surgical population. Involving family carers as part of the educational intervention was a novel approach and of interest for clinicians. Division managers for the involved clinical areas were briefed on the discussions.

Two areas of impact were explored: patient availability and surgical leadership support. The CNS determined that there were approximately 50% more Veterans having surgery who met inclusion criteria for the study than were required for the sample size. Previous research at this facility obtained 50% response rates from Veterans. The CNS discussed the study with managers in the preoperative clinic, operating room (OR), postsurgical unit, and the orthopedic surgeons. All stakeholders supported this study. The academic-clinical discussions led to a decision to partner in a collaborative study that included investigators from both the academic and medical center settings.

Monthly meetings and e-mail correspondence between the partners facilitated decision making for study methodology, such as inclusion criteria and data collection procedures. The CNS and orthopedic clinic registered nurse (RN) mapped the process for

scheduling cases and clinic appointments along with the best time frame for the research nurse to see a patient during their clinic visit.

The nurse scientist was responsible for development of the facility budget, the process for gift card management, and adherence to the policies for human subject protection. The CNS and nurse scientist met regularly to maintain progress toward study completion, discuss candidates for research nurse positions, and review research processes in relation to organizational structure.

Phase 1: Engaging Frontline Clinic Staff

In the initial engagement phase, several actions needed to be completed. First, an informative 1-page abstract was developed. The abstract included the study title, names of the investigators, purpose of the study, significance, methods, institutional review board approval, funding source, references, and institutional logos. This document provided the evidence supporting the need for the study and illustrated the academic-clinical partnership. The CNS initially discussed the abstract with key leadership.

The CNS met with the OR manager, orthopedic surgeons, and postoperative unit manager to provide an overview of the study, identify areas of involvement, and address any concerns. Key stakeholders and nursing leadership embraced being involved in the nurse-led study. Their commitment spoke to the clinical relevance and timeliness of the topic.

When meeting with the orthopedic clinic manager, the CNS described the study and discussed the feasibility of the clinic as a site for Veteran and family carer recruitment. In addition, the nurse manager and CNS discussed the extent to which the frontline clinic staff would be able to participate in this study. The nurse manager responded enthusiastically to the opportunity for participation. The lead RN in the orthopedic clinic would be able to identify Veterans meeting eligibility criteria and determine their interest in receiving information about the study.

The CNS reviewed the background, aims, and proposed outcomes of the study with the clinic staff at their monthly meeting for the purpose of introducing the study and discussing their role. The abstract was distributed, and the importance of the study for optimal postoperative outcomes for Veterans was discussed. The value of

participating in this study was presented as well as its relevance in addressing the research component of the nurses' annual performance reviews. The CNS presented the study at staff meetings in both the OR and on the postsurgical unit.

The CNS met with the clinic staff to learn the clinic workflow, the patient check-in process, and the usual components of a preoperative clinic visit. These components included laboratory blood draw, radiology chest x-ray, anesthesia evaluation, and orthopedic surgeon appointment. In some cases, there was also a physical therapy consultation before surgery for prehabilitation. During this discussion, the CNS and clinic staff discussed the best method to identify potential study participants and the ideal timeframe for the researchers to introduce the study to Veterans. It was important not to interrupt clinic workflow and processes, including the timeliness of Veteran clinic appointments.

Obtaining buy-in from the staff improved the overall presentation of the study to the patient. The lead RN in the orthopedic clinic screened patients for inclusion criteria and gained their consent in receiving information about the study. This RN was an expert at facilitating clinic flow and expedited the discussion of the study by identifying the optimal time for the research nurse to meet with the Veteran during their preoperative clinic visit. In addition, the clinic staff introduced the Veteran to the research nurse. If the Veteran was interested in learning more about the study, the clinic staff provided a room where the study could be explained and consent obtained from Veterans.

Phase 2: Sustaining Engagement of Frontline Clinic Staff

Clinic staff supported the study throughout the data collection time period of 11 months. They were receptive to the research nurses and able to find private rooms for Veteran and family carer interviews. The orthopedic clinic staff was a high-functioning team with expert nurses; they were flexible, sincere, competent, and Veteran centered. These characteristics may have contributed to the ease with which they integrated this study into their daily workload.

The academic researchers and research project nurses were mindful of workflow and staffing levels and adjusted interview times

as needed. They considered the clinic staff part of the research team for data collection, so updates on data collection were provided on a regular basis. There were turnovers of research nurses, necessitating introductions of new personnel to clinical staff. In addition, consistent appreciation was extended to clinic staff. This included thank you cards, food treats, clinic team recognition, and face-to-face feedback. All nurses at the clinical organization have scientific inquiry as part of their position statement. The academic partner principal investigator provided letters for the nurse's annual performance review. The letter described the nurse's actions that contributed to the successful implementation of the study. The letter could be used as evidence in fulfilling the research component of their annual review.

Phase 3: Reporting Back To Clinic Staff

Staff members in the orthopedic clinic continued to assist with the identification of potential study participants until a total of 41 dyads were obtained. At that point, clinic staff was informed by the CNS that the data collection process was complete. Staff was acknowledged for their positive contributions to successful implementation of the study. The orthopedic clinic lead RN commented that she enjoyed participating in research.

The research team presented the study findings in a Nursing Grand Rounds. Members of the team from academia and clinical practice participated. Grand Rounds is a facility-based educational session for nurses held on a monthly basis. Sessions are regularly attended by direct care nursing staff, nursing students, educators, advanced practice nurses, and nursing leadership. The research team recognized the valuable contributions of the orthopedic lead RN and she was invited and agreed to participate in the Grand Rounds. The presentation included the process of developing a research question, the role of the CNS in research, the role of the clinic staff, and preliminary research findings. The orthopedic clinic lead RN presented her experiences of working with researchers, learning about research, and assisting to generate knowledge that could help Veterans in the future.

A certificate of appreciation and a small token of gratitude were given to each nurse involved with the study. In the organization's internal Nursing Annual Report, a brief summary of the study was provided, including recognition of the nursing staff and final results.

CNS Research Competency

The CNS as researcher participated in the conduct of research through a collaboration with the clinical nurse scientist and faculty researchers. The CNS linked the academic and clinical partners for the study from the exploration and development phase through sustainment. The CNS was able to cultivate a climate of clinical inquiry across the patient, nurse, and system spheres of influence by explaining the research process to orthopedic clinic nursing staff, engaging the staff in the identification of possible study subjects, and generating excitement about contributing to nursing knowledge. The CNS participated in the implementation of research through the development of a collaborative process with orthopedic staff in screening Veterans for possible participation in the study and then performing an electronic health record review to verify that possible participants met criteria for study inclusion. In addition, the CNS acted as a liaison with the faculty researcher to provide a schedule for meeting with Veterans regarding possible study participation.

Discussion

The academic-clinical partnership study had value for the clinical setting and for nursing practice related to the family carer role in the early recognition of delirium symptoms in older adults having elective hip or knee replacement. Although there is value in the findings and it contributes to the body of evidence, as a single study, it is too early to change practice and implement this educational intervention for carers. Further research is needed.

When planning research in the clinical setting, it is essential to tailor research procedures to the needs of the patients and nurses, as well as data collectors. For instance, clinic flow was discussed before the study started and elements on the data collection sheets followed the order they are located in the medical record. The CNS found it very helpful to have an individual in the nursing department who is knowledgeable about the medical center's protection of human subjects processes and available to serve as a research mentor. Clinical nurse specialists in other settings have used various methods to incorporate research into their role, such as engaging nursing staff to create a research agenda,² inviting faculty to collaborate with

interested staff for joint research projects,⁸ and facilitating a research team to answer a clinical question.¹³

Several implications for nursing were identified. Clinical nurse specialists and clinical nurse scientists provide a link for academic researchers and facilitate a clinical team approach. In addition, the academic researchers were invested in the development of all team members; the clinical agency was more than a site for data collection. Studying a phenomenon relevant to the clinical agency is crucial for justifying the clinical resources needed for research. Last, as a result of this study, several next steps are possible. Because delirium is common in elders and can be prevented, it is an ideal focus for QI activities. In addition, the CNS can be a key player in any adult patient care setting to lead QI activities for delirium prevention.¹⁴ Educating nursing staff about delirium and the tools available to aid their assessment might prepare clinicians to partner with family carers in early identification of delirium symptoms. Exploring the use of delirium education for family members of other surgical patient populations is also a needed focus.

Conclusion

Collaborative research between academic and clinical partners enhances the educational and professional environment for students and clinicians, promotes evidence-based practice, and contributes to the body of nursing knowledge. In addition, this project may further enhance Veteran and family-centered care. Success of this study was dependent on the commitment and engagement of staff nurses and their initial investment of time and energy. The CNS played a key role in managing time to meet patient and research needs while sustaining staff engagement and commitment.

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Year	Months	CNS and Nurse Scientist research activities
2013	March - May	<ul style="list-style-type: none"> • [First meeting initiated by academic researcher]* • Determine patient volumes by CNS
	June - July	<ul style="list-style-type: none"> • Determine procedure to identify eligible subjects • Determine data collection procedure • Revise data collection sheet • Describe current education and assessment practices prior to surgery & on post-op unit • Identify investigator roles for CNS and nurse scientist • Develop budget for clinical agency subcontract • Obtain letters of support from chief nurse executive and orthopedic surgical group • Provide agency and population descriptions for proposal • Review proposal drafts and provide overall feedback as well as specific feedback on procedures, data collection, and instruments • Identify procedures for information security with academic-clinical research partnership
	August - September	<ul style="list-style-type: none"> • [Academic partner submitted proposal to funding agency] • Initiate academic researcher appointments to clinical agency • Initiate protection of human subjects review process at clinical agency
	October	<ul style="list-style-type: none"> • Discuss proposal revisions based on funding agency review
	November	<ul style="list-style-type: none"> • Complete academic researcher appointments to agency • [Academic partner / researcher awarded funding]
	December	<ul style="list-style-type: none"> • Collaborate on implementation of subcontract for clinical agency
2014	January	<ul style="list-style-type: none"> • Receive protection of human subjects review and approval to begin study from clinical agency • Develop one page summary of study reflecting the partnership
	February - December	<ul style="list-style-type: none"> • Implement research process of subject identification, gift card management, and regulatory document management • [Academic partner initiates data collection and delivery of intervention]
2015	January - May	<ul style="list-style-type: none"> • [Academic partner continues data collection and delivery of intervention] • [Academic partner provided letters to orthopedic clinic RNs describing their activities to support the study for inclusion in their individual annual performance review]
	June - October	<ul style="list-style-type: none"> • Academic and clinical partners jointly presented Nursing Grand Rounds. The academic researcher, CNS, and clinic lead RN were presenters. • A summary of the research and partnership was published in the organization's nursing annual report • Discuss possible publications from study and authorship with academic partner • Review and provide feedback on abstract and manuscript drafts for presentations and publications

*[] Indicates select activities related to the academic partner and faculty researcher

A timeline for the research process is presented in the [Figure](#).