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Public Health Nursing Clinical Expertise as a Component of Evidence-Based Care

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Public Health Nursing Clinical Expertise as a Component of Evidence-Based Care

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This is to certify that I have examined this
Doctor of Nursing Practice systems change project
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and have found that it is complete and satisfactory in all respects,
and that any and all revisions required by
the final examining committee have been made.

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Executive Summary

Evidence-based care in public health nursing is meant to guide practice through the integration of research evidence, clinical expertise, and client preference. Minimal study has explored clinical expertise, including what it means to be an expert, how practice wisdom informs decision-making, and whether experiential knowledge can be transformed to the benefit of others. Eight public health nurses, all of whom were highly experienced in providing home visiting services to high risk, pregnant and parenting families, participated in this qualitative inquiry. Interviews were conducted with the goal of exploring, describing, and understanding practice expertise from the perspective of those who know it best. The intended outcome of this research was to establish a source of practical knowledge that could be used in the recruitment and orientation of newly hired nursing staff. Data analysis was guided by a series of sequenced processes described by Colaizzi (1978). Five themes emerged from the data including: 1) public health nursing practice is derived from academic and experiential learning, 2) the knowledge of clinical experts contributes to the practice of others, 3) public health nursing expertise can be described through a collection of certain characteristics, 4) evidence-based nursing isn't well understood in community health settings, nor are processes fully incorporated into practice; and 5) critical steps of evidence-based care may not fully translate to public health nursing practice. Evidence-based public health nursing practice is a relatively young and as such, there is a need for expanded research, knowledge development, and the creation of meaningful and applicable methods of adapting processes to better reflect the realities of practice.

Chapter 1

"The words evidence-based nursing (EBN) are on the lips and in the minds of nurses around the world" (Dicenso, Guyatte, & Ciliska, 2005, p. xxiii). The definition of this concept varies; however most agree that EBN is a process of answering clinical questions based on the integration of research-based information, individual clinical expertise and client choice (Ingersoll, 2000; Melnyk & Fineout-Overholt, 2011; Sackett, 1996; Schmidt & Brown, 2009). Some would argue that scientific research is the best source of evidence and dispute the value and relevancy of practice expertise and client perspective.

Background and Significance

Evidence-based practice (EBP) has its roots in medicine; Cochrane, a British epidemiologist, "contends that individuals should pay only for care that is based on scientific evidence" (Schmidt & Brown, 2009, p. 4). Evidence based medicine was initially developed by physicians caring for individual patients in clinical settings. Due to growing financial constraints within the health care industry and demand for proven strategies, EBP has become an expected model of care. Even though EBN is a spin-off of this medical model, Cochrane's philosophy is not entirely consistent with the discipline of nursing. Many would argue that EBP, when used by nurses, should be consistent with foundational aspects of nursing.

Evidence-based nursing is relatively new to many, especially those who practice as public health nurses (PHN). Although this model is in its early stages of implementation, many organizations have already incorporated evidence-based programming into their daily practice. Hindsight suggests that evidence-based practice, as applied to public health nursing, is not the straightforward, systematic, step-by-step process as portrayed in the literature. Evidence-based practice is a concept, as well as a distinct process based on "seven critical steps" (Melnyk &

Fineout-Overholt, 2011, p.10). Significant barriers and obstacles contribute to its use in daily practice, as the process is time consuming and not always practical when addressing every clinical situation.

Evidence-based practice is compatible with certain clinical situations. For example, if a practitioner has questions related to an indwelling urinary catheter, clinical guidelines are available that readily address this category of topic. The process of asking and framing clinical questions, according to the rules of evidence-based practice, is not clear-cut for public health nurses, as clients typically present with complex and multifaceted needs. While evidence-based practice intends to manage overwhelming amounts of information by condensing issues into a searchable, answerable question, the nature of public health nursing is often contrary to this approach.

Even the question, "What is evidence?" is problematic for nurses practicing population-based care. Hierarchies can be found in the literature and typically rate the strength of evidence based on study design. Randomized controlled trials (RCTs) and systematic reviews of multiple RCTs are considered by some to be the "gold standard" (Melnyk & Fineout-Overholt, 2011, p. 12). Clinical observations, such as the opinions of authorities or reports of expert committees, are regarded as the weakest form of evidence (Dicenso, Guyatte, & Ciliska, 2005, p. 13). Due to the nature of public health, RCTs are difficult to conduct and evidence applicable to clinical settings doesn't easily translate into recommendations useful in population-based care. Public health "is a dynamic non-linear process, largely because it occurs in communities that are neither static nor controlled scientific environments" (Kohatsu, Robinson, & Torner, 2004, p. 418).

In response to various challenges surrounding evidence-based practice, systematic reviews and clinical practice guidelines have been developed and offer an efficient means of

accessing scientific literature by providing recommendations in a form useful for clinical decision-making. Numerous databases such as the Cochrane Review, Medline, and National Guideline Clearinghouse provide easy access to a range of topics often seen in clinical practice. It is important to note that only a few systematic reviews specific to the practice of public health nursing are available and do not address overall issues surrounding day-to-day decision making. The same can be said of practice guidelines. An attempt to develop PHN practice guidelines occurred in the late 1990s and focused on two topics, family violence and the promotion of positive parenting (Strohschein, Schaffer & Lia-Hoagberg, 1999). Although these areas do not reflect the entire scope of public health nursing, it is significant to note that no additional guidelines specific to practice have been developed since.

Elliott, Crombie, Irvine, Cantrell, and Taylor (2004) reviewed the international scientific literature on the role of nurses in improving the public's health. The authors were challenged to find relevant studies based on the fact that few countries outside the United States have designated public health nurses. Although standards for specialist community/public health nurses in the United Kingdom have been in existence for a decade, the role of nurses there, and in most other industrialized counties, has traditionally been structured differently compared to the United States (Nursing and Midwifery Council, 2004; Hemingway, Aarts, Koskinen, Campbell, & Chasse', 2013).

One might ask, "How are PHNs to engage in EBN when the "best scientific evidence" isn't available, specific or presented in a form useful for practice"? Furthermore, how are public health nurses expected to carry out daily functions when clinical expertise, a component of evidence-based practice, is not well defined and its value yet to be determined? Evidence-based care is practice model that offers benefits on many levels; however its application to public

health nursing is currently met with a myriad of challenges. Public health nurses need to identify ways to adapt EBN to the realities of practice so that this model is useful, relevant and enhances outcomes related to service delivery. A starting point in this endeavor begins by articulating and documenting the practice of public health nursing and how clinical expertise is utilized in day-to-day decision-making.

Situations and Opportunities Leading to this Systems Change Project

A local public health department approached a faculty member at St. Catherine University, wondering if a doctorate of nursing practice (DNP) student might be interested in discussing a potential issue within their agency. The agency was anticipating the retirement of several highly experienced public health nurses (PHN) in the next number of years and expressed concern about "practice wisdom walking out the door." The DNP student was asked if she would be willing to explore, describe, and capture this nursing wisdom with the intent of using it to recruit and orient newly hired PHNs.

The goal of this public health agency is to provide home visiting to at-risk families with children under age six and pregnant women. Nurse home visiting is well researched in the literature and has been shown to be a cost-effective strategy for improving maternal and child health (Olds, Henderson, Chamberlain, & Tatelbaum, 1986a; Olds, Henderson, Tatelbaum & Chamberlain, 1986b,1988; Olds, Henderson, & Kitzman, 1994). Research demonstrates enduring effects of nurse home visiting as measured by improved maternal life course, reduced government spending for mothers, lower rates of arrests and convictions, and fewer children born to the female children of the mothers (Eckenrode, et al., 2010; Kitzman et al., 2010). Home visiting initiatives are designed based on specific evidence from the literature and public health agencies receive significant funding from both federal and state grants in order to conduct these

programs. Specific home visiting models view nurses at the center of decision-making, while others are more structured, leaving minimal opportunity for adaptation or departure from established criteria. In certain circumstances, public health nurses are essentially caught in the middle, as scientific evidence dictates care, but doesn't allow for variation based on expert opinion.

Congruence to the Organizations' Strategic Plan

The United States is faced with growing health care needs, while at the same time; resources and funding are inadequate to meet demand. Access to care and health inequities are major public health issues. Evidence-based practice is an approach that addresses health care waste, by identifying proven strategies that are optimally cost-effective. The county where the SCP was implemented expresses this concept through their vision statement, "As diligent stewards of the public trust and public funds, we provide services that are based on sound science and best practices and that meet public needs to achieve our public health goals" (County Vision Statement, 2012). This Systems Change Project (SCP) focuses on an approach to care that supports the vision and values of this local department of health.

Systems Change and Social Justice

The target population of the research site focuses on vulnerable groups. Variables such as maternal age, birthplace, race and ethnicity, lack of prenatal care, education, and tobacco use during pregnancy place these individuals and their children at greater risk. This SCP is based on several social justice issues, with the ultimate goal of strengthening, preserving and enhancing the work of public health nurses that focuses on providing care to vulnerable populations.

The foundation of public health is embedded in the concept of social justice and respect for the worth of all people. The Principles of the Ethical Practice of Public Health suggest that

health is a right and as such, public health "should advocate and work for the empowerment of disenfranchised community members, aiming to ensure that the basic resources and conditions necessary for health are accessible to all" (Public Health Leadership Society, 2002, p. 2).

Nurse home visiting is a highly effective intervention strategy. From a social justice perspective, as stated by Marmot, Friel, Bell, Houweling, and Taylor (2008), "investment during the early years of life has some of the greatest potential to reduce health inequities within a generation" (p. 1662).

Research Purpose

The purpose of this SCP is to elicit and articulate the clinical wisdom of experienced public health nurses who are currently practicing in community settings. Minimal study has been conducted on this topic and there is potential to address an unmet need. Qualitative methodology will be used to explore and describe the perspective of PHNs and interviews will be conducted in order to generate data. At the conclusion of this project, public health nurses will:

- Differentiate the practice attributes of experienced versus inexperienced nurses,
- Identify qualities of highly effective public health nurses,
- Describe significant learning challenges of nurses entering into public health,
- Discuss how the practice knowledge of expert public health nurses can benefit others in their daily work,
- List commonly used sources of evidence PHNs use to inform decision making in practice.

Research Question

The following research question will guide the plan of study, “What characteristics do experienced PHNs ascribe to clinical experts in community health nursing?”

Chapter 2

The theoretical framework guiding this Systems Change Project is presented and a review of literature includes varied research exploring clinical expertise as a component of evidence-based practice. The practice knowledge of expert nurses is described, as well as differences between novice and experienced PHNs. Finally, the project plan and return-on-investment is provided, which expands the rationale regarding the value and timeliness of this SCP.

Theoretical Framework

The Code of Ethics for Nurses (2011) challenges nurses to "advance the profession through knowledge development, dissemination and application to practice" (p. 28). Nurses have an ethical obligation to generate and disseminate nursing knowledge; however this effort must occur within a nursing framework versus a medical model. Nurses are challenged to embrace EBN, while at the same time, preserve professional integrity. Two theoretical frameworks will serve as the foundation for this project: Carper's Patterns of Knowing and Critical Caring Theory.

Carper (1978) describes four fundamental patterns or ways of knowing within nursing, including empirics, aesthetics, ethics, and personal knowing. These patterns, when applied in an integrated manner; provide a holistic way of understanding the client. Carper (1978) suggests the patterns of knowing reflect what nurses value most; no single pattern is considered sufficient or mutually exclusive, but rather, should be thought of as interrelated, and interdependent.

Contemporary nursing literature builds on Carper's seminal work and two additional patterns, sociopolitical knowing and unknowing, have been added (White, 1995; Munhall, 1993). Carper's Patterns of Knowing have come to be known as the "epistemological and ontological foundation of nursing" and as such, are relevant to evidence-based care (Zander, 2007).

Evidence-based practice originated as a medical model, and therefore, has the potential to be at odds with the underpinnings of nursing. Knowledge is an important concept as it "creates a disciplinary community beyond the isolation of individual experience" (Chinn & Kramer, 2011, p. 4). Evidence-based practice is based on a hierarchy of evidence and this feature alone is inconsistent with the nature and scope of nursing knowledge.

The Critical Caring Theory builds on Watson's Theory on Human Caring, and is a descriptive, midrange theory proposed as a framework to guide public health nursing practice (Parker & Smith, 2012). The theory conceptualizes empowered caring as a relational way of being, choosing, knowing and doing. Critical caring is characterized by mutuality and active participation of the care partner; power is shared and its distribution is situational and mutually established.

Critical Caring Theory is similar to Carper's Patterns of Knowing in that core elements of critical caring are intertwined and wholeness is emphasized. A public health nurse learns to consider multiple sources of evidence in her decision-making and critically appraise all available information before deciding on a plan of care (Falk-Rafael, 2005; Falk-Rafael & Betker, 2012). Public health nurses use the idiom, "seeing the forest for the trees" to suggest the value of broad-based thinking and understand that a singular focus on one source of knowledge, such as empirical knowing, is insufficient for making practice decisions.

Review of the Literature

Online databases searched for the literature review include CINAHL, Medline, and PubMed. Key search terms included nursing, knowledge, expert, novice, evidence, practice and public health. The literature suggests the topic of interest is highly under-researched, and therefore, inclusion criteria included only two stipulations: All included research was focused

public health nursing and practice. Books, journals, reference lists, systematic reviews and practice guidelines were searched, as well as consultation with public health experts, who verified the limitations of research on this topic.

The following represent themes reviewed in literature based on the research question. Is there specific clinical know-how that describes public health nursing practice? Is there a difference between the practices of novice versus expert PHNs? What sources of practice knowledge do nurses use in practice?

Underlying Principles of Public Health Nursing

Conceptual models specific to public and/or community health nursing (P/CHN) describe various aspects of public health nursing including core functions, essential services, and practice competencies (Bigbee & Issel, 2012). Public/community health nursing conceptual models are limited in their capacity to express practice knowledge; this feature is not unique to public health nursing, but rather expresses the whole of evidence-based practice.

Rycroft-Malone et al. (2004) define knowledge as experiential (informal, implicit, and derived from practice) and scientific (formal, explicit, derived from research). The relationship between experiential and scientific evidence is dynamic; each aspect must be "melded coherently and sensibly in the real time of practice" (p. 81). While research relevant to C/PHN continues to be described, much less attention has been given to the knowledge derived from practice and the development of clinical expertise. Benner (1984) describes two different kinds of knowledge in nursing; "knowing that" and "knowing how." She asserts that "a wealth of untapped knowledge is embedded in practice…but this knowledge will not expand or fully develop unless nurses systematically record what they learn from their own experience (p. 11).

SmithBattle, Drake, and Diekemper (1997) concur with Benner's finding and believe knowledge derived from practice can be examined and scrutinized. Two studies were conducted based on this premise and determined that community health nurses (CHNs) use a skill referred to as "responsive use of self" in practice, regardless of setting or client focus. "Responsiveness to other" is an underlying principle that allows CHN to gain a situated understanding of clients' lives, and cultivate strengths and connections to a responsive community. Community health nursing practice is best described as the accumulated knowledge that resides in being present (p. 88).

Falk-Rafael and Betker (2012) interviewed public health nurses and found what mirrors that of other researchers. Participants universally agreed that before even considering possible nursing interventions, it is typical to initially concentrate on developing a relationship with the client and family. This intervention fosters capacity building, mutuality and power sharing and reflects the nature of public health nursing, which is a "way of being, knowing, choosing, and doing" (Falk-Rafael & Betker, 2012, p. 329). Although minimal study has been conducted examining the actual day-to-day practice of public health nurses, several researchers support the relevancy of this concept.

Although the underlying principles of public health nursing are embedded in daily practice, practice wisdom has not been explored, and is poorly understood. In addition, there seems to be a lack of consensus on the definition of clinical expertise and how it is to be used. For example, Sackett (1996) defends the usefulness of clinical expertise, stating "external clinical evidence can inform, but can never replace, individual clinical expertise" (p. 72). Reed and Crawford Shearer (2011) suggest that data generated by RCTs offers reliable and valid information, but information doesn't translate into clinical wisdom (p. 67). DiCenso, Guyatt,

and Ciliska (2005) include clinical expertise as a component of EBP, and regard it as a means of integrating other components of the model. Rycroft-Malone et al. (2004) reflect on knowledge development, pointing out that practical knowledge can become scientific if it "has been articulated by individual practitioners, debated, contested and verified through a wider community of practice" (p. 83).

Public Health Nursing Expertise

Not all knowledge is equal, as demonstrated by early research examining expert versus novice public health nurses. SmithBattle, Drake, and Diekemper (1997) conducted a study describing PHN expertise in practice, and interviewed nurses with varying levels of experience. Findings suggest that key differences exist between novice and expert PHNs. A second study was designed in 2004 and confirmed these earlier results; knowledge and expertise is both derived from and developed in practice. An integrative review by Morrison and Symes (2011) summarized research examining qualities of expert nursing in a variety of settings. Several characteristics emerged as unique to expert practice including "knowing the patient, reflective practice, risk taking, intuitive knowledge and pattern recognition and skilled know-how" (p. 164). Azzarello (2003) identified the underlying structure knowledge of expert home care nurses' and described it as was "more extensive and interconnected than that of novices" (p. 18). Benner (1984) has extensively studied nurse performance characteristics at different stages of skill acquisition. Her research suggests that nurses accumulate clinical knowledge over time; competencies are developmental, and nursing knowledge is a blend of theory, research and practice.

Sources of Practice Knowledge among Nurses

Turner, Stavri, Revere, and Altamore (2008) researched the information needs of public health nurses in a local health department. Colleagues i.e., public health professionals were identified as the most commonly used, efficient, and reliable source of information. Another study assessed nurses' readiness for EPB and participants were asked how nursing information was obtained. Nearly three quarter of respondents said they always or frequently turn to colleagues for nursing information (Thiel & Ghosh, 2008). SmithBattle, Diekemper, and Leander (2004) address this issue by offering excerpts illustrating how a novice nurse clearly benefits from an experienced colleague "who translates formal theory into practice situations" (p. 6). Benner (1984) suggests there is some learning that can be taught, in contrast to what must be learned experientially. Estabrooks et al., 2005, studied the kinds of practice knowledge nurses use and identified social interactions and experience as the two most important sources of evidence. Findings suggest that "nurses sometimes rejected evidence-based patient care protocols in favor of those practices they consider effective based on experience" (p. 468). Researchers mapped their findings onto Carper's Patterns of Knowing and confirmed that nurses use each patterns of knowledge in practice. Nurses depend on their own experience as a source of evidence, however they turn to colleagues when in question in order to "validate these experiences" (Estabrooks et al., 2005, p. 468)

Synthesis

Clearly, the practice of nursing is different from other professions, including medicine. While the premise of evidence-based care makes sense, practice distinctions must be acknowledged and the model adapted to reflect unique perspectives. Evidence-based practice challenges public health nursing as research generated in clinical settings doesn't easily apply to

population-based care, nor is it available, specific or presented in a form useful for practice. Evidence-based public health nursing is not the straightforward, systematic, step-by-step process portrayed in the literature. Public health nursing is based on specific underlying principles; craft knowledge represents an essential aspect of care. Knowledge is a concept central to the foundation of nursing in general, however not all knowledge is equal, as demonstrated by early research examining expert versus novice public health nurses. Practice knowledge is achieved through the use of and integration of several sources of evidence; an important understanding for public health nurses.

There is an abundance of knowledge embedded in PHN practice; failing to capture this knowledge, as requested by the public health agency desiring this system change, cannot be ignored and represents "wisdom walking out the door." Evidence is considered to be knowledge derived from a range of sources and as Leeman and Sandelowski (2012) point out, "if we want more evidence-based practice, we need more practice-based evidence" (p. 171). Public health nurses comprise the largest occupational group of public health workers. A recent survey determined that the workforce is aging and employment forecasts predict a shortage of PHNs in the future. Newly hired nurses are insufficiently prepared for this type of work due to their inexperience and lack of exposure to community health (NACCHO, 2005). Furthermore, population trends suggest the number of consumers requiring home visiting services will continue to grow and determinants such as age, race and ethnicity, marital status, education, income and lifestyle will shift demand patterns, indicating increased need for services. Evidence-based nursing practice is relatively young, and as such, there is a need for expanded research, knowledge development, and the creation of meaningful and applicable ways to adapt this model in order to reflect the realities of practice.

Evidence-based Project Plan

A logic model was developed at the inception of this SCP, outlining variables such as necessary resources, outputs and project outcomes. A detailed timeline was helpful in guiding project activities and overall, deadlines were easily met.

The site mentor was highly encouraging and communicated her support by way of a letter, which was submitted to the IRB. As Managing Director of the research site, she was supportive, accessible, provided timely feedback and facilitated various aspects of the project on-site. She agreed to all interviews being conducted during work hours, made sure space was available, and generally opened doors wherever and whenever necessary. Resources associated with this SCP were minimal and examples include staff time, (administrative, nursing, and support), salaries, space, cost of a digital recorder, mileage, and copying/printing costs.

Return-on-Investment (ROI)

A discussion of return-on-investment begins by asking the following questions, "What are the anticipated benefits of this project? What are the costs?" The economic impact of community-based home visiting is substantial, yet this SCP does not focus on home visiting, but rather the practice wisdom of PHNs who happen to be working in this setting. Practice wisdom is an elusive concept. The monetary value of public health nursing knowledge is intangible at this point in time.

According to Goodwin, Van Dyne, Lin, and Talbert (2003), the fact that practice wisdom is not well understood isn't surprising as "health care systems still focus on what nurses DO and few value what nurses KNOW" (p. 379). The sites' letter of support was revisited in hopes of clarifying the discussion surrounding return-on-investment. According to this letter, the intent of this SCP is simply to explore, describe, and capture the practice wisdom of PHNs. Benefits,

from the site's perspective include being able to contribute to PHN practice-based evidence, to use nursing knowledge as a way of mentoring novice nurses, and to encourage younger nurses to consider public health nursing as they hear "amazing stories" from the community.

Cost-benefit analysis assumes that by capturing expert nursing wisdom, programs could be developed and training costs for new employees reduced. What is the cost of training newly hired PHNs? Current literature doesn't offer specific data about the direct or indirect costs related to public health nursing, although information is available regarding registered nurses practicing in acute care settings. Due to significant differences between hospital and community-based settings, values can't be extrapolated and aren't useful for this discussion.

Due to gaps in the literature, the site mentor was asked directly about her training costs. Her reply to this request was, "I don't know the costs, other than it is expensive." She promised to confer with colleagues and discovered that no one within the region had knowledge regarding costs associated with staff orientation. This may be partly due to the fact that turnover is rare. However as stated earlier, several nurses are anticipated to be retiring in the near future, and therefore, this is an issue that must be addressed in a timely manner.

As a whole, the recruitment and retention of registered nurses is costly for any facility (American Nurses Association, 2014). Training is just one aspect to consider in the overall spectrum of costs associated with employing staff. In acute care, orientation often includes classroom and skill instruction, and patient care with assignment to a preceptor. When calculating costs, in addition to the novice nurse's direct and indirect expenses, one must also consider the preceptor's salary, as well as costs associated with decreased work productivity. According to Goodwin et al. (2003) expert nursing knowledge is "poorly articulated and undervalued" in the health care system (p. 380). Until recently, few have considered "captured

wisdom" a valuable resource in reducing health care costs. Mentoring programs are emerging as a more formalized attempt to utilize nursing knowledge, with benefits ultimately impacting direct and indirect costs.

A unique pilot in North Carolina examined public health nursing workforce issues, with the intent of determining whether a mentoring program would be useful in improving the competence, retention and satisfaction of new PHN's (The North Carolina Institute for Public Health, 2010). This pilot project was successful in demonstrating positive effects related to using the expert knowledge of experienced PHNs to enhance the practice of novice nurses. Unfortunately, the organization did not calculate return-on-investment and instead, focused on "mentee confidence" related to role performance as measured by a pre and post-test.

The Georgia Department of Public Health (GDPH) examined recruitment and retention issues related to public health nursing, as nurse shortages have reached "a crisis level" within this state (Georgia Department of Human Resources, 2006). The Georgia Department of Public Health projects that as many as fifty percent of nurses in county health departments anticipate retirement within the next five to ten years and in response, have searched for innovations promoting recruitment and retention; mentoring being a key element of the plan. Novice nurses are mentored from twelve to eighteen months after being first employed. Measures used to determine benefit included job satisfaction, the mentoring relationship, and positive client outcomes. Economic indicators were simply not addressed in any part of the program report. From the perspective of project managers "the major benefits of mentoring centers on ensuring the next generation of strong, competent nurses" (American Nurses Association, 2014, p. 2). This statement is nearly impossible to define, measure, or evaluate.

The Robert Wood Johnson Foundation recently provided funding support to expand knowledge related to the public health workforce, focusing specifically on PHNs (University of Michigan School of Public Health, 2013). Surveys were sent to state and local health departments and a broad range of questions covered many aspects of practice. Findings suggest that hiring nurses into PHN positions can be challenging; nearly a third of nurses surveyed had five or fewer years of experience working in public health. Based on research findings, The Public Health Nursing Workforce Advisory Committee offered several recommendations, but two are particularly pertinent to this discussion, including: A. the formation of academic-practice partnerships, so that new nursing graduates might be encouraged to consider careers in PHN; and B. residency programs designed to address their lack of experiential knowledge. The only mention of cost in this report is described within the context of salary ranges associated with nursing positions.

It is apparent that a gap exists in the literature related to costs associated with the recruitment, training and retention of public health nurses. As was stated earlier, an assumption driving this Systems Change Project is the notion that by capturing expert nursing wisdom, training costs for new employees will be reduced. Determining return-on-investment isn't possible at this point in time. However, Porter-O'Grady and Malloch (2011) do suggest that a cost benefit analysis should be considered whenever a healthcare program or service can be quantified in dollars. The inference is that return-on-investment isn't always possible, applicable or relevant.

Goodwin et al. (2003) suggest that by linking clinical data, nursing interventions, and patient outcomes, expert nursing knowledge can contribute to quality care, as well as reduce healthcare costs. As the discipline of nursing informatics expands, terms such as knowledge,

knowledge worker, wisdom, and expertise will become more common and valued as a cost effective resource. Recruitment and retention is problematic in all of nursing, but public health in particular. Nursing shortages will continue to result in increased numbers of staff being hired to fill vacancies; many will be inexperienced in the field. Clearly, key differences exist between public health nurses based on levels of experience and strategies are needed to bridge practice deficits. Experienced nurses possess valuable knowledge needed to accomplish this.

Nursing wisdom is a resource that can be used to benefit others; translating expertise into cost savings remains to be seen. When asked about costs associated with training newly hired nurses, the site mentor's response was "We all think it's a great question and would make a good student project!" In an era of health care reform, viewing nursing knowledge as a commodity is critical. By attaching a price tag, value is established, and this ultimately becomes a source of power.

Chapter 3

The following chapter outlines the methodological design and approach used in this Systems Change Project. Research procedures related to data generation and management strategies are presented, as well as ethical considerations. A final discussion surrounds the process and framework guiding data analysis and interpretation.

Method

This Systems Change Project was developed and conducted using a descriptive phenomenological design. According to Streubert and Carpenter (2011), descriptive phenomenology explores, analyzes and describes a particular phenomenon. Qualitative research allows for exploration of subject matter where little is known and multiple perspectives contribute to its understanding. Streubert and Carpenter (2011) suggest that qualitative research doesn't search for one reality, but rather "individuals come to know and understand phenomena in different ways" (p. 20). Public health nurses are primary experts on knowledge applicable to their own practice. Therefore it makes sense to explore expertise from the perspective of those who know it best.

Sampling Strategy

The research site, a subdivision of the health department, provides home visiting services to high risk, pregnant and parenting families and employs approximately sixty-five PHNs, providing access to a large pool of highly experienced PHNs, all of whom practiced within their specialty field. Participant selection was based on purposive sampling and as such, the student researcher was invited to attend various team meetings for recruitment purposes. An overview of the project was provided to staff and following each presentation, an IRB-approved information sheet was distributed. Staff wondered about inclusion criteria, specifically the

amount of experience required for project participation. Consistent with research conducted by SmithBattle et al. (2004), an experienced public health nurse is defined in this project as "an individual employed as a PHN for at least three years." This wasn't an issue, as seven out of eight participants had employment histories amounting to at least twenty years or more. The least experienced participant had been employed as a nurse for nearly ten years.

Staff interested in being considered for research participation was encouraged to contact the researcher by phone or email following the staff meeting. Although selection of project participants was originally intended to be based on factors such as availability, order of sign up and years of employment, in the end, ten public health nurses agreed to participate. However, due to scheduling conflicts, only eight nurses met with the researcher for a one-time individual interview. The size of this sample was thought to be appropriate, as in qualitative studies, data sources tend to be small, and saturation drives the number of participants required (Streubert & Carpenter, 2011).

Ethical Considerations

An Institutional Review Board (IRB) application was submitted to and reviewed by St. Catherine University prior to initiation of research with human subjects. Approval was granted for this SCP and IRB approved documentation includes the following: Information and Consent Form (Appendix A), Demographic Questionnaire (Appendix B), Interview Guide (Appendix C), and Research Flyer (Appendix D).

Bracketing Interview

In preparation for the interview process, the researcher participated in a bracketing interview, led by her faculty advisor. In qualitative studies, bracketing interviews are recommended prior to data generation and management in order to "examine the [researcher's]

influence on all aspects of qualitative inquiry" in order to be aware of any pre-existing assumptions or biases (Streubert & Carpenter, 2011, p. 34). The bracketing interview was recorded and transcribed, allowing for later examination. Prior to commencing data analysis, assumptions identified through the bracketing interview were revisited to reduce the possible introduction of bias in this step of the research process. Assumptions identified from the bracketing interview include an assumption that interviewees would struggle to communicate their expertise, especially if sounding boastful, questions might be difficult to comprehend, and responses challenging to articulate.

Data Collection

Individual interviews were determined to be the most conducive way participants could fully describe their practice as a PHN. Face-to-face, semi-structured interviews were conducted with individual nurses and guide questions developed in order to facilitate exploration and understanding of each individual's experience. Topics were carefully crafted based on the review of literature and revised several times. Interview questions were reviewed and feedback was provided by the faculty advisor, manuscript reader and site mentor. In addition, questions were piloted with an experienced public health nurse, who offered valuable insight and feedback.

Using a similar data collection strategy, SmithBattle et al. (1997) researched differences between novice and expert PHNs. The DNP student felt questions previously utilized might be helpful for review and contacted the researcher, who graciously forwarded relevant materials. Although study objectives differed in many ways and specific questions didn't allow for duplication, insights gleaned from this review were helpful in informing the interview process.

Interviews were conducted at the public health agency and interview times were scheduled based on individual nurse's preference. Interviews were held in a private conference

room and following a bit of rapport building, each interviewee went through the consent process, followed by completion of a basic demographic form. Interviews were audio-taped and lasted approximately 1 - 1½ hours.

Findings

The method guiding data collection and analysis is based on the work of Colaizzi (Valle & King, 1978). By offering procedural steps, this framework guides the researcher through a series of sequenced processes that result in a "rigorous, critical, and systematic investigation of phenomena" (Streubert & Carpenter, 2011, p. 78). The following section describes the step-by-step process followed when analyzing data collected in this study.

Familiarization with interview text. Individual interviews were recorded, listened to and transcribed by the researcher, word-for-word. Following transcription, individual interviews were read several times and significant content was highlighted. The researcher also noted on the transcript times participant's voices raised, a particular point was accentuated or pauses occurred.

Extracting significant statements. Using guide questions and the theoretical model, the researcher extracted pertinent narrative quotes from each interview and organized data into a master document, coding responses based on participant number and transcript page.

Formulating meaning. During the actual interview process, the researcher frequently summarized points and asked for clarification when a point wasn't clear. Participants often provided additional examples as a way of reinforcing a concept. During data analysis, the researcher again turned to the compiled narrative quotes in an attempt to determine meaning from a more comprehensive view. Collaizzi (1978) suggests it is important to "discover and illuminate those meanings hidden in the various contexts and horizons of the investigated

phenomenon" (p. 59). Although certain words and concepts were expressed by each participant, as a whole, themes started emerging from the data as the researcher continued to ask, "What does this mean?" "What point is she trying to express?"

Clustering themes. At this point in the data analysis and interpretation, the researcher grouped together predominant themes and validated them by going back to the original interview text. Subthemes also emerged, providing underlying support to major themes. After a final review of each transcript, highlighted narrative quotes and developed themes, it was determined that data saturation had been achieved.

Exhaustive description. The research question guided this step in the process, as themes and subthemes were discussed with a focus on the phenomenon of interest. As this exhaustive description phase progressed, themes and subthemes were further clarified and additional understandings became evident. Colaizzi (1978) recommends the final description needs to be "as unequivocal a statement of identification of its fundamental structure as possible" (p. 61). As such, the intent of the exhaustive description was to express one possible meaning or interpretation of the phenomena.

Validating the data. As a final step in the data analysis and interpretation, participants were contacted individually by email in order to verify the accuracy of identified themes, with the intent that if any new data was revealed, it would be incorporated into the exhaustive description.

The methodological design and approach used in this Systems Change Project is presented, along with research procedures related to data generation and management. The sampling strategy, ethical considerations, bracketing interview and a description of participants is delineated. Data analysis is guided by the work of Colaizzi (1978) and sequenced processes

followed in order to interpret phenomena and gain understanding of the meaning ascribed to public health nursing practice.

Chapter 4: Data Analysis

The following section reports the compiled demographic information. In addition, it includes findings related to expert public health nursing practice knowledge based on the research question, "What characteristics do experienced PHNs ascribe to clinical experts in community health nursing?"

Demographics

Demographics of public health nurses participating in this SCP are outlined in the Appendix E. The requirements for public health nurse registration in the State of Minnesota includes licensure and registration as a registered nurse, a baccalaureate or higher degree with a major in nursing, and completed course work in public health nursing (Minnesota Board of Nursing, 2014). Each study participant met these qualifications.

All of the interviewees were female, seven out of eight, Caucasian, and seventy-five percent were at least fifty-one years of age, although three participants indicated they were over sixty. Only one PHN was in the 20 to 30 year range. Overall, participants were highly experienced as public health nurses. There was a range in years of experience, however seventy-five percent had been in practice over twenty years. Based on inclusion criteria, no participant was considered inexperienced.

Participants described varied backgrounds leading up to their current position in home visiting. Some participants considered themselves to have previously functioned as PHN generalists. Many nurses worked in other areas prior to their current positions, including acute care, family and school health, long-term care and nursing administration. Each participant had a significant amount of experience in maternal-child health.

Themes

Using Collaizzi's framework, findings will be guided by themes, defined by Streubert and Carpenter as a "structural meaning unit of data" (p. 455). Five themes emerged from data analysis and the following discussion focuses on each individual meaning unit. A summary of themes and corresponding subthemes are presented in the table below.

Table 4.1: Themes and Subthemes

1. Public health nursing practice expertise is derived from academic and experiential learning.

    - Novice nurses lack experiential knowledge
    - Practice knowledge evolves with time and experience
    - Novice nurses are not clinical experts

2. The practice knowledge of clinical experts can be used to benefit others through:

    - Functioning as mentors
    - Offering support and encouragement
    - Facilitating problem-solving
    - Role modeling PHN concepts

3. Clinical expertise can be described through characteristics, such as qualities, skills and interventions.

4. Evidence-based nursing is not well understood in community health settings, nor are evidence-based processes fully incorporated into practice.

5. Critical steps of evidence-based care may not fully translate to public health nursing practice.

    - Public health nurses integrate multiple patterns of knowing into their day-to-day practice
    - Public health nurses initially concentrate on developing a relationship with the client and family
    - Evidence-based programming is not the same as evidence-based practice
    - Evidence-based programs take precedence over clinical expertise in clinical decision-making
    - Evidence-based programming disregards the patient's voice in decision-making

Results

Theme # 1: Public health nursing practice expertise is derived from academic and experiential learning

Nursing knowledge has been categorized in many different ways with the suggestion that learning is both practical and theoretical. Benner (1984) describes the terms, knowing-how and knowing-that, to illustrate differences between academic and experiential learning. Rycroft-Malone et al. (2004b) describe two kinds of knowledge: propositional and non-proposition, one being derived from research and the other primarily through practice. Neither source of knowledge is preferred, rather the relationship is interdependent.

Novice nurses lack experiential knowledge. SmithBattle et al. (2004) point out that "inexperienced public health nurses enter the field with great gaps between theoretical knowledge and practical know-how" (p. 9). In other words, novice nurses lack experiential knowledge, and therefore, approach clinical situations with limited ability to translate theory into practical solutions. A research participant states:

> You just need to know so much about many different things. During those first years of nursing there's a lot of stuff learned on the job. The few inexperienced nurses having come to me were completely overwhelmed because they felt like they had to be all things to this particular family and they weren't quite sure exactly what they had to offer. Novice nurses, especially beginners without healthcare experience, rely on external guidelines for decision making and this alone results in an extremely limited and inflexible perspective.

The nature of public health complicates this situation and as one participant explained, "Nothing is predictable in our work." Furthermore, public health nurses typically function

autonomously in the community with minimal support when caring for clients, especially in home settings. Delivering home visiting services for vulnerable families is a complex process requiring a high level of skill. Families' circumstances vary greatly, and the PHN needs to adapt care depending on client need. Experience is crucial to effective practice, especially as it relates to public health nursing. A research participant describes the challenge of being a novice nurse in public health.

> This is a job where it takes a couple of years before you feel like you know what you're doing. You are constantly asking people, "How do I do this? How do I do that?" I think with experience, you expand on what you learned in school. You come to public health nursing with basic understandings. Practice knowledge comes with experience. As a new nurse, you have to manage the basic content first and then kind of grow to figure out the bigger picture.

Practice knowledge evolves with time and experience. A common thread throughout each interview is the notion that practice knowledge develops with time. Clinical situations provide "lessons", and in each interview participants recalled pivotal moments contributing to early learning. The following excerpt is shared, not because of the lesson, but rather because it represents a meaningful event.

> My pivotal moment was life altering for me as I was subpoenaed to court, even though I had only been in public health less than five years. I learned many lessons from this experience, especially the idea that practice isn't black and white, but really resides in the gray areas. This pivotal moment changed my practice, especially related to documentation.

Knowledge development is a complex process that goes beyond the scope of this SCP. However, it is important to note that novice nurses lack many of the skills required for effective entry into public health nursing practice. Clearly, key differences exist between public health nurses based on levels of experience and strategies are needed to bridge these practice deficits. The Public Health Nurse Workforce Survey (2012) recommends that additional support, guidance, and training be provided to new graduates and others entering into public health practice (University of Michigan Center of Excellence in Public Health, 2013).

Novice nurses are not clinical experts. Benner (1984) describes a nurse's professional growth based on performance characteristics. She refers to a progression of stages and uses the terms novice, advanced beginner, competent, proficient and expert to distinguish developmental levels. Benner suggests that a lack of experience inhibits the novice and advanced beginner. It is necessary to offer support and guidance during this initial period. Novice public health nurses do not possess clinical expertise and clearly need support in their learning. As expressed by a research participant, "An inexperienced nurse lacks clarity about her role and function; she is uncertain about the practice of public health nursing and needs help with many processes, such as problem solving and decision making".

Theme # 2: The practice knowledge of clinical experts can be used to benefit others

It is important to note that clinical expertise is integral to the definition of evidence-based practice. However, many questions surround what it means to be a clinical expert and how expertise is to be used in EBP. Overall, it is fair to say that this concept isn't well defined in the literature. For example, Sackett (1996) states that, "external clinical evidence can inform, but can never replace individual clinical expertise" (p. 72). Melnyk and Fineout-Overholt (2011) briefly discuss clinical expertise and ways expert knowledge can be used in practice settings. All

recommendations focus on acute care. Dicenso, Guyatte, and Ciliska (2005) describe clinical expertise as a means of integrating all other components of the evidence-based practice model. Schmidt and Brown (2009) devote an entire book to evidence-based practice for nurses. The only mention of clinical expertise occurs when defining this model of care. The authors allude to the use of clinical expertise with the following comment. After a "review of research publications…and after the information is evaluated, nurses use their clinical decision-making skills to apply evidence to patient care" (Schmidt & Brown, 2009, p. 4).

Even though EBN is proposed as a process of answering clinical questions, the use of clinical expertise is not well understood. Is clinical expertise limited to the individual practitioner at the point of decision making? Or, does the value go beyond the individual and benefit the greater good? From the perspective of this SCP, it is apparent that the practice knowledge of seasoned public health nurses is useful in ways not formally considered when thinking of EBP. As one research participant stated, "I am an expert home visitor; I know the best way to do this practice."

Research participants were indirectly queried about this concept via the following question: "How can the practice knowledge of expert public health nurses benefit others in their daily work?" Participants were uncertain of this question initially, and overall, hesitated to respond. This same tentativeness was noted during the recruitment process, as individuals were reluctant to step forward as experts. It was interesting to note the dissonance in responses, with one nurse emphasizing her expertise, while others were reluctant to solicit attention. One nurse stated, "We never hear about the practice of public health nursing from those who know it best. Typically, a non-public health nurse will tell us how to do our job."

Can the clinical expertise of experienced PHNs be useful to others in practice? One expert articulated the following. "You can only benefit others if they want your input. Experts aren't willing to go around and be in people's faces. I guess one has to be open, approachable, and available to listen; then others will seek you out."

Another nurse talked about staff not asking questions of one another and felt this was problematic. "Not asking a question is what gets you into trouble. You aren't using the knowledge base that's around you." There was a suggestion that perhaps the current work environment discourages staff from sharing. "We talk amongst ourselves, but there isn't a formal process where we can use each other's expertise. Our work is really independent and it's helpful to talk with one another." Many of those interviewed mentioned the value of co-visits, but said this doesn't happen much anymore.

> There is tremendous value in sharing stories. It validates our practice - what you did right; what you're good at. It is really challenging professionally to deal with these complex situations. You have to use the expertise around you and not get stuck believing there is only one way. If we learn from our own mistakes, that's a good thing, but if we can learn from somebody else's mistakes, that's even better.

It is apparent that experienced PHNs recognize their expertise, value what they have to offer, yet fail to see how their expert knowledge can be used to benefit others in the workplace. On the other hand, an expert nurse may be reluctant to share her expertise based on constraints instituted by the system.

Functioning as mentors. Even though the use of clinical expertise is ambiguous and unclear, expert public health nurses proposed various ways practice knowledge might be useful in the workplace. For example, mentoring is an approach that supports new employees by

maximizing skills and performance. A public health nurse's expertise can be utilized to address the learning needs of novice nurses. A participant explains the importance of the mentoring relationship in the following quote:

> Expert PHNs can offer support, a listening ear, and gently guide newly hired nurses through the early years of practice. I love my roles as a teacher and mentor. It is really challenging personally, as well as professionally to deal with these complex families. You have to use the expertise around you.

Offering support and encouragement. Research participants talked about the difficulty of their work and the value of having someone as "a sort of cheerleader, a sounding board." Experience allows a different perspective and expert nurses can offer insight and guidance to a peer who is struggling.

> There is always something positive to interject into a difficult situation. Each of us needs encouragement and this is an important role for experienced nurses. Because our work is so independent, we rely on other nurses for support, guidance, and feedback. We are an important mirror for each other's practice.

Facilitating problem-solving. Another suggested way expert PHNs can inform the practice of other nurses in their daily work is by facilitating and assisting in the problem solving process. A participant states,

> Whether it's a new nurse, a client, or family, I see my role as facilitating the development of an individual's problem-solving skills. It's more helpful for an inexperienced nurse to be supported in the process of problem-solving, rather than me telling her what to do. Problem-solving and decision-making are skills that become sharpened with time.

Role modeling PHN concepts. The expertise of public health nurses can be demonstrated during home visits by having effective practices role modeled. The value of this strategy is described in the following quote.

> Joint visiting with various people is helpful because you see that there are different ways of doing things. No matter what the level of experience, there is uncertainty. You will always be running into new situations you haven't encountered before. We need to continually evolve and by making co-visits with another nurse, we can grow as individuals and professionals.

Clearly, experience is essential to the development of clinical expertise. It is vital that nursing expertise be regarded as a resource that contributes to quality care and cost effectiveness. Further strategies utilizing nursing expertise need to be identified; however the current nursing shortage is a call to action. The focus shouldn't rest solely on filling vacancies, but rather, on maintaining a knowledgeable and experienced workforce trained in population-based care. However, it is important to note that "clinical expertise" requires more than just having experience.

To be considered an expert in public health nursing requires distinct knowledge, basic competencies, and specific skills. Classroom instruction is essential in preparing nurses for roles in public health, but it is also important that theoretical knowledge reflect the "real-world" of practice. As such, an interview question was asked of experts that stated: "What qualities would you use to describe highly effective public health nurses?" The following theme emerged from this discussion.

Theme # 3: Clinical expertise can be described through characteristics such as qualities, skills and interventions

During interviews, participants liked being asked about highly effective public health nurses; their responses came easily. However, analyzing the narrative text was challenging, as the terminology seemed ambiguous and responses uncertain. Semantics seemed to be the issue and it was determined that participants described characteristics, or traits, that could be further delineated as skills, qualities, and interventions. For this discussion, the term quality is defined as "a feature that someone has," while skill refers to an "ability, coming from one's knowledge, practice, and aptitude, to do something well" (Dictionary.com, 2014). Clinical expertise, for purposes of this SCP, is considered to be a collection of skills, qualities, and interventions which in combination describe effectiveness.

Qualities. Expert public health nurses understand that certain qualities lend well to this position. Participants offered several personality traits that foster a PHN's effectiveness, such as a non-judgmental attitude, curiosity, and/or compassion. One participant talked about the importance of being empathetic and stated, "I discovered with my clients, we are more alike than different. We don't have any differences in where we're going. We just have different support systems that help us get there". Another participant described the value of open-mindedness and shared the following comment.

> It's helpful to be an open thinker, meaning you aren't rigid in how you look at things. You leave your judgment at the door, take off your blinders and open yourself to new ideas and learning. Effective public health nurses have a sense of humility and realize they don't have all the answers and never will. Life is bigger than us.

McMurray (1992) studied experts in community health nursing and identified factors influencing clinical expertise. Her findings suggest that a combination of characteristics contribute to the development of expertise and can be nurtured, reinforced, and fostered through formal and informal learning experiences. A research participant, reflecting on the uniqueness of community health nursing stated: "I don't know what it is, but public health nurses; we are a unique breed. We just love this work!"

Skills. Mastering a particular set of skills is an essential part of nursing education and many schools use simulation labs for students to practice basic and advanced nursing skills. The term, nursing skill, often refers to clinical tasks or technical procedures, such as injections. *The Essentials of Baccalaureate Nursing Education for Entry-Level Community/Public Health Nursing* (2010) address the core knowledge and basic competencies needed for public health nursing practice. The term "skilled competencies" is used to describe the essentials of education for entry level community health nursing practice. Offering an extensive list of specific skills required for public health nursing isn't the point of this discussion; suffice it to say effective PHNs are skilled in their practice.

An extensive literature review was conducted prior to the development of an Australian sustained nurse home visiting program and key findings suggest that "*how* services are provided is as important as *what* is provided" (Moore, Sanjeevan, & Price, 2012, p. 3). The "how" focuses on the qualities and skills utilized in the delivery of care. Examples of skills might include communication, problem-solving, and mobilizing community resources.

Other researchers have identified skills beneficial to public health nurses; SmithBattle et al. (1997) describe the "responsive use of self" as a highly developed PHN skill. Falk-Rafael and Betker (2012) identify public health nursing as a way of being, knowing, and choosing. The

Quad Council of Public Health Nursing Organizations (2011) lists core skills and competencies for public health nursing based on levels of practice.

When asked to describe traits of a highly effective public health nurse, participants essentially validated what is already described in the literature. Skills, such as developing relationships, communicating effectively, and being cultural sensitive, working with interpreters, and problem-solving were consistently mentioned. One expert described why communication is valued when used by highly effective PHNs. "I think I've learned to be quieter and allow families to talk, because they never really have a chance to talk. I think a more experienced nurse is comfortable listening and knows she doesn't have all the answers. Everyone has a way of communicating and so you learn how to play off what the client feeds you."

Expert nurses consider problem-solving to be an essential skill. The quote shared by this participant speaks to the importance of facilitation, collaboration, and mutual goal setting.

> Clients don't know what they don't know. We just listen to them, ask open ended questions, and find out what they want and where they want to go. We learn how we can help them achieve steps and get them moving in the right direction. On my home visits, I go where the client is. I'm not there to make decisions, but rather provide information. We used to be way more authoritative; the expert coming in. Now we're not like that. We are more of a team member and come alongside the client. It's more of a partnership and mentoring role.

Many of the research participants spoke of the cultural challenges of public health nursing, which is not surprising, as eighty percent of the clients served by this home visiting program are from communities of color (Saint Paul-Ramsey County, 2011). The Quad Council of Public Health Nursing Organizations (2011) has identified cultural skills as an important

domain of practice. Interestingly, one participant pointed out the cultural competence is like "being book smart about different cultures, while sensitivity is putting this knowledge into action." She further explained this concept in the following quote. "We work with such diverse communities, so I think it's important to be culturally sensitive. Cultural sensitivity doesn't require that you ignore what you have to do, but rather, you learn how to address cultural concerns in order to achieve a balance between the client's beliefs and what needs to be done."

Motivational interviewing was also mentioned frequently throughout participant interviews as a skill public health nurses use in practice. Motivational interviewing is a communication style that enhances one's intrinsic motivation to change and involves "a blend of informing, asking, and listening in a flexible manner" (Moore et al., 2012, p. 118). Research participants learned this communication strategy in a workshop and regard this skill invaluable.

Interventions. In addition to specific qualities and skills, the "what" of public health nursing is often illustrated by The Intervention Wheel, a conceptual practice model originating in the late 1990s. The Section of Public Health Nursing at the Minnesota Department of Health analyzed the work public health nurses and categorized themes into a set of interventions used in practice (Minnesota Department of Health: Division of Community Health Service, Public Health Nursing Section, 2001). The Intervention Wheel is one of twelve conceptual models describing core functions and interventions guiding public health nursing practice (Bigbee & Issel, 2012).

Research participants described characteristics of highly effective PHNs based on the use of certain interventions in practice, such as advocacy, collaboration, consultation, case management, counseling, referral and health teaching. One might question if an intervention can be thought of as a characteristic, but perhaps expert nurses think of specific functions as a

component of clinical expertise. An expert nurse describes how her experience allows variation in her approach, using a PHN intervention, based on nuances of the situation.

> Instead of me speaking up for my clients, I want them to learn how to speak up for themselves. I think you have to be an advocate, but advocating is a fine line. In my mind, I think I'm advocating, but in a family's mind, I'm getting into their business. What I've started doing is, if I need to call a provider, I tell the client first. That's my way of making sure we collaborate and the client understands what's going on.

Participants shared additional aspects of expert practice, such as having well-established professional connections, being aware of community resources, and understanding community processes and systems. One interviewee used the term, "check the village" to articulate the importance of connections and collaboration within her day-to-day work.

The Institute of Medicine (2011) recently addressed the future of nursing and many recommendations focus on education, especially in the areas of primary care and community and public health. Health care trends will increasingly move nurses out of hospitals and into community settings; public health nurses will continue to be a critical resource in the delivery of care. It is clear that public health nursing requires distinct characteristics; the profession is challenged to ensure that novice and beginning nurses are prepared for this role and that developing expertise is both recognized and facilitated.

Theme # 4: Evidence-based nursing is not well understood in community settings, nor are evidenced-based processes fully incorporated into practice

Evidence-based practice is a relatively new healthcare model, as well as a process of clinical decision-making. Many barriers are cited in the literature, including a lack of knowledge about the definition, specific understanding of evidence-based processes, and the integration of

research, clinical expertise, and client preference into practice. When asked about use of evidence-based care in public health nursing, respondents were unclear about the definition and model's intent. A participant stated, "It's a rather new buzzword for me – we're learning about it too. I really don't use research in my daily practice, but our knowledge is based on the work of researchers, so I guess that's how it relates to what I do."

Melnyk and Fineout-Overholt (2011) describe seven critical processes that must be followed in evidence-based practice. Steps include framing the clinical question, collecting, appraising, and integrating the best evidence, and evaluating and disseminating outcomes. Based on interviews, nursing experts lack knowledge about these critical processes, do not incorporate outlined steps into their daily care-decisions, and fail to see the value of research evidence as a guide to practice. "Research doesn't really provide me with what I need when working with clients. I know our management people look at research when big decisions are made, but because I work on the frontline, I don't need it for my practice."

It is fair to say that public health nurses use evidence for clinical decision-making, but many experts consider the words evidence and research to mean the same thing. In general, uncertainty remains about the definition of evidence, acceptable sources of evidence, and whether certain forms of evidence are preferred. The theorists guiding this project clearly describe nursing knowledge as derived from multiple patterns of knowing and by critically appraising available data; care can be delivered in a holistic manner.

What sources of evidence do public health nurses use in practice? A question was posed to interviewees addressing this very point, however seemed rather confusing. The researcher attempted to rephrase the question several times before participants were finally asked, "When working with a client, if you need to figure out a problem, what sources of information or

processes are helpful in making a decision?" The researcher listened for the word research, but instead, responses shared included self, client, family, teammate, community colleague, and supervisor. Never once was research mentioned as a source of evidence. Estabrooks et al. (2005) examined the practice knowledge of nurses and confirmed this finding. Experience and social interactions (formal and informal) are the most important sources of evidence used in practice and many times, nurses will reject evidence-based protocols in favor of practices considered effective based on experience. Because evidence-based processes, as described in the literature, are not used to guide daily public health nursing practice, it is important to determine whether specific challenges or barriers exist. It is necessary to note that evidence-based practice can't be fairly evaluated at this time because while the merits of evidence-based programming are appraised, programs are not the same as processes.

Theme # 5: Critical steps of evidence-based care may not fully translate into public health nursing practice

It was pointed out earlier that evidence-based practice was initially developed by physicians caring for individual patients in clinical settings. A theme emerging from this study questions whether certain essential features of public health nursing and evidence-based practice are consistent with one another. Key findings suggest public health nurses use multiple sources of evidence, consider practice to be relational, and hesitate to embrace predetermined agendas that limit their ability to "act and think like a nurse". The latter point may be a matter of perception, however reflect the experience of experts.

Public health nurses integrate multiple patterns of knowing into their day-to-day practice. The notion that scientific evidence is the best source of evidence is clearly disputed by public health nursing experts. Perhaps debate surrounds the words "best" and "best available";

however it is fair to say that public health nurses integrate multiple patterns of evidence into their daily work and practice adapts as need be. "A key component of public health nursing is being able to think on your feet and recognize the client's most pressing demand at that moment." Public health nurses learn there is more than one way to do something and with sufficient data, options become apparent. Two examples illustrate this concept.

> I was visiting this young family because the baby wasn't gaining weight. A Shaman told the parents, 'Your baby isn't gaining weight because terrible words were spoken during this pregnancy and she is punishing you'. The public health nurse felt the newborn was experiencing an underlying medical issue and wanted the baby to be seen by a doctor.

The nurse was able to use her aesthetic knowing by negotiating a plan of care that incorporated the family's cultural beliefs, while at the same time, obtain medical services for the baby. The "art of nursing" allowed her to skillfully manage a potentially difficult situation.

Another nurse described walking into a home and wondered if the client was a hoarder. This expert PHN was able to see through the piles and clutter and use her "art of nursing" and intuitive knowing in order to connect with the client.

> I sat back and watched this woman. I started seeing strengths and realized how methodical, organized and efficient she was. My approach in working with her was to point out strengths and build on them. The client was really overwhelmed, but with support, she felt empowered and was able to make changes in her life.

Public health nurses initially concentrate on developing a relationship with the client and family. Initiation of care is another concept that differs when comparing evidence-based practice and public health nursing. The process of evidence-based practice begins by

asking the clinical question. In contrast, public health nurses start off their practice by establishing a relationship with the client and family.

> Our vehicle for change is dependent on the relationships we build. You have to give your heart and hand to this job, meaning it's all about building and maintaining relationships. A public health nurse learns early on that the relationship gets you in the door and by establishing trust and respect you might even get invited back!

Public health nursing differs from evidence-based practice not only in terms of how the process begins, but the manner in which care is prioritized. According to Melnyk and Fineout-Overholt (2011), evidence-based practice "formulates a clinical issue into a searchable, answerable question," lest the information become overwhelming (p. 27). This perspective is in contrast to public health nursing, where clients often present with complex, multifaceted needs and care is expected to be overwhelming. It's almost ludicrous to imagine selecting one clinical issue, as there are so many to choose from, as described by the following quote:

> A client's life is in such upheaval and as a nurse you focus on the most pressing need at that moment. I've learned to go into a home without an agenda because something else always seems to take precedence. So often the client will ask me something totally unrelated to what I thought we would be talking about and Walla! There goes my visit!

A common thread throughout this discussion continues to surround the idea that evidence-based practice isn't well understood. For clarification, many of the early steps of evidence-based practice focus on collecting and appraising evidence. Once these processes are complete, it is then that evidence is integrated with clinical expertise and patient preference. An earlier question was raised, "How are public health nurses to engage in evidence-based care when the best scientific evidence isn't available, specific, or presented in a form useful for

practice?" In response to this question, home visiting models have been developed, each having demonstrated evidence of effectiveness. Currently, thirteen programs are available for use throughout the United States with families who meet certain criteria. Although regarded as evidence-based, these models are not synonymous with evidence-based practice and this misinterpretation often creates challenge.

Evidence-based programming isn't the same as evidence-based practice. It is important to continually refer back to EBP as "a process of answering clinical questions based on the integration of *research-based information, individual clinical expertise and patient choice*" (Ingersoll, 2000; Melnyk & Fineout-Overholt, 2011; Sackett, 1996; Schmidt & Brown, 2009). Having access to the "best research evidence" presented in a form useful for practice is not only efficient and effective, but removes many barriers mentioned in the literature. The problem lies in thinking evidence-based programs are the same as practice, but in reality simply reflect only one component of the model. When this distinction isn't made apparent, research tends to drive care decisions at the expense of clinical expertise and client preference.

Evidence-based programs take precedence over clinical expertise. Overall, expert PHNs described certain aspects of home visiting models as restrictive to their practice and autonomy. Home visiting programs are based on formalized curriculums and most aspects of the visit are predetermined by design. Participants felt structured programs inhibited their ability to "think and act as a nurse' and instead, seemed more like "nursing by checklist."

> When we first started this program, we had to do everything by the book. I tried following the curriculum and finally said, I'm a nurse first and will not fit my practice into this curriculum. Going forward, I will instead fit the curriculum into practice.

Experts expressed concern about formalized curriculums being somewhat contradictory to their practice. It was apparent nursing experts did not feel it was acceptable to modify curriculums depending on their own expert opinion. A participant described going to a client's home with a visit guide in hand, but on entering the home, realized something else needed her attention. "According to the program, I'm supposed to complete a set of specific activities at this particular visit. Next week I have another list. How am I supposed to make this work considering the realities of my practice?" Interestingly, it seemed as though participants felt a choice had to be made between being a nurse and following the program.

Expert nurses were especially critical of checklists and expressed concern about losing essential elements of the client-nurse relationship.

> I need to know who the client is and if I don't take time to listen, I won't really understand who I am talking to. Clients will disclose information as a result of an established relationship, not because of a list. If I am constantly looking down at a list, I will miss things. I have to be able to use my professional judgment when working with clients and their families.

It is important to point out that evidence-based practice isn't intended to silence clinical experts, but according to expert nurses, this is how it seems and many feel they are in good company, as the patient's voice is disregarded as well.

Evidence-based programming has the potential to disregard the patient's voice in decision-making. Research participants expressed concern about using a structured curriculum and the tendency to exclude clients from mutual decision-making, as visit agendas are predetermined. Public health nurses provide clients with life-skills by working collaboratively to teach concepts, such as self-advocacy, self-sufficiency, and the value of using one's own voice.

> I always give clients a choice as a way of teaching self-advocacy. I've learned to be quieter and encourage families to do the talking, because they've never really had a chance to use their own voice. If I go into a home with an agenda, it implies I don't value the client's opinion.

Expert nurses felt other opportunities for teaching were hindered by elements of evidence-based programming. One expert talked about lengthy program enrollments and the challenge of keeping clients engaged and interested in continued participation.

> Sometimes a client gets mad and doesn't like everything I say or do. When you are required to make visits for an extended period of time, you have to keep the client happy. This can change the relationship dynamic. I'm kind of torn between maintaining the relationship and doing what I think is right.

In addition to the tendency of evidence-based programs to change aspects of the client-nurse relationship, another issue raised is the use (or misuse) of nursing resources. Most home visiting programs have established program criteria, such as the number of clients per caseload. An expert shared a general observation that she sees the demand for home visiting services growing, while at the same time, fewer nurses are available to meet need because of caseload restrictions. She shared concerns about clients who no longer need services, but continue anyway because of enrollment in a program.

> I can't use my professional judgment and determine when a family doesn't need my services any longer. The program decides when we're finished and here I am, providing services to a family who is either self-sufficient or gets their support elsewhere. Because I am "tied" to one family, I am not available to help someone who needs me more.

Summary

Themes and subthemes identified through data analysis suggest clinical expertise in public health nursing can be described within the context of evidence-based practice; however it is apparent clinical experts do not recognize its intended use, processes guiding clinical decision-making, and the importance of integrating each component into the model as a whole. Expert public health nurses do not differentiate evidence-based programming and evidence-based practice. As such, in some cases evidence-based practice is not considered to be a useful healthcare model guiding public health nurses in their daily work.

Chapter Five

This project was initiated as a result of an inquiry from a public health department requesting that a doctoral student explore and quantify the practice wisdom of some of the more highly experienced public health nurses working within their agency. Nursing leaders at the facility recognized that a large number of nurses in the home visiting service would soon be retiring and did not want the collective wisdom of this group to "walk out the door" as they left. The leaders expressed concern about filling these vacated positions with qualified staff. This request raised an important question: How might nursing wisdom be described and captured to create a structure useful for maintaining organizational wisdom? What might this look like?

A decision was made to find answers to these questions by interviewing expert public health nurses with the intent of exploring wisdom from the perspective of those who know it best. Project findings were analyzed and later shared with administration and staff through a presentation of themes and subthemes. An interactive discussion followed in order to explore the question, "How might your organization use the 'voice of experts' to influence future practices and the delivery of home visiting services?" Based on organizational feedback, a dissemination plan was developed, including staff recommendations, the researcher's comments, key messages, and suggestions for future research.

Discussion of Findings, Recommendations, and Conclusions

Project Assumptions

The term, practice wisdom isn't clearly understood and for purposes of this project, certain assumptions have been made. The first assumption defines wisdom as "the quality of having experience, knowledge, and good judgment" (Oxford Dictionary, 2013). It was believed that senior nurses are wise, meaning they have experience, as well as advanced knowledge. Throughout this manuscript, nursing wisdom will be used synonymously with terms such as

experience, expert, and expertise. Finally, in order for this project to achieve its stated outcomes, it is assumed that wisdom can be described, captured, and transformed such that it will benefit others. If not, "wisdom will walk out the door", as the research site feared.

Project Strengths and Limitations

There are a number of positive elements contributing to the successful completion of this SCP. As mentioned earlier, the site mentor also happens to be the research sites' Managing Director. Because of her position, she was able to facilitate various aspects of the project and remained supportive, accessible and more importantly, genuinely interested in this project throughout each phase. The site mentor communicated her support to supervisors, who then willingly facilitated access to staff by granting permission for the researcher to attend staff meetings with the purpose of recruitment. Staff freely and enthusiastically stepped forward, expressing genuine interest in project outcomes.

Limitations of this study relate to methodology, sampling and transferability of findings. A qualitative design was selected because very little is known about PHN clinical expertise and use of this methodology made sense as a means of exploring the phenomena of interest. Every effort was made to follow sound qualitative research methods in terms of rigor, credibility, trustworthiness, and believability. Purposeful sampling was appropriate for the research question, however perhaps somewhat limiting, as subjects self-selected for participation and tended to be rather homogeneous in terms of demographics. The researcher's presence during data gathering, as well as audio recording the interview, may have affected the subjects' responses, as participants might have felt intimidated by the process, all creating potential for bias. Potential subjects may have hesitated to think of themselves as "experts", while others stepped forward, viewing interviews as an opportunity to share feelings and concerns. Every

effort was made to maintain the confidentiality of individual responses, and at times, detailed accounts were carefully managed in order to protect the respondent's identity.

Transferability of findings may be limited, as research participants have a very specific PHN role in home visiting at-risk families with children under age six and pregnant women. In addition, all participants were recruited from the same workplace, which was located in a Midwestern, urban setting. It is important to note that public health nursing practice varies by setting, population focus, and use of evidence-based programming models. Certain themes expressed in this research can be generalized to public health nurses at large; others are limited to similar practices.

Discussion Recommendations to the Home Visiting Organization

As was stated earlier, following data collection and analysis, project findings, supported by the literature, were shared with administration and staff through a presentation of themes and subthemes. At the end of this presentation, questions were posed exploring the question, "How might your organization use the 'voice of experts' to influence future practices and the delivery of home visiting services?" A handout was distributed with the following questions listed and an interactive discussion ensued.

- How would you suggest practice expertise is enhanced within your organization when training and mentoring newly hired PHNs?
- How can practice expertise be recognized and facilitated in nursing staff?
- Within the perspective of current evidence-based programs, how can clinical expertise and the client's voice integrate into the delivery of evidence-based care?

A volunteer agreed to take notes throughout the discussion, which was audio recorded as well. Based on this organizational feedback, along with the researcher's comments, the following recommendations have been made to the Managing Director.

Training and Mentoring Newly Hired Public Health Nurses

- Determine the direct and indirect costs associated with recruiting and training newly hired PHNs
- Develop a standardized classroom experience for newly hired nurses as a component of the orientation program
- Explore current mentoring programs designed specifically for public health nurses in order to improve competence, retention, and job satisfaction
    - Identify expert nurses who are interested in mentoring roles and provide training
    - Maintain formalized mentoring relationships throughout the first two years of practice
- Provide easy access to staff (phone numbers) for urgent or time-sensitive questions coming from "the field"
- Provide clinical learning opportunities for nursing students
- Provide outreach to baccalaureate nursing programs whereby expert PHNs share practice expertise with public/community health nursing students

Facilitating Public Health Nursing Clinical Expertise

- Organize a committee of staff who will explore clinical expertise and what it means to the organization

- Reframe annual goal setting and include questions, such as "What are my strengths? What practice expertise do I possess? What unique gifts do I have that might be of benefit to others in this organization?"
- Identify "go-to experts" within the organization with distinct experience and perspective (i.e., staff resource and asset inventory)
- Create a list of topics of interest to staff and offer periodic "Lunch and Learn" presentations utilizing expert staff knowledge
- Reestablish periodic co-visiting for both experienced, as well as inexperienced PHNs
- Schedule regular and structured reflective case conferencing

Integration of Clinical Expertise and the Client into Evidence-based Programs

- Educate staff on evidence-based practice, both as a model and process guiding clinical decision-making
- Offer quarterly journal clubs where research related to practice is discussed
- Provide leadership in conducting practice-based evidence research, examining the implications of EBP within public health nursing

Project Dissemination

Public health nursing agencies expect significant staffing shortages in the near future and many are creatively thinking about different ways to respond. Although this research project most likely began as a workforce strategy, there have been a significant number of unanticipated consequences that were not initially envisioned, nor predicted. It is apparent this project can't be thought of in terms of a final product or outcome, but rather a process that has offered significant benefit.

When explaining the project to nursing staff, it was almost as if a seed was planted essentially acknowledging experience and longevity as being a valuable organizational asset. Interviews were not only a vehicle for data collection, but instead became an opportunity allowing expert nurses a chance to be heard and their knowledge affirmed. The project permitted a forum for important dialogues that needed to happen and by opening the discussion to all; it became apparent staff grew increasingly invested in this project.

Leadership appreciated the depth and breadth of knowledge learned about staff during the recruitment sessions, after reviewing themes and subthemes, and sitting through the final presentation and discussion. It is atypical for management to have access to this level of feedback and it was communicated to the researcher how helpful it was to have confirmation of perceptions. "I felt this was what my staff was thinking, but as a manager, it's helpful to have my intuition confirmed." Furthermore, by facilitating this project, leadership was uniquely positioned to identify a concern that was of importance to all, send a nonverbal message conveying a willingness and openness to hearing what staff had to say, and begin a dialogue about change based on collaborative planning.

Although the discussion of recommendations was meant to share research findings within the context of a learning environment, it also provided an opportunity for taking the project to the next level of system's change. The purpose of initially interviewing public health nurses made sense because it stemmed from using a perspective targeting those who know practice best. It seemed logical to go back to the same audience and ask how findings should be used to influence future practice and the delivery of home visiting services.

Following the presentation just described, the researcher and administrator met and discussed the final steps of the project. At the time of this meeting, the results had not yet been

collated, however the manager was assured a list of recommendations would be forthcoming. In this conversation, she shared her intent of using this list of recommendations as a tool for future leadership discussions and planning.

Evaluation Plan

The list of recommendations has been divided into sections, thus allowing the agency freedom to determine organizational priority. However, as discussed with the manager, it is of concern that data surrounding the costs associated with recruiting, orienting, and retaining newly hired nurses isn't available. It is important to note that a significant investment is made upfront when an employee is first hired. If that person leaves the organization because they feel overwhelmed, not supported, or generally unhappy, turnover costs add significantly to the bottom line. Mentoring programs have the potential to address many issues related to employee competence, retention, and satisfaction and it seems as though it would be worthwhile for the organization to begin evaluating mentoring program models or deciding what kind of program they would like to develop within their organization.

Recommendations for Further Research

Thoughts about a future research question became apparent after hearing and thinking about a comment made by one of the PHNs who stated, "I am a nurse first. The program will have to fit into my practice." One might wonder if this same logic applies to evidence-based practice and whether this model is consistent with the foundational aspects of public health nursing. Should public health nurses be required to fit their practice into this particular healthcare model? Or, could evidence-based practice be adapted to better reflect the realities of public health nursing? Leeman and Sandelowski (2012) discuss the importance of practice-based evidence and understanding context and the experience of those who work in real-world

practice settings. Additional studies addressing practice-based evidence could lead to valuable insight as to how this model fits within the practice of public health nursing.

Although a description of clinical expertise has been offered through this research study, it is important to note there isn't a current method of measuring expert knowledge used in practice. Benner (1984) points out that not every nurse will become an expert and longevity isn't the same as expertise. Schmidt and Brown (2009) dispute the value of trial and error, tradition, and intuition as a source of evidence. Until research can quantify, measure, and evaluate clinical expertise, it will remain a rather ambiguous concept. In addition, through the development of a method allowing the merits of one's clinical expertise to be assessed, there may be practices that don't make sense or pose as being harmful.

The literature doesn't provide clear direction as to how clinical expertise is to be integrated into an evidence-based practice model and the dichotomy of integrating meticulously obtained evidence that is then trumped by a poorly expressed concept, doesn't seem to fit the intent of this model. If the goal of evidence-based practice is to deliver the highest quality healthcare and ensure the best patient outcomes, then questions must be addressed as to what it means to be a clinical expert, how this expertise is to be used, or even evaluated. Nurses from varied healthcare settings need to a part of to this dialogue.

Summary

Clinical expertise in public health nursing is determined by a combination of key characteristics and practical experience. It is important to recognize that not all public health nurses are considered experts. A wealth of untapped knowledge is embedded in this specialty practice and should be thought of as a resource, with the potential to be useful on an organizational level. As stated earlier, nursing knowledge is a valued commodity.

Evidence-based care has become the newest of practice models and it is suggested that everyone "get on board." In reality, EBP hasn't been fully incorporated into many health care areas and perhaps, this is a reflection of its complexity, relevancy, and the challenges it presents to daily practice. Evidence-based practice isn't well understood and because of this confusion, the process often excludes the voice of both clinical experts and clients in decision-making. In addition, many aspects of this model directly contradict the foundational aspects of public health nursing.

Evidence-based practice is still in its early stages of development. Nurses will be challenged to embrace EBP, while at the same time, preserve their professional integrity. Mitchell (2013) states, "The practice of nursing coexists within layers of complexity and meaning that go far beyond the simplistic portrayals of EBP" (p. 145). Evidence-based practice is an opportunity for nurses. Either we attempt to articulate our practice through the lens of a medical model, or transform evidence-based care to better reflect the framework of our profession.

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APPENDIX A

Clinical Expertise within Public Health Nursing

INFORMATION AND CONSENT FORM

Introduction:

You are invited to participate in a research study investigating the characteristics experienced public health nurses ascribe to clinical experts in community health nursing. This study is being conducted by Nanette Hoerr, a graduate student at St. Catherine University under the supervision of Dr. Roberta Hunt, a faculty member in the Department of Nursing. You were selected as a possible participant in this research because of your work as a public health nurse at Family Health Home Visiting. Please read this form and ask questions before you agree to be in the study.

Background Information:

The purpose of this study is to explore the clinical expertise of public health nurses as a component of evidence-based practice. While scientific research findings regarding public health nursing (PHN) roles, functions and competencies are well documented, practice knowledge, or clinical expertise, has not been captured and is a credible source of evidence.

Approximately 10 – 15 people are expected to participate in this research.

Procedures:

If you decide to participate in this study, you will be asked to meet with the researcher for a one-time individual interview. Prior to the interview, you will be provided with an Informed Consent. After you have been given sufficient time to read this document, you will have an opportunity to ask the researcher any questions you might have. Information about your identify will be collected prior to the actual interview, following informed consent, however all demographic information will be confidential. During the interview, you will be asked to describe various aspects of public health nursing practice. The interview will be audio-taped and will take approximately 1 - 1½ hours of your time.

The researcher will listen to and transcribe the audiotapes. Once data analysis is complete, research participants will be contacted individually by email in order to verify the accuracy of identified themes.

No identifying information will be included in the final transcript or in any reports. The audiotapes will be locked in a file cabinet for three years and then erased and destroyed.

Risks and Benefits of being in the study:

The risks of study participation are negligible, however you can refuse to answer any question or stop the interview at any time without penalty.

There are no direct benefits to you for participating in this research. In addition, there is no compensation for your participation.

Confidentiality:

Your name will not be connected with anything you say. Your comments will be kept confidential. In any written reports or publications, your comments will not identify you and only group data will be presented.

The researcher will keep the audiotapes and original transcriptions in a locked file cabinet and only the researcher and/or the student's advisor, Dr. Roberta Hunt, will have access to the records while the project is being worked on. The data will be fully analyzed by October 2014. All original reports and identifying information that can be linked back to you will be locked for three years, and then be erased and destroyed.

Voluntary nature of the study:

Participation in this research study is voluntary. Your decision whether or not to participate will not affect your future relations with your employer or St. Catherine University in any way. If you decide to participate, you are free to stop at any time without affecting these relationships.

New Information:

If during course of this research study I learn about new findings that might influence your willingness to continue participating in the study, I will inform you of these findings.

Contacts and questions:

If you have any questions, please feel free to contact Nan Hoerr at 612-396-9458. You may ask questions now, or if you have any additional questions later, the faculty advisor, Dr. Roberta Hunt, 651-690-6851, will be happy to answer them. If you have other questions or concerns regarding the study and would like to talk to someone other than the researcher(s), you may also contact Dr. John Schmitt, Chair of the St. Catherine University Institutional Review Board, at (651) 690-7739.

You may keep a copy of this form for your records.

Statement of Consent:

You are making a decision whether or not to participate. Your signature indicates that you have read this information and your questions have been answered. Even after signing this form, please know that you may withdraw from the study at any time.

I consent to participate in the study and I agree to be audiotaped.

_____

Signature of Participant Date

_____

Signature of Researcher Date

APPENDIX B - Demographic Questionnaire

Subject number	**One subject number per participant**	**0 - 15**
Registered Nurse	**Licensed by the State of Minnesota**	**1 = yes** **2 = no**
Total years of licensure as a RN		**1 = 0 – 10 years** **2 = 11 – 20 years** **3 = 21 – 30 years** **4 = 31 years +**
Public Health Nurse	**Certification by the State of Minnesota**	**1 = yes** **2 = no**
Total years of employment as a PHN	**Full-time or full-time equivalent**	**1 = 0 – 10 years** **2 = 11 – 20 years** **3 = 21 – 30 years** **4 = 31 - 40 years** **5 = 41 + years**
Total years of practice as a PHN in MCH		**1 = 0 – 10 years** **2 = 11 – 20 years** **3 = 21 – 30 years** **4 = 31 – 40 years** **5 = 41 + years**
Other areas of PHN practice		**1 = Generalist** **2 = Adult health** **3 = School health** **4 = other _____**
Age		**1 = 20 – 30 years** **2 = 31 – 40 years** **3 – 41 – 50 years** **4 = 51 – 60 years** **5 = 60 + years**
Gender	**Female or male**	**1 = female** **2 = male**
Race / ethnicity	**Defined by race and ethnicity**	**1 = American Indian or Alaska Native** **2 = Asian** **3 = Black or African American** **4 = Native Hawaiian or Other Pacific Islander** **5 = Hispanic or Latino** **6 = Not Hispanic or Latino** **7 = Caucasian**

APPENDIX C

Interview Guide

- How do you think the practice of an experienced public health nurse differs from that of an inexperienced public health nurse?

- Can you share a pivotal experience that changed your practice allowing you to be more effective as a public health nurse?

- What are the most significant learning challenges of nurses entering into public health?

- What qualities would you use to describe highly effective public health nurses?

- How can the practice knowledge of expert public health nurses be used to inform other PHNs in their daily work?

- In your daily work, if you need information in order to make a decision, what primary source of information do you use?
    - What other sources of evidence might you use?
    - How do you define evidence-based practice in public health nursing?

APPENDIX D

Research Flyer

An Invitation to Participate in Research on Clinical Expertise within Public Health Nursing

This study is conducted with the approval of St. Catherine University.

The researcher is Nan Hoerr, MPH, RN, Doctorate of Nursing Practice (DNP) candidate - St. Catherine University

- Participants are asked to participate in an individual, one-time interview lasting approximately 60 to 90 minutes.
- Participation is completely voluntary.
- The purpose of this study is to better understand how public health nurses practice on a daily basis.
- Interview questions are designed to gather information about public health nursing and explore practical aspects of day-to-day work.
- ***All PHNs are encouraged to indicate their interest in this study.*** Once availability is determined, a sample of names will be selected and interviews will continue until data saturation is achieved.
- The researcher will contact each participant individually by email following completion of interviews to confirm accuracy of the identified themes.

Interviews will be audiotaped for analysis to determine general themes regarding various aspects of clinical expertise within public health nursing. Participant's names will not be used in any report of findings and participants will receive a copy of the research findings if they wish.

If interested, please contact Nan Hoerr @ 612-396-9458 or nehoerr@stkate.edu

Appendix E – Participant Demographics

RN Licensure	PHN Registration**	Age	Gender	Race/ethnicity
N = 8	N = 8	20 – 30 (1)	Female (8)	Caucasion (7); Asian (1)
		41 – 50 (1)		
		51 – 60 (3)		
		60 + (3)		

** The requirements for public health nurse registration in the State of Minnesota includes licensure and registration as a registered nurse, a baccalaureate or higher degree with a major in nursing, and completed course work in public health nursing (Minnesota Board of Nursing, 2014).

Total years of RN licensure	Total years of PHN employment	Total years of PHN in MCH	Other practice areas
0 – 10 (1)	(1)	(1)	Hospital (2)
11 – 20 (0)	(1)	(3)	Family Health (1)
21 – 30 (1)	(4)	(2)	Generalist (2)
31+ (6)	(2)	(2)	School Health (1)
			Long-term care (1)
			Nursing Administration (1)