

Research Priorities for Public Health Nursing

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FORWARD

The Association of Community Health Nursing Educators (ACHNE) has a vision of education of nurses to improve the health of local and global communities. In order to work towards this vision, Community/Public Health Nursing (C/PHN) educators need the best available evidence to support C/PHN practice and education. In order to tie together practice, education and research in our specialty, ACHNE has developed a number of documents designed to define and support the scope and function of public health nursing. Consistent with the mission of ACHNE this document entitled *Research Priorities for Public Health Nursing 2009* has been developed by a task force of the ACHNE Research Committee. This document builds upon the previous *ACHNE Research Priorities* publications (1992; 2000) and, consistent with these earlier works, was created with a focus on public health nursing, rather than the broader realm of community health nursing. Although there is much overlap here, the use of the term Public Health Nursing for this document cannot be assumed to also address research priorities in the broader area of Community Health Nursing.

In revising the 2000 Research Priorities the committee began work in 2006 to describe the current state of public health nursing research, provide a comprehensive review of research abstracts from selected nursing journals, identify research priorities of relevant national funding agencies and provide direction for future public health nursing research. Input was solicited from ACHNE members in June 2009; the final document was approved by the ACHNE Executive Board in August 2009. This document strives to meet the needs of community/public health nursing researchers for expanding and strengthening the evidence base for population focused research to assure healthy communities and populations. Two priority areas for research are identified: population-focused outcomes and public health nursing workforce. Such research would support ACHNE's commitment to the promotion of the public's health through ensuring leadership and collaboration among public health nursing education, research, and practice.

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Abstract

The Association of Community Health Nursing Educators (ACHNE) Research Committee initiated a revision of the ACHNE Research Priorities for public health nursing (PHN) practice in 2006, following those developed in 1992 and in 2000. The committee (a) reviewed public health nursing research abstracts (n=485) from seven selected nursing journals to evaluate progress in addressing the 2000 Priorities; (b) identified research methods used, health issues and health behaviors addressed, and demographics of study populations in the abstracts; and (c) reviewed research priorities from key federal funding agencies and journal editors. Overall, progress towards meeting previous priorities was modest, with a limited range of methods, topics, and samples described. The 2009 ACHNE Research Priorities for PHN include: (1) Population-Focused Outcomes, and (2) PHN Workforce. Multi-site studies, clinical trials, community-based participatory research, development and/or analysis of existing large data sets, and development of valid and reliable methods are needed to address these priorities. Collaboration among educators, researchers, and practitioners is crucial to develop the scientific evidence base for population-based nursing practice.

Introduction

The Association of Community Health Nursing Educators (ACHNE) is committed to a research agenda that is grounded in its historical mission and adaptive to the future needs of public health and public health nursing. The 2009 ACHNE Research Priorities for Public Health Nursing build on the versions developed in 2000 and 1992 (ACHNE, 1992; 2000). For the purposes of this document, public health nursing research is defined as the systematic study of all aspects of the nursing process--assessment, diagnosis and priorities, outcomes identification; planning; implementing interventions; and evaluating interventions--applied to the population-based care of aggregates and communities. Public health nursing research enhances the science and evidence base for practice (American Nurses Association, 2007), and--consistent with the 10th Essential Service of Public Health (US Public Health Service, 1994)--focuses on new insights and innovative solutions to public health problems.

The importance for revising the 2000 ACHNE Research Priorities is embedded in the recognition of public health nursing's role in assuring healthy communities and populations. More than ever, the challenges facing the public health workforce are more daunting as we continue into the 21st century. The Institute of Medicine (IOM) landmark report on *The Future of Public Health* stated that "effective public health action must be based on accurate knowledge of the causes and distributions of health problems and of effective interventions" (IOM, 1988, p. 6). Public health nursing is responsible to the public to base our practice on an expanding body of knowledge that builds on scientific evidence of effective care for communities and populations.

Over the past decade, demand for the skills of professional public health nurses has intensified (Robert Wood Johnson, 2008). Pressures on public health, such as an aging population, rampant chronic disease, intractable health disparities, natural disaster potential in high-density areas, and the threat of global pandemics and terrorism, remain unrelenting. These pressures require a fully-prepared professional U.S. public health workforce, of which 25% are nurses (Robert Wood Johnson). Public health nurses are versatile providers of crisis and case management, community assessment, and disease surveillance. Cost-benefit research findings have suggested that public health nursing interventions are efficient and effective and could be widely successful in addressing other health problems such as obesity and mental health (Robert Wood Johnson). However, the nursing shortage and an aging public health nursing workforce, combined with low salaries and lack of funding for public health nursing education and research, threaten to undermine the supply and versatility of these key health personnel. This document describes a systematic review of research by and about public health nurses

and presents an urgent, succinct agenda for strengthening the evidence base needed to equip public health nurses to contribute to the nation's health in the 21st century.

Development of the 2009 ACHNE Research Priorities

Discussions by the ACHNE Research Committee for updating the *2000 ACHNE Research Priorities* (ACHNE, 2000) began in 2006. The committee gathered information concerning the current state of public health nursing research, identified research priorities of relevant national funding agencies, and sought input from the Editors of *Public Health Nursing* regarding future directions for public health nursing research.

To determine the current state of public health nursing research, a comprehensive review of research abstracts from selected nursing journals was undertaken by members of the research committee. The purposes of the abstract review were to identify progress in addressing the 2000 ACHNE Research Priorities, determine research methods used, identify health issues and health behaviors addressed, and document demographics of study populations. The review included abstracts of data-based articles ($n=485$) published between 2001 and 2006, inclusive, in the following journals: *Journal of Advanced Nursing*, *Journal of Community Health*, *Journal of Community Health Nursing*, *Journal of Nursing Education*, *Nurse Educator*, *Nursing Research*, and *Public Health Nursing*. All research articles published in the *Journal of Community Health Nursing* and *Public Health Nursing* were included in the abstract reviews. For the remaining journals, abstracts were included if the study was population-focused, or addressed public health nursing education/workforce issues, a 2000 ACHNE Research Topical Priority, or an emerging public health priority area (e.g., pandemic flu). The committee recognized this was not a thorough review of public health nursing research, given that studies meeting our criteria are published in other nursing and non-nursing journals.

The percentage of abstracted articles that addressed each 2000 ACHNE Methodological and Topical research priorities is displayed in Tables 1 and 2. Additional findings from the abstract reviews indicated that over two-thirds (69%) of the research was categorized as quantitative, a third were considered qualitative, and about 6% used both quantitative and qualitative methods. The majority of quantitative methods ($n=426$) employed were categorized as descriptive (24%), cross-sectional (19%), survey (13%), and correlational (8%). Only 7% of the studies were considered quasi-experimental, and 5% were experimental/clinical trials. Epidemiological methods were used rarely (prospective 3%, retrospective 3%, case-control-2%). The most common methods for qualitative studies ($n=181$) were interviews/open ended questions (39%), focus groups (19%), case studies (7%), ethnography (6%), and

phenomenology (5%). About 5% of the studies reviewed focused on instrument development. Thirty-eight data collection tools were identified in the abstracts; none of these tools were included in more than one reviewed study.

Table 1. Studies addressing 2000 ACHNE Methodological Priorities (N=485)

Refine and apply methodologies for population focused research	14.2%
Design and test instruments for measuring community-level phenomena and outcomes	8.7%
Evaluate multifocal and multi-level interventions in ethnic minorities, with vulnerable, underserved, and/or disenfranchised populations who are at risk for health problems	4.5%
Develop new, and interpret existing middle range theories or models for application to a community as client perspective	3.9%

Table 2. Studies addressing 2000 ACHNE Topical Priorities*

Culturally-appropriate lifestyle intervention for health promotion, primary and secondary prevention, risk reduction, and health-seeking behavior across the lifespan	31.1%
Decreasing disparities in health status across minority, socioeconomic status, and other vulnerable aggregates	29.7%
Global health	25.8%
Family care, caregiving, and preventive mental health	15.1%
Systemic health intervention	14.8%
Community strategies to reduce health risks	6.8%
Environmental health	5.2%
Violence	3.9%

*studies could be considered in more than one category

Most of the research involved adults (59%), older adults (16%), and adolescents (15%). Although most studies had samples that included both males and females, 1% of the studies included only males. With regard to race/ethnicity, data were available in only 46% (n=213) of the abstracts. About a third (34%) of these studies had primarily Caucasian subjects, 20% African-American, 19% Asian, and 14% Latino. Only three studies were focused on Native Americans. There were 124 studies that involved international settings, with Canada (19%), Taiwan (19%), the United Kingdom (12%), and Australia (9%) the primary sites. The mean sample size was 264 (SD=822; mode=10; minimum=2; maximum=14,727).

There were 51 specific diseases/health issues addressed in the 275 studies for which a specific disease/health issue could be determined. The most common were smoking (5%), HIV/AIDS (5%), cardiovascular disease (5%), mental health (5%), and other communicable diseases (5%). Forty-four specific health behaviors were identified in 119 studies. The most frequently identified health behaviors were self-care (12%), health promotion (10%), and physical activity and nutrition (10%).

Studies that focused on the public health nursing workforce (n=96 studies) addressed public health nursing practice (80%), competencies (10%), workforce profile (5%), recruitment and retention (2%), and information systems (2%). Public health nursing educational research (n=43 studies) was conducted primarily in academic settings (58%).

To provide further insight as to the future directions of public health research, research priorities were examined from the following federal agencies: Center for Disease Control and Prevention; National Center for Environmental Health; Agency for Toxic Substances and Disease Registry; National Center for Health Statistics; National Center for HIV, STD, and TB Prevention; the Centers for Birth Defects Research and Prevention; and the National Institute of Justice. Priority research areas identified by these agencies included environmental health, infectious diseases, disaster preparedness, promoting health to reduce chronic disease, creating safer and healthier places, managing information, working together to build a healthier world, promoting cross cutting public health research, research in a multicultural society, preventing and intervening in HIV and AIDS, increasing health promotion through studies on parenting capacities, and biobehavioral methods to improve outcomes research.

Finally, the Editors of *Public Health Nursing* (Drs. Judith Hays and Sarah Abrams) were asked their perspective on public health nursing research priorities. Drs. Abrams and Hays identified a lack of methodological excellence in public health nursing research. They noted a need to use existing data sets and to ask multi-level public health nursing research questions with those data sets. The statistical analyses used in public health nursing research must be more sophisticated and move beyond description to multi-level modeling. The Editors identified a lack of meta-analyses and integrative research reviews that present the current state of the science and provide directions for future public health nursing research. The plethora of small exploratory studies or short-lived interventions with no longitudinal follow-up has neither served the field nor provided public health nursing with an evidence-base for practice. The Editors noted a need for systematic interventions studies that identify quality cost-effective delivery mechanisms. Research also is needed in the areas of public health nursing informatics, community strategies, methods of including communities in interventions, international health care systems, violence, family caregiving, mental health, obesity, disaster preparedness, and decreasing disparities in the elderly, people with disabilities, medically underserved individuals, and sexual minority individuals. Public health nursing research is also needed concerning health policy, public health nursing workforce issues, and public health nursing education, especially at the graduate level.

The data obtained from the abstract reviews, research priorities of key federal agencies, and from the Editors of *Public Health Nursing* helped to inform the development of the 2009 ACHNE Research Priorities for Public Health Nursing.

2009 Research Priorities for Public Health Nursing

When viewing public health nursing from an historical context, it is clear that public health needs often evolve from threatening circumstances, and public health nursing practice and strategies emerge to address those needs. For over a century public health nursing has provided population-focused care to individuals, groups, and communities. Although care has been provided, the research base to identify the benefits of specific interventions has not always been studied or documented. Public health nursing has built a practice model primarily from tradition and is only in its early stages of basing it on practice theory (ACHNE, 1992).

For a professional discipline, theory provides the central process in all areas of nursing practice (Chinn & Kramer, 2008). Structured theories are grand theories, middle range theories, and practice theories (Walker & Avant, 1995). These progressively more structured theories build the science of nursing and the uniqueness of nursing as a professional discipline. Therefore, research in public health nursing must begin with the recognition of the overarching need to: 1) develop grand theories that provide the theoretical basis of public health nursing, and 2) develop, test, and refine middle-range theories that provide the foundation of evidence-based nursing practice.

When the 2000 ACHNE topical priorities were outlined, topics were generated from national needs assessments and priorities identified by federal funding agencies. Many topics fell within the domain of public health nursing science then and would do so today. Over the past decade public health nursing researchers have also addressed the health of vulnerable

PHN Research Priorities

- 1. Population-Focused Outcomes***
- 2. Public Health Nursing Workforce***

populations. These populations are diverse, including immigrants, minorities, medically underserved populations, and low-income families and children.

Research on vulnerable populations has also been diverse, but often addressed health promotion and disease prevention strategies. Because the practice of public health nursing is so diverse, the ACHNE research committee has outlined two priority areas applicable to **all** areas of practice and critical to the sustainability of public health nursing. Research design and methods priorities have been subsumed within each of the two topical priority areas and are highlighted in **bold italics**. The first research priority for public health nurses is population-

focused outcomes, and the second is the public health nursing workforce. Other research areas may become priorities after this document is published. Flexibility in public health nursing research is expected as new national or regional needs emerge, which may especially become more evident after the publication of *Healthy People 2020*.

Research Priority 1:

Population-Focused Outcomes

A decade ago Strohschein and colleagues emphasized that public health nursing practice guidelines were needed that provide research-based information for practice and promoting improved health outcomes (Strohschein, Schaffer, & Lia-Hoagberg, 1999). This need continues today and is more urgent because of continuing health care and outcomes disparities in vulnerable populations. For many conditions and diseases, our morbidity and mortality statistics fall well below those of other developed countries. Data are required to show the effect of public health nurses on client and community outcomes. For the purpose of this document, outcomes are defined as the health status of individuals, community, or systems that result from public health nursing interventions (Institute of Medicine, 1998; Keller, Strohschein, Lia-Hoagberg, &

Schaffer, 2004). Evidence-based interventions are developed from study results that demonstrate the efficacy of interventions. The research base for public health nursing is lacking in studies that build on previous studies and research designs that lend themselves to systematic reviews

Population-Focused Outcomes Key Design & Methods Priorities

- *Multi-site studies*
- *Randomized clinical trials*
- *Longitudinal designs*
- *Community-based participatory research*
- *Epidemiological methods*
- *Reliable and valid instruments to assess PHN outcomes*
- *Complex sampling strategies*
- *Multi-level analysis techniques*

for the development of evidence-based practice guidelines. Key to evidence-based practice development is the use of ***multi-site studies, randomized clinical trials, and rigorous quasi-experimental and longitudinal designs.***

The ***community based participatory research (CBPR) approach*** has been widely used and provides the foundation for culturally sensitive population-focused interventions designed in partnership with community members. Such programs have a greater likelihood of being sustained due to buy-in from community members. Use of ***technological tools such as geographic information systems (GIS)*** can assist in analyzing and displaying relationships among multiple determinants of health at the community level and further engage the community.

Although some population-focused **instrument development** has occurred, validation is needed across different populations and settings. It is also crucial that **mechanisms to assess outcomes of public health nursing practice be developed and validated**. Standardized languages can provide researchers with a mechanism to capture public health nursing practice data systematically so results can be used to inform decisions. Currently there is an effort within the national and states' public health communities to enable electronic health systems to provide data to support public health needs. It is imperative that public health nursing leaders be at the table when aggregate state and national data sets are developed. Otherwise, public health nursing phenomena, public health nursing interventions, and public health nursing sensitive outcomes will not be captured. Lack of such information will pose a daunting barrier to public health nursing research and the value of nurses to the nation's health.

With the advancement of technology and large centralized data sets, **epidemiologic methods** can be used to more accurately document health risks in multiple locations. **Complex sampling strategies** used in these large data sets also can be used in primary data collection studies. **Multi-level analysis techniques** that can address the complex interrelationships between individuals/families, communities, or systems and their environments are also needed to further delineate the effect of public health nursing on population focused outcomes.

Research Priority 2:

Public Health Nursing Workforce

The Public Health Work Force Enumeration 2000 project, authored by the Center for Public Health policy at Columbia University School of Nursing, provided a snapshot of the public

health nursing workforce at that time.

Although public health nursing was the largest professional group (10%) of public health workers in the U.S., the challenges of enumerating an accurate count of public health nurses include the confusion over the distinction between public health and

community-based nurses, the wide range of settings in which they work, and the fact that job titles and educational preparation may not be aligned (Robert Wood Johnson Foundation, 2008). **Development of a database about the public health nursing workforce** is needed for researchers to use in examining the status and impact of the specialty in the United States. The number, age, sex, years in public health nursing practice, location, workplace, and number of

PHN Workforce

Key Design and Methods Priorities

- *Development of PHN workforce database*
- *Longitudinal designs*
- *Multi-site studies*
- *Evaluation studies*
- *Large data set analysis*
- *Multi-level analyses*

years intending to continue to work in public health nursing are a few characteristics of the workforce needed for projections and funding requests. Assessment of career patterns, educational preparation, leadership experience and skills, retention, and turnover is critical for understanding workforce needs.

A second area related to the public health nursing workforce is the issue of competency. For several decades public health nursing leaders have concurred that a baccalaureate degree in nursing is required for basic public health nursing practice. Because many public health nurses across the country are prepared at the associate degree level, the competency of the public health nursing workforce is in doubt and should be examined. At the advanced practice level one issue to be examined is certification. Does certification make a difference in competency? Competencies identified by public health and public health nursing professional organizations provide frameworks for pushing this work forward (Council on Linkages, 2001; Quad Council of Public Health Nursing Organizations, 2003). ***Mechanisms to longitudinally assess*** these competencies are needed.

Another issue of importance is the decline in the numbers of the public health nursing workforce. In order to promote the maintenance and expansion of access to public health nursing services, research is needed to address the economic value of public health nursing. Research is needed to develop effective, evidence based models of public health nursing service delivery. These types of studies require ***multi-site and longitudinal designs***.

Workforce issues also relate to the education of undergraduate and graduate nurses who specialize in public health nursing. The recently revised *Essentials of Baccalaureate Nursing Education* (AACN, 2008) includes Clinical Prevention and Population Health as an essential educational component. Innovative research methods are needed to determine the influence and outcomes of the implementation of these Essentials in expanding the public health nursing workforce. At the graduate level, ***evaluative efforts*** are needed to determine successful recruitment strategies for advanced practice public health nursing programs.

Research designs and methods to address public health workforce issues may be the same as those listed in priority one. ***Large centralized data sets and complex analysis strategies*** could be used to document factors important in studying workforce issues. Studies addressing workforce issues should include economic analyses to the extent possible.

Conclusion

The research priorities presented in this document are aimed at generating action on the part of researchers, educators, administrators, and practicing public health nurses. The efforts

of the entire public health nursing community are needed to accomplish the research agenda to keep public health nursing relevant for the 22nd century and beyond. Research cannot be conducted without qualified researchers. Qualified researchers cannot be prepared without qualified faculty. Qualified faculty cannot be prepared without education that starts at the undergraduate level with sound public health nursing content and appropriate public health nursing clinical placements. Public health nursing research requires cooperation between academic and practice settings.

As we put forth the priorities in this document, the social-political climate for public health nursing is potentially very favorable. Funding for expanding both the public health workforce and research may be increased in the near future. At least one evidence-based public health nursing program--the Nurse Home Visitation program--is being promoted by President Obama as the type of program needed to prevent negative outcomes for populations (U.S. Department of Health and Human Services 2010 Budget, n.d.). The Nurse-Family Partnership program, which has been developed and tested for over 20 years, is an example of the type of research that could accomplish the long-term goal of keeping public health nursing relevant and available to improve the public's health (Olds et al., 1997).

The Association of Community Health Nursing Educators has endorsed this document and seeks wide-spread dissemination in order to further the research agenda for improving the health of the public. Dissemination is needed to the total public health nursing community, the broader nursing and public health community, as well as the multiple agencies and organizations that fund and sponsor public health nursing research. This document provides a blueprint for the future direction of public health nursing research to help assure a viable dynamic future for public health nursing and, ultimately, for the public good.

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