

Focusing on the Fundamentals: Comparing and Contrasting Nursing Research and Quality Improvement

Debra J. Hain

Editor's Note: To support nephrology nurses in practice change projects, the "Exploring the Evidence" department will present a series of articles discussing components of evidence-based practice and research concepts. This is the inaugural article in "Focusing on the Fundamentals."

As nephrology nurses continue to embrace evidence-based practice (EBP) that focuses on improving clinical outcomes, it is essential to gain the knowledge and skills to conduct practice change initiatives. EBP can be defined as "a combination of scientific evidence, patient preferences, and clinician expertise when making decisions for patient care" (Carter, Mastro, Vose, Rivera, & Larson, 2017, p. 267). A crucial aspect of this process is discovering the best evidence that promotes high-quality, cost-effective care, while honoring the patient and family's wishes and preferences for care.

In an effort to support nephrology nurses in practice change projects, this newly named section of "Exploring the Evidence" will present a series of articles discussing components of evidence-based practice and research concepts. This is the inaugural article in "Focusing on the Fundamentals." Future fundamental research articles will appear from time to time in this department.

Nursing Research

According to the National Institutes of Nursing Research (NINR) (2017), nursing research develops knowledge to "build a scientific foundation for clinical practice; prevent disease and disability; manage and eliminate symptoms caused by illness; and enhance end-of life and palliative care" (p. 1). The American Association of Colleges of Nursing (2006) adds to this definition in their position statement on nursing research by saying that nursing research is essential for the advancement of nursing practice as evidenced by the following: "nursing research worldwide is committed to rigorous scientific inquiry that provides a significant body of knowledge to advance nursing practice,

Debra J. Hain, PhD, ARNP, AGPCNP-BC, FAANP, FNKF, is an Associate Professor, Florida Atlantic University, Christine E Lynn College of Nursing, Boca Raton, FL; a Nephrology Nurse Practitioner, Cleveland Clinic Florida; Chair of ANNA's Research Committee; and President-Elect of ANNA's South Florida Flamingo Chapter.

Statement of Disclosure: The author reported no actual or potential conflict of interest in relation to this continuing nursing education activity.

Note: Additional statements of disclosure and instructions for CNE evaluation can be found on page 544.

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Hain, D.J. (2017). Focusing on the fundamentals: Comparing and contrasting nursing research and quality improvement. *Nephrology Nursing Journal*, 44(6), 541-543.

Key Words: Quality improvement, evidence-based practice, patient safety.

shape health policy, and impact the health of people in all countries" (p. 1). The ultimate goal of nursing research is to address a gap in knowledge and conduct a study that can expand that body of knowledge (Polit & Beck, 2008). In addition, contemporary nurse scientists often lead and conduct studies in which findings can be translated into health policy (Grady & Hinshaw, 2017).

Nursing research is a formal, systematic, and rigorous process of inquiry that generates or tests theories related to the human experience within the healthcare environment (Fawcett & Garity, 2009). A well-designed study starts with a research question that addresses a problem and determines the best research method to answer that question. Research methods are the strategies researchers use to organize a study, collect data, and analyze findings. The two research methodologies are quantitative and qualitative.

The quantitative method is a systematic empirical investigation that collects data in numeric form with a strong emphasis on the measurement of variables (Melynyk & Fineout-Overholt, 2015). Basic and applied research are important concepts of quantitative methods. Basic research is done to increase knowledge or to test a theory, and applied research focuses on discovering a solu-

Exploring the Evidence is a department in the *Nephrology Nursing Journal* designed to provide a summary of evidence-based research reports related to contemporary nephrology nursing practice issues. Content for this department is provided by members of the ANNA Research Committee. Committee members review the current literature related to a clinical practice topic and provide a summary of the evidence and implications for best practice. Readers are invited to submit questions or topic areas that pertain to evidence-based nephrology practice issues. Address correspondence to: Tamara Kear, Exploring the Evidence Department Editor, ANNA National Office, East Holly Avenue/Box 56, Pitman, NJ 08071-0056; (856) 256-2320; or via e-mail at NNJEvidence@ajj.com. The opinions and assertions contained herein are the private views of the contributors and do not necessarily reflect the views of the American Nephrology Nurses' Association.

Table 1
Examples of Basic and Applied Research

Basic Research
Hain, Wands, and Liehr (2011) conducted a study to identify health challenges older adults undergoing hemodialysis face and approaches to resolving health challenges. Findings had implications for nephrology nursing practice but did not try to solve a clinical problem.
Applied Research
Vann et al. (2015) conducted a study to determine the effect of a nurse-led education intervention on improving knowledge and self-management in adults with CKD. The focus was on finding a solution to the problem of this population who are not engaging in self-care activities.

Table 2
Quantitative Research Method

Experimental	Non-Experimental
<ul style="list-style-type: none"> • Randomized control trial: Has an intervention with a design that includes manipulation, control, and randomization. • Quasi-experiments: Has an intervention, but the design lacks randomization or research control. 	<ul style="list-style-type: none"> • Observational: Does not intervene, but manipulates the independent variable. • Correlational: Look to see if there is a relationship between 2 variables. • Descriptive: Observe and describe an issue within a natural environment.

Sources: Melnyk & Fineout-Overholt, 2015; Polit & Beck, 2009.

Table 3
Qualitative Methods

Phenomenology	Ethnography	Historical	Narrative Inquiry	Grounded Theory
Gaining understanding of life experience.	Description and interpretation of cultural behavior.	Critical evaluation and interpretation of historical evidence.	Stories of individuals as they make sense of their lives.	Understand actions of a nursing phenomenon, theory generating.

Sources: Melnyk & Fineout-Overholt, 2015; Polit & Beck, 2009.

tion for a problem in clinical practice (see Table 1). Quantitative research can be experimental with a true experiment (randomized control trial) or quasi-experimental and non-experimental, such as a descriptive or correlational study (see Table 2). The qualitative method is a systematic, subjective way to gain insights through the discovery of meanings (Polit & Beck, 2009). There are several qualitative methods, such as phenomenology, ethnography, historical, narrative inquiry, and grounded theory (see Table 3).

All research that involves human subjects or animals must address ethical issues by considering three primary ethical principles: beneficence, respect for human dignity, and justice. Beneficence requires the researcher to minimize harm (nonmaleficence) and maximize benefits. Respect for human dignity includes the right to full disclosure and the right to self-determination (volunteer to participate without penalty or prejudicial treatment). Lastly, justice includes the right to fair treatment and the right to privacy (Polit & Beck, 2009). To safeguard participants, researchers are required to obtain an informed consent approved by an Institutional Review Board (IRB). The role of the IRB is to ensure the research plan meets federal requirements for ethical research and protects human subjects. In addition, it is essential that only qualified researchers conduct approved studies and that inexperienced researchers should seek guidance and mentorship from a more experienced nurse researcher.

Quality Improvement

According to the United States Department of Health and Human Services (2011), quality improvement (QI) “consists of systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted patient groups” (p. 1). QI is not a one-time occurrence because the process requires evaluation and trying new interventions to reach an improvement goal. QI is a data-driven improvement process for a specific organization, and the aim of research is to contribute to generalizable knowledge (Carter et al., 2017). The Donabedian (1966) framework recommends using three types of measurement in evaluating the quality in healthcare: 1) structure (settings, qualifications of providers and administrative systems); 2) process (components of care delivered); and 3) outcome (how the system or intervention impacts patients, families, or other stakeholders). QI can use patient-related outcomes (data) to improve clinical care, which can be defined as “health status changes (e.g., blood pressure, anxiety) between two or more time points that are internal to the patient and are the result of the care that is provided” (Brewer & Alexandrov, 2015, p. 224).

The Institute for Healthcare Improvement (IHI) (2017a) recommends using a systematic approach to QI, such as the Plan-Do-Study-Act cycle. Before you get started, think about what you are trying to accomplish, how

will you know you made a change, and what changes can be made that will result in improvement. The first step of the process, *Plan*, involves identifying a goal or purpose, formulating an intervention for change, defining process or outcome measures, and putting the plan into action. According to the IHI (2017a), this step occurs when the plan to test a change in practice is formulated and should include who, what, when, where, and what data need to be collected. The second step is *Do*, and this involves testing change and collecting data. The third step is *Study*, which includes analyzing data, comparing findings to predicted outcomes (e.g., 10% reduction in falls over 6 months), and summarizing lessons learned. The last step is *Act*, in which refinement of the change occurs based on what was learned from the test. This is the time for the nurse to determine modifications that need to be made and prepare for the next test. It is important to conduct a small test of change before implementing system-wide change, so the team can evaluate and redesign the project as needed. The IHI has a quality improvement essentials toolkit that can help guide the quality improvement process (IHI, 2017b).

Conclusion

Similarities and distinct differences exist between research and quality improvement. Both approaches can yield valuable information that may impact nephrology nursing practice and patient-related outcomes. There is a desperate need to improve patient experience and quality of care, and to reduce healthcare costs. Conducting research to generate new evidence is extremely important, but so is translating the best available evidence into practice through quality improvement projects. Nephrology nurses are uniquely positioned to lead EBP initiatives, so gaining the requisite knowledge and skills to do this is essential. Future articles appearing in this department will focus on the fundamentals of EBP as a way to support nephrology nurses on their EBP journey.

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Learning Outcome

After completing this learning activity, the learner will be able to compare and contrast nursing research and quality improvement.

Learning Engagement Activity

For more information on quality improvement, view the following CNE session in ANNA's Online Library: American Nephrology Nurses Association (ANNA). (2016). *Quality assessment performance improvement (QAPI) - Developing action plans to improve outcomes*. Retrieved from <http://library.annanurse.org/anna/sessions/4944/view>

Evaluation Form (All questions must be answered to complete the learning activity. Longer answers to open-ended questions may be typed on a separate page.)

1. I verify I have completed this education activity. Yes No

SIGNATURE	Strongly Disagree	(Circle one)			Strongly Agree
2. The learning outcome could be achieved using the content provided.	1	2	3	4	5
3. I am more confident in my abilities since completing this education activity.	1	2	3	4	5
4. The content was relevant to my practice.	1	2	3	4	5
5. Commitment to change practice (select one):					
a. I will make a change to my current practice as the result of this education activity.					
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c. This education activity confirms my current practice.					
d. I am not yet convinced that any change in practice is warranted.					
e. I perceive there may be barriers to changing my current practice.					
6. What information from this education activity do you plan to implement in practice? What barriers are there to changing your current practice?	_____				
7. This was an effective method to learn this content.					<input type="checkbox"/> Yes <input type="checkbox"/> No
8. This education activity was free of bias, product promotion, and commercial interest influence.					<input type="checkbox"/> Yes <input type="checkbox"/> No
9. If no, please explain:	_____				

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This article was reviewed and formatted for contact hour credit by Beth Ulrich, EdD, RN, FACHE, FAAN, *Nephrology Nursing Journal* Editor, and Sally Russell, MN, CMSRN, CPP, ANNA Education Director.

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