CLINICAL PRACTICE

A model for clinical research: From conceptualization to dissemination

Iwona H. Enzinger*

Syosset Hospital, Northwell Health, Syosset, New York, United States

ABSTRACT

Clinical research is foundational to nursing practice. The ANCC Magnet Recognition program requires nurses to be involved in conducting research. Building research capacity to conduct rigorous, high-quality studies continues to be a challenge for hospitals. Barriers include limited infrastructure, financial resources, time, leadership support and lack of experienced mentors. The author describes a model, from conceptualization to dissemination that focuses on how to harness individual hospital capacity to operationalize a multi-hospital nursing research team and build capacity for nursing research.

Key Words: Research capacity, Health equity, Nursing practice, Nursing research

1. INTRODUCTION

Conducting rigorous nursing research is no longer primarily the purview of academic settings. At the unit level, nurses in clinical practice are expected to participate in research that would contribute to quality nursing care. Emphasizing this norm in practice, the need for research is also influenced by professional organizations, governmental agencies, accrediting entities, insurers, and patients, furthering this new norm in practice.

The Magnet recognition program stipulates that organizations seeking Magnet designations must promote scientific inquiry and the building of nursing research capacity.[1] Literature suggests however, that operationalizing nursing research capacity in any clinical practice setting is a significant challenge. Because of limited resources, acute care environments and especially community hospitals are struggling with building successful, sustainable, robust nursing research programs.[2–4] Numerous barriers to integrate nursing research into clinical and operational processes have been doc-

umented in the literature and include unavailable financial resources, lack of motivation, lack of supportive infrastructure such as leadership support, time, and an experienced researcher/mentor.[4]

Recognizing the need to provide guidance, The American Nursing Credentialing Center [ANCC] charged the ANCC Research Council to provide strategies and advice to organizations to promote research activities especially around building a multi facility nursing research capacity.[5] Moreover, some organizations hire research consultants, and some rely on collaborative agreements with academic centers to support their research programs and to create an infrastructure supporting research.[6] An important method for developing research capacity includes the facilitation of collaboration and mentoring between novice and experienced researchers to share skills and knowledge, bridge the knowledge gap, rejuvenate the spirit of inquiry, and create a shared mental model.[6] Collaboration is described in literature as a process to gather people around a topic that connects

*Correspondence: Iwona H. Enzinger; Email: ienzinge@northwell.edu; Address: Syosset Hospital, Northwell Health, Syosset, New York, United States.

them—harnessing individual skills, expertise, and capacity to build together what could not be built individually.[6] This article presents a successful model to build research capacity utilizing the principles of collaboration and focusing on a multi-site research team approach. Also described is the research study we used as the exemplar, and the impetus for both the model and the selected research problem. Lessons learned, and recommendations for dissemination and future intervention studies based on the findings are included.

1.1 Conceptualizing the problem

A significant number of research publications and other types of non- scientific media have stressed the importance of "social determinants" of health and their effect on individuals. While nurses have traditionally been taught to apply a holistic lens when caring for patients, there are few studies on the frontline nurses' perspectives on integrating the SDoH into clinical practice. For example, integrating aspects such as food insecurity, housing, and employment into the framework of direct care provides opportunities to sharpen that lens and gain deeper insights on the root causes of patients' illness, disability, and poor quality of life.

In some hospital environments, bedside nurses in acute care settings may be required to identify patients' SDoH. In this large health care system, this is primarily undertaken in a checklist format, which is part of the patient profile on admission. Little research has addressed these types of screening strategies or their usefulness in impacting care. In reviewing the research for this potential study's focus, we found that how nurses perceive this type of assessment, has been minimally studied.

One survey study with a small, targeted sample of registered nurses (N = 107) found they lacked the necessary knowledge about SDoH. In addition, the respondents reported being uncomfortable themselves, and further, the subjects anticipated patient discomfort in addressing some of these factors.[7] Published research findings have also highlighted barriers to nurses' addressing SDoH in clinical settings, such as time constraints. In one qualitative study, using a focus group format, nurse participants expressed time constraints as a barrier for including SDoH in their usual clinical day or patient care.[8] Philips et al.[9] also reported that their survey respondents identified time constraints as a barrier to addressing SDoH. Further support to study nurses' role in SDoH was the Future of Nursing Report 2020-2030: To incorporate nursing expertise in designing, generating, analyzing, and applying data to support initiatives focused on SDOH.[10] The report added to the need to include bedside nurses in building the infrastructure to address SDoH at the point of care.

Based on the literature, and the Future of Nursing Report, the knowledge of nurses regarding SDOH, their comfort level or confidence with SDoH and their likelihood of using SDoH in practice thus became the clinical problem for our research study. The need for an infrastructure that would enable this research was the next step.

2. OUR CURRENT CLIMATE, RESOURCES AND PROCESSES FOR BUILDING RESEARCH CAPACITY

The vision and mission of building capacity for nursing research in this large system is supported by a centralized system nursing research team with dedicated nurse scientists. These Ph-D prepared research experts guide and mentor novice nurse researchers in the research process. However, each individual site often in collaboration with the system's team, has a responsibility and a charge to build their own research capacity, engage in investigator-initiated nursing research studies and grow their own talent. Based on these goals established for each hospital and the impetus to address SDoH, key individuals responsible for research at 3 hospitals initiated a collaboration to explore building a research study. Building partnerships is one of the critical skills a facilitator and leader should have to remove barriers and operationalize a team for a research activity.[6] According to Chen et al.[11] collaboration is a precondition for research capacity in nursing. Utilizing the American Organization for Leadership[12] principles of collaboration, namely: communication, authentic relationships and learning environment the three-hospital team began to take shape.

2.1 The team's infrastructure and approach

Nurses in the healthcare environment are members of many teams such as, clinical teams working on the same unit, council members working toward a shared project or members of a professional organization The building blocks of collaboration are well-established and well documented in the literature and we relied on the principles of collaboration: effective communication, authentic relationships and creating a learning environment and culture that are needed for nurses to thrive.[12] We first evaluated the infrastructure and identified key stakeholders for team membership as partners and the need for a leader. A leader or facilitator of the program is a key individual who has the necessary skills and autonomy to seek and develop relationships with internal and external experts, has a keen understanding and vision of the components necessary to carry the project.[13] The resulting three-hospital research team consisted of a Magnet Program Manager from one site as the PI, a professional development director from another site, a nurse manager and

a professional development educator from the third site. The additional member was a health system's nurse scientist, a research expert to mentor the team in the study development processes. Following the personnel infrastructure development, the next step was outlining a process. The process can be replicated and may look differently in different organizations, but brings elements of Donabedian's framework of creating structure, and process to build outcomes.[14] In this case the structure consisted of 3-facility key stakeholders sharing the mental model. The next step was to align principles of collaborative relationships and competency development to support the overall research protocol -building process such as: administrative support, IRB and other approvals and securing biostatistical resources. The expected outcome was to build capacity, mentorship, research skills and a completed research study as the end point.

3. THE PROCESS

Identifying the processes needed relied on specific expertise of the team members such as, obtaining administrative support, time, and scheduling, reviewing the literature, writing the document, reviewing instruments and obtaining any use permissions, completing the application and protocol for scientific review, and IRB approval, and utilizing the biostatistical resources.

3.1 Leadership designation and roles

Understanding that research is a team science and everyone on the team has different skill sets and expertise, supported the development of the roles and designations for this team.

Based on published sources, a well-rounded team should have a seasoned PhD-prepared nurse, a biostatistician, and a number of expert clinicians.[15]

The team discussed their expertise, and a list of needed processes was developed (see Table 1). The principal investigator [PI], in our case the Magnet Program Manager, mentored and coached by the PhD-prepared nurse scientist created a blueprint for the process and led the team through the life cycle of this study's development and its execution.

Table 1. Defining research building capacity process

Structure	Process	Outcome
Site research leadership	Time management/timeline	Model for Capacity Building
Organizational awareness/support	Collaboration	Dissemination
Shared mental model	Communication	Increased knowledge/skills for protocol development
Identification of resources	Professional partnerships	
Expert PhD-prepared mentor	Competency development	Study Findings to improve quality care
Individual expertise	Approvals	
Team contribution	Virtual meetings	

A structured virtual meeting schedule and calendar of events were agreed upon by all in advance and were administered by the PI. To support productivity and prevent fatigue, meetings were held virtually and were no longer than 1 hour in length with a specific "to do" list. A communication plan, for example using a shared drive for document review, was embedded in the process to document progress, barriers, and next steps for the team to accomplish. A timeline and accountability for deliverables were established based on individual expertise, time and support needed. Addressing needs that any of the team members required around their tasks was proactive, thus preventing stagnation and progress bottlenecks.

3.2 Mentoring

As noted earlier, a PI mentor is the key individual to guide the novice PI and the team in protocol development and throughout the life cycle of the study. The research mentor support enabled the team to move through assignments, questions were answered in real time and efforts were acknowledged.

The supportive learning environment as described in AONL statement, is a key to growth and learning for the entire research team.[12]

3.3 Consultation and approvals

The effort and time allotted to the research study needs to be secured and supported by senior nursing leadership. The first and foremost is the approval by the Chief Nursing Officer [CNO]. Many organizations strive to develop their research capacity in pursuit of Magnet designation or simply understanding that building research capacity is necessary to improve patient care, therefore this step may be welcomed and publicly recognized. One of the most helpful actions a senior nursing leader can take is to support research activities visibly and enthusiastically in the organization.[13]

In our system we also needed to consult with and seek approval from a Chief Financial Officer to determine billing source, selection of cost centers and allocation of funds between the three sites. Additionally, as the work progressed

through the protocol development stage, the team recognized the need for a meeting with a biostatistician consultant with the PI for assisting with sample size determination, instrument review, and the proposed statistical analysis.

3.4 Process of document completion

All nursing research protocols are reviewed by a committee of nurse scientists for approval for scientific merit prior to progressing to IRB. The protocol completion among the team members resulted in individual members writing specific sections such as inclusion criteria, recruitment methods, etc. The nurse scientist provided a brief overview of the sections and completion of these. The completed draft sections were circulated for review and refined at the following scheduled meeting. The reviewer comments provided yet another learning experience for the team members. Sections related to statistical methods and analysis were prepared ahead of time based on biostatistician consultation and reviewed with entire team. Following approval from the Scientific Review Committee, the next step required an IRB application and the team again worked on this as a group at one of the meetings. Final proposal was submitted by the PI to IRB. Successful IRB approval was celebrated by the team and 3 facilities.

4. OUTCOMES

The direct outcome of research capacity is nursing research to build new knowledge for the nursing discipline and the evidence base for nursing practice.[11] Capacity refers to an ability of an organization to conduct research in a sustainable manner that is not individual-dependent.[11] This effort is an example of a capacity building experience and how to collaboratively create a model that resulted in an IRB-approved nursing study on a current under-researched topic identified by clinical nurses. The research team gained protocol development skills, valuable research knowledge and competencies. The study is currently in the process of enrolling subjects across the three sites and the team will publish the results once available. A poster depicting the collaborative process to build capacity was presented at the 2022 ANCC Research Symposium/Magnet Conference in Philadelphia. Furthermore, the paper is being set up for publication while the research study and process continues to keep the momentum going. Once the study results are available, the team will continue the collaboration until a full research publication is complete thus completing the study's life cycle.

5. CONCLUSION/IMPLICATIONS FOR PRACTICE

Integrating nursing research into clinical and operational processes and thus building research capacity in acute care will continue to be a challenge. Staffing shortages, lack of staff engagement, lack of skilled researchers and organizational structures will continue to present barriers to operationalize sustained research programs. It requires knowledge, expertise, motivation, time, and strong leadership dedicated to supporting nurses to reach their full potential. Several valuable lessons and keys to success were identified during the time the team worked together (see Table 2).

Table 2. Lessons learned by three-hospital research team

Lessons Learned	Mentorship and peer support is essential
	Acknowledge each team member's level of expertise
	Expect slow but steady progress –3 to 4 months
	Utilization of internal and external resources are key
	Focus on effective decision making and true collaboration to complete goals
	Set timelines for follow up with expected deliverables

The model presented can assist other organizations to build research capacity by creating collaborative teams whereas a few individual hospital limited resources coupled together can create a sustainable research structure.

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CONFLICTS OF INTEREST DISCLOSURE

The author declares that there is no conflict of interest.

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