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EDITORIAL

## Nurses as an Integral Part of Research

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### ABSTRACT

This editorial addresses the roles of nurses in research for a great understanding by all involved in healthcare to promote interprofessional collaboration to advance healthcare practices across the healthcare continuum. The history of research within the profession of nursing, as well as organizational support and educational preparation programs are discussed. Why nursing involvement in research is critical to the profession and to overall patient care and what areas need to be strengthened are also highlighted.

## Introduction

Nurses practice in many settings and within multiple roles. One of those roles, in diverse directions, is within the research milieu. For nurses to become involved in creating new knowledge or to be consumers of research to bring best practices to the bedside, nurses need to understand their own potential for involvement at many levels of research. Amicucci, et al. explored nurses and allied health professional's participation in research activities. Findings showed 33% attended conferences as speakers, but only 21% participated in research with only 11% writing scientific papers. They concluded that more support needs to be provided to increase research activities among nurses<sup>1</sup>. Additionally, in a scoping study by Negarandeh, et al., exploring the expected roles of PhD. graduated nurses and their challenges, it was concluded that the intended roles need to be better defined<sup>2</sup>.

Additionally, other members of the healthcare team need to be educated on the roles of nurses for generation of new nursing and healthcare knowledge. An understanding of the roles for nursing practice regarding research is important for the entire health team to understand and support. This editorial will delineate the various nursing research roles including research within nursing practice and interprofessional research. The educational preparation for nursing in the research realm will be discussed as well.

## History of Nursing Research

The beginning history of nursing research is generally attributed to Florence Nightingale's work during the Crimean War in the 1850s<sup>3</sup>. In

1946 nursing research was supported in the United States through the Division of Nursing within the Office of the Surgeon General, Public Health Service. With the development of nursing theories in the 1960s the foundations for conducting nursing research were strengthened. Additionally, in the 1970s models for research utilization, such as The Iowa Model, were developed leading to translation of research into clinical practice<sup>3</sup>. The National Institute of Nursing Research (NINR) was established in 1986 as part of the National Institutes of Health, (NIH) to support and conduct nursing research and training. Specifically, in 1985 Public Law 99-158, the Health Research Extension Act of 1985, became law<sup>3</sup>. This law authorized the National Center for Nursing Research (NCNR) at NIH. Then, on **June 14, 1993**, the Department of Health and Human Services Secretary signed the Federal Register notice establishing the National Institute of Nursing Research.

According to the NINR, "NINR believes that nursing research is the key to unlocking the power and potential of nursing by leveraging nursing's strengths and unique knowledge and perspectives inherent to the discipline to the benefit of all people<sup>4</sup>." The NINR's mission statement is that NINR leads nursing research to solve pressing health challenges and inform practice and policy - optimizing health and advancing health equity into the future. Research is essential for the advancement of all professions, including all areas within healthcare professions<sup>4</sup>. Research in nursing can revolutionize the professions through best outcomes and provision of care according to patients' best interests. The use of evidence-based practice by nurses ensures better standards of care. Chien makes the

point that “evidence from research (effective innovation) must be accompanied by effective implementation, and an enabling context to achieve significant outcomes”<sup>5</sup>. NINR and American Association of Critical Care Nurses (AACN), Association of Women’s Health, Obstetrics, Neonatal Nursing (AWHONN), as well as many other professional nursing organizations have developed strategic plans for nursing research. One example is the National Association of Neonatal Nurses (NANN). Their research priorities for 2022-2024 include:

1. Health Equity
2. Care Beyond Tomorrow: Pandemic Lessons and Consequences
3. Family-centered Care<sup>6</sup>

As is common within many nursing professional organizations, beyond nursing research, priorities are nursing research funding opportunities as well as nursing research dissemination opportunities.

Nursing research in some countries has a history of being minimized. Encouraging nurses to engage in research to provide a scientific basis to the discipline of nursing may also gain interprofessional respect. In this way nursing will develop in parallel to other health disciplines<sup>7</sup>. The International Council of Nurses (ICN) was founded in 1899 and funded the first WHO nursing post. ICN has three primary functions: to represent nursing worldwide, to advance the profession, and to influence health policy. It remains the major global voice of nursing though its ambitions have met with multiple challenges. It has recently adopted a more overtly collaborative, interprofessional and intersectoral approach, seeking greater

influence on health and health care to complement its traditional focus on advancement of the nursing profession<sup>8</sup>. In a study by Busca, et al. international nurses pointed to four main factors affecting nurses’ role implementation: 1) scope of practice; 2) nursing workload; 3) nursing education; and 4) funding<sup>9</sup>. Countries with no national plan, priorities or funding for nursing research will continue to have a gap in nursing research and utilization of nursing research with decreased potential for improvement of patient outcomes.

## Nursing Involvement in Research: Purpose

Nurses are involved in research in two important directions. The first is participation in the generation of research studies in various roles. The second is the implementation of completed research into practice to ensure that nursing care is evidence-based with the highest level of current evidence. Nurses may be involved in generation of research or translation of research into practice with both nursing-specific research or interprofessional research. A study by Pitsillidou, et al., investigated aspects of implementation of evidence-based practice<sup>10</sup>. Although research has been embedded into the nursing profession since its inception beginning with Florence Nightingale, one current drive for expansion of nursing research in hospital settings has been seen with the growth of ANCC Magnet hospital designation in the U.S. and internationally. This designation requires evidence of both active research studies and application of research into nursing practice. According to Lal, increasingly, nursing research is considered

essential to the achievement of high-quality patient care and outcomes<sup>11</sup>.

Nursing research is the generation of knowledge to advance nursing practice. This may involve aspects of patient care or aspects of the nursing care practice environment. Nursing plays a vital role in research activities. A well developed and reliable body of knowledge is a foundation for any course of study and professional practice. A study in 2022 explored the role of clinical research nurses in Sweden and differences in competences and tasks, using the Clinical Trial Nursing Questionnaire – Swedish version (CTNQ-SWE)<sup>12</sup>.

One important question is whether nursing research has been well integrated across nursing specialty practice areas. The Future of Nursing Report 2020-2030 recommendation 2 suggests enabling the nursing workforce to address social determinants of health and health equity more comprehensively, regardless of practice setting<sup>13</sup>. As a research initiative across specialty areas, this might address these issues in a more comprehensive way. Many nursing research studies are conducted within specific specialty areas. To demonstrate feasibility, patient care improvement or safety for the research intervention among patients or nurses in other specialty areas, replication research in the new specialty area is important<sup>14</sup>. Replication research can advance the science of nursing by demonstrating the applicability of research adopted from one specialty area to others but may also demonstrate that a specific intervention is not applicable to all nursing specialty areas. Nursing involvement in research across all specialty areas is critical to development of best nursing practices.

## Nursing Research Methods

Methodologies for nursing research include qualitative or quantitative methods as in research from other professional area. Qualitative methods might include focus groups and interviews. Quantitative methods might involve survey tools, or other measurement tools including laboratory and vital signs measurements. Reviews of the literature and metaanalyses also help to generate and refine nursing knowledge. The term research is often used in a loose way. An example of this is nursing school student assignments to write a research paper about a specific topic. A clearer way to name this assignment might be to provide 5 examples of research evidence from the past 5 years on a topic related to nursing practice or patient care. The student is conducting a brief review of the literature, not conducting a research study in this example.

## Nursing Roles in Research

Nursing roles in research are varied. The nurse researcher may serve as the Principal Investigator (PI), or lead, for a study. The Principal Investigator (PI) is responsible for the overall management of the study. They are responsible for the preparation, conduct, and administration of the study as well as ensuring compliance with federal and institutional guidelines.

The nurse might also be part of a larger study group. Within interprofessional research a nurse might be the PI, part of a larger study group, or may be working for a research institute to recruit study participants and conduct aspects needed for the study such as consenting participants or gathering study

data. This might be medical research aimed at treatments for specific diseases such as oncology research.

Nurses may become involved in research due to a passion for knowledge within a specific area of nursing practice or as a job within a research or clinical structure. Having nursing knowledge and expertise may allow for focused patient assessment and history-taking for study inclusion and for study methods to be done correctly and consistently.

Skills required for nurses to conduct research include a clear understanding of research methodology. This might include study design, data analysis methods and data analysis. Personal characteristics that are critical for conducting research include critical thinking skills and attention to detail to be able to discern issues with the study design and data collection. Communication and collaboration skills and understanding of ethics in research are critical to leading and participating in both nursing and interprofessional research.

Nursing research is conducted by clinical nurses or nurses in leadership roles in hospital and outpatient settings. One example is the National Institutes of Health (NIH) Clinical Center which lists 10 different research roles for nurses<sup>15</sup>. In some settings, nurses conducting research have the title Nurse Scientist. The primary focus of the role is to provide leadership in the development, coordination, and management of clinical research studies; provide mentorship for nurses in research; lead evaluation activities that improve outcomes for patients participating in research studies; contribute to

the overall health sciences literature. According to Vessey, et al., "the term *nurse scientist* lacks a precise definition"<sup>16</sup>. The nurse scientist role helps "create and sustain a culture that embraces scholarly inquisitiveness, advocate for the uptake of knowledge and its application to practice and innovation, as well as conduct original research"<sup>17</sup>. In many cases nurses conducting research in hospital or outpatient settings do not have a research-specific role but are interested in advancing best patient practices and are supported by nursing management in their endeavors.

Research by nurses in academia is a very common occurrence. It may be led by students as part of their academic program or by faculty as part of their tenure track expectations. There are often clinical affiliations for nursing research sites. Additionally, within academia the research may be interprofessional or involve a collaboration between academia and clinical practitioners.

## Education for Nurses Involved in Research

For nurses to initiate and lead research studies, the gold standard for educational preparation is the Doctor of Philosophy (PhD). The goal of this educational program of study is active learning of the processes of research. The concluding dissertation is the cumulative research work of the program. The PhD program most often includes presentations and publication of a dissertation research study. PhD programs in Nursing may lead towards academia or leadership positions. An exploratory descriptive survey study in Italy showed an increase in nursing doctoral publications of 12 in 2006 to 110 in 2015 showing the significance of these programs to

professional practice<sup>18</sup>. A recent example of a PhD dissertation research study is The Relationship between Moral Injury, Moral Resilience, and the Healthy Work Environment among Intensive Care Unit Nurses by Dr. Sarah Sumner, PhD.

The Doctorate of Nursing Practice (DNP) is intended to lead nurses towards exploration and validation of the evidence to support best nursing practice. The evidence-based practice project that is required for degree completion may be presented at conferences or submitted for publication. This degree may also lead towards academia or leadership positions. Two recent examples of DNP projects are a Code Blue Team for a Medical Surgical Unit by Dr. Beverly Holland, and addition of QSOFA to SIRS for identification of sepsis in the ICU by Dr. Jeana Adams. In each, prior research demonstrated positive outcomes for patients indicating potential applicability into additional practice settings to improve patient outcomes.

The Bachelor of Science (BSN) degree in nursing includes understanding of nursing practice and the basis for evidence of best practices. It is intended as a basic nursing practice degree. The Master of Science in Nursing (MSN) degree includes deeper learning about research and evidence-based practices (EBP) in nursing. Many MSN programs include a requirement for a basic evidence-based practice project or research study.

## Mentorship for Nurses in Research

For nurses in clinical practice at the bedside or as educators, the most important aspect of becoming a nurse researcher is having a knowledgeable mentor. Negotiating the

research pathways, from the research question, creating a review of the literature, ethical conduct, Institutional Review Board submission, determination of study methodology, data analysis, and publication take experience and can be daunting to a less experienced nurse researcher. The mentor can provide critical educational and emotional support to grow future nurse researchers.

Interprofessional research takes a collaborative approach to research that involves professionals across different disciplines working together to address common research questions. Interprofessional research involving nurses may include physicians, pharmacists, respiratory therapists, or chaplains, with many other professional possibilities.

Nurses play a crucial role in interprofessional research, as they are often the primary point of contact for patients and have a unique perspective on patient care. Interprofessional research can help to improve patient outcomes by identifying gaps in care and developing new interventions to address these gaps across the healthcare continuum. Feguson, et al. make the case that "Nurse practitioners (NPs) who serve as primary care providers in many rural community clinics can facilitate access to clinical trials for patients who are rarely included in health care services research as well as coordinate interprofessional research team collaboration"<sup>19</sup>.

Nursing roles within interdisciplinary research are outlined within each research proposal. The role may be as PI, study team member in an advisory role or study coordinator role, data collection, or data analysis. McLaney, et al. developed a framework that aims to



support interprofessional collaboration while avoiding a top-down approach. The six core competencies include communication, interprofessional conflict resolution, shared decision-making, reflection, role clarification and interprofessional values and ethics<sup>20</sup>. The role a nurse may assume on an interprofessional research team may be dependent on aspects including level of education, study funding, and hierarchy within the organization where the research is being done. A study by van Schothorst–van Roekel, et al. demonstrated that nursing involvement in research provides opportunities for nursing professionalism<sup>21</sup>. Carter, et al. developed a program with a joint nurse scientist role between academia and clinical nursing to promote nursing scholarship<sup>22</sup>.

To promote the advancement of nursing science, nurses need to assume increased roles within nursing and interprofessional research. Advocacy for nursing research support in clinical settings and support for furthering nursing education will help advance these goals. Additionally, nursing and healthcare leadership support for interprofessional participation of nurses on committees, projects and research may serve to increase nursing visibility and allow nurses to be seen as partners within the interprofessional milieu. Per Yates, “change is possible if we stop seeing research as someone else’s job and start making it a part of who we are and what we do”<sup>23</sup>.

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The author states no conflict of interest related to this manuscript.

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