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A Needs Analysis for a Graduate Program in Nursing and Public Health in New England

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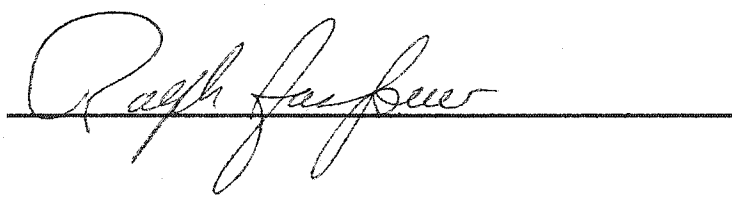

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This project is dedicated in loving memory of my grandmother, Sirvart Bogosian, who taught me to survive and persevere with grace and dignity.

I would like to thank my parents for their love and support.

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ABSTRACT

DeBlois, Araxie, B. (2003). A Needs Analysis for a Graduate Program in Nursing and Public Health in New England. The purpose of this study was to conduct a needs assessment of registered nurses with regard to a Master of Science in Nursing (MSN) and Master of Public Health (MPH) dual degree program. This research was designed to identify the competencies required for leadership in public health as established by the *Council on Linkages Between Academia and Public Health* (2001).

A focus group composed of nursing and public health experts identified the competencies required for public health leadership and engaged in a group discussion regarding the educational needs of nurses and MSN/MPH program development.

The instrument included demographic information and items relating to training and educational needs. The study utilized a sample (N = 147) registered nurses to identify their needs and reported level of interest in a variety of educational and training programs. Interviews with key informants were conducted to identify nursing and public health training needs and to assess the feasibility of a dual MSN/MPH program. Composite means and standard deviations were computed to identify the most important competencies for public health leadership. Percentages of interest were computed from the survey sample.

Findings from the group interview and key informants revealed a need to increase the number of Baccalaureate prepared registered nurses.

These findings were supported by the survey data in this study whereby 50% of the respondents were Associate's Degree Registered Nurses. Other corroborating evidence was offered by The American Association of Colleges of Nursing (2000) which suggested Baccalaureate preparation as the minimum necessary requirement for entry-level nursing due to the inclusion of public health sciences within the curriculum.

This study's qualitative data revealed that, like nurses, public health employees arrive at entry level positions from a variety of educational backgrounds. The data further suggested the need for public health certificate training programs for public health workers. These findings are supported by research from the Institute of Medicine (1988) which notes as changes in the health care system and public health delivery evolve, a competent workforce capable of delivering an increasing variety of services will be needed.

CHAPTER I

INTRODUCTION

Public Health

"The Master of Public Health (MPH), is the most widely recognized professional credential for leadership in public health" (Harvard School of Public Health, 2002, p.1). Public health officials focus on social, behavioral, and educational theories in order to understand and develop interventions for public health issues. These theoretical constructs allow public health officials to better understand and create programs which influence interpersonal, intrapersonal, organizational, community, and societal health conditions. Public health officials are most often responsible for coordinating school, community, and statewide health programs, as well as disseminating health information and access to health services. Modern medicines, advances in technology, and disease surveillance through biostatistics and epidemiology have impacted the focus of public health. Additionally, the composition of the public health workforce has evolved to include a wider variety of professionals. Once noted as a post graduate course of study for medical doctors, the public health community includes nurses and other professionals obtaining postgraduate degrees in public health. Furthermore, public health infrastructures have expanded to include federal, state, and local governmental agencies, as well as private and non-profit organizations.

National nursing shortages have significantly impacted public health. Although findings from the *National Sample Survey of Registered Nurses* (2000)

revealed that the public/community health sector was the second largest employment category of nurses, Gebbie and Hwang (2000) found that "as the second largest component of the public health workforce, public health nursing is in a particularly vulnerable situation because of the recent focus on nurses in public health as providers of clinical services to individuals. Public health nurses require additional skills in assessment, policy development, and assurance to provide both public health practice at the community level and population based individual health care services" (p. 716). In its broadest definition, public health encompasses the delivery of a variety of services designed to serve the population as a whole. However, the public's health is an entity which is measured by the sum of its parts. Public health nurses are a critical component of the public health system and often require advance training within two disciplines. Two of the most significant factors affecting the public health system are the nursing shortage and the lack of public health workforce training. Furthermore, according to the Bureau of Health Professions (2002) "only 20 percent of the nation's estimated 400,000 to 500,000 public health professionals have the education and training needed to do their jobs most effectively" (p. 1).

Many of the core functions of public health can be traced to the early developments of professional nursing. In light of the current nursing shortage, graduate programs must be developed to reflect the invaluable contribution nursing has made to public health. Preparing nurses to assume leadership roles within the realm of public health can help increase the quality and competency of its workforce.

Statement of the Problem

The mission of public health is to "fulfill society's interest in assuring conditions in which people can be healthy" (Institute of Medicine, 1988, p. 7). In 1994, the Public Health Functions Steering Committee identified ten essential public health services:

1. Monitor the health status of individuals in the community to identify community health problems.
2. Diagnose and investigate community health problems and community health hazards.
3. Inform, educate and empower the community with respect to health issues.
4. Mobilize community partnerships in identifying and solving community health problems.
5. Develop policies and plans that support individual and community efforts to improve health.
6. Enforce laws and rules that protect the public health and ensure safety in accordance with those laws and rules.
7. Link individuals who have a need for community and personal health services to appropriate community and private providers.
8. Ensure a competent workforce for the provision for essential public health services.
9. Research new insights and innovate solutions to community health problems.

10. Evaluate the effectiveness, accessibility, and quality of personal and population-based health services in a community

(United States Department of Health and Human Services, 1994, p. 21).

The ability of the public health infrastructure to deliver these essential services is challenged by two separate yet interrelated problems; barriers precluding nurses from assuming public health leadership positions, and limited public health educational programming. For example, *The National Sample Survey of Registered Nurses* (2000) identified the public/community health sector as the second largest employment category of nurses. Therefore, it is imperative to increase the number of registered nurses within public health sectors, and to retain those currently employed within that category. However, major changes in pubic health delivery such as managed care, environmental hazards and disasters, increase in life expectancy, population focused services, and community health coalitions, are shifting the focus of public health along with the skill requirements of the public health workforce. "There is reason to be concerned, however, that the current public health workforce may not be fully prepared for the work that is required today and will continue to be necessary in the next century" (American Public Health Association, 2002, p. 1).

Public health offers diverse services in varying capacities to individuals and to groups within communities. Public health is widely accepted as the most interdisciplinary of the allied health professionals.

However, in order to serve society more effectively, public health professional preparation must adapt to changes in the health care delivery system by providing interdisciplinary educational approaches.

According to a study conducted by Josten, Aroskar, Reckinger and Shannon (1996) schools of nursing vary greatly in implementing curriculum guidelines recommended by the Association of Community Health Educators. Furthermore, the study showed that the nursing schools are even less likely to implement the courses recommended by the Council on Education for Public Health. "These gaps in Community/Public Health Nursing graduate education place nurses at a disadvantage in obtaining leadership positions in public health agencies" (Josten, Aroskar, Reckinger, & Shannon 1996, p. 21).

Although public health workforce competencies have been established, educational links between nursing, public health core functions and the essential public health services are somewhat lacking. Graduate programs in public health most generally result in a Master of Public Health Degree (MPH). However, nurses obtaining the MPH degree are often disadvantaged due to the lack of advanced nursing education. This issue is significant with regard managed care facilities and community health centers that employ public health nurses who may be responsible for providing individual patient care.

> The most common educational pathway to a career in public health is a graduate degree from a school of public health or a school of nursing. Nurses who choose to pursue a master's degree program in public health without an accredited nursing component, however, lack the credentials for advanced practice in nursing or nursing education, and nurses who pursue a master's program in nursing without advanced preparation in public health may lack the knowledge and skills needed to provide leadership in official public health agencies. (Josten, Aroskar, Reckinger, & Shannon 1996, p. 31)

The scope of the problem for this dissertation is the lack of educational opportunities for baccalaureate prepared registered nurses to develop advanced nursing skills and the competencies needed in order to assume public health leadership positions.

Definition of Terms

Specific terms were used to describe public health and courses of study relating to nursing education. These terms are defined to provide a frame of reference as the vocabulary is used in this study.

Graduate Program in Public Health: refers to "any academic post-bachelor's degree program that specifically trains public health workers" (United States Department of Health and Human Services, 2000, p. 23 -22).

Health Promotion: "any planned combination of educational, political, regulatory and organizational supports for actions and conditions of living conducive to the health of individuals, groups, or communities" (United States Department of Health and Human Services, 2000, p. 11-20).

Professional (Registered) Nurse Title: refers to any nursing school graduate who has successfully completed the National Center's Learning Extension (NCLEX-RN), examination.

Public Health: "The mission of public health is to fulfill society's interest in assuring conditions in which persons can be healthy" (United States Department of Health and Human Services, 2000a, p. 23 -23).

Public Health Infrastructure: refers to "the resources needed to deliver the essential public health services to every community" (United States Department of Health and Human Services, 2000, p. 23 -23).

Public Health Nursing: "the practice of promoting and protecting the health of populations using knowledge from nursing, social, and public health sciences" (The Public Health Nursing Section of the American Public Health Association, as cited in Josten, Aroskar, Reckinger, & Shannon, 1996, p. 14).

Public Health Workforce: refers to "individuals who are responsible for providing the essential public health services whether or not they work in an official health agency" (United States Department of Health and Human Services, 2000, p. 23 - 23).

Significance of the Study

This study was designed to provide information regarding the level of need of Baccalaureate prepared nurses concerning interdisciplinary graduate programs, specifically a dual Master of Science in Nursing/Master of Public Health Degree. Since the 1988 Institute of Medicine (IOM) report *The Future of Public Health*, national campaigns have been established to sustain and increase the capacity of the public health workforce to perform essential services and develop competencies required of professionals within a new and emerging system of health care delivery. Research has demonstrated that public health nurses are an integral part of the public health workforce and are particularly at risk with regard to educational opportunities that may result in leadership roles within public health (Gebbie & Hwang, 2000). Recently, national efforts have

been undertaken to provide training opportunities and educational programs in order to increase the effectiveness of public health delivery. Although the literature is limited with regard to specific needs of baccalaureate prepared registered nurses employed within the public/community health sector, Chauvin, Anderson, and Bowdish (2002, p. 1) stated "results of needs assessments can be useful in designing and evaluating professional development curricula and activities to strengthen public health services in the United States."

An assessment of the needs of baccalaureate prepared registered nurses with regard to interdisciplinary graduate programs should contribute to the literature concerning the needs of nurses and identify educational programs which may impact the public health workforce. "A lack of interdisciplinary education is a disadvantage not only to the students seeking to build skills and competencies for future careers but also to public health, public health nursing, and the public good" (Josten et al., 1996, p. 27).

Background of the Study

The purpose of this dissertation was to identify the needs of baccalaureate prepared registered nurses (BSRN) with regard to a MSN/MPH dual degree program. This study investigated the extent to which these nurses acknowledged the need for and benefits of a dual degree program. Additionally, this data could be used to determine the feasibility of a dual MSN/MPH degree program at Johnson & Wales University, Rhode Island.

As suggested in a monograph report prepared by the University of Minnesota in 1996, "one strategy to strengthen the public health infrastructure is

to prepare public health nurses at the graduate level to assume leadership roles in public health agencies...another way to assure public health content is to establish dual or joint degrees between schools of nursing and schools of public health" (Josten, Aroskar, Reckinger, & Shannon, 1996, p. 20). Nationally, several dual MSN/MPH degree programs have been established, including programs at Yale University, Loma Linda University, Emory University, Johns Hopkins University, and Columbia University. These programs have two goals: (1) to provide Baccalaureate Registered Nurses (BSRN's) with graduate interdisciplinary educational experiences; and (2) to prepare them to work collaboratively with other disciplines including public health, clinical nursing, and nurse education. Josten, et al. (1996), acknowledged "nursing students who participate in these model programs can achieve competencies that have been recommended by both nursing and public health leaders. In addition, students preparing for other public health careers enroll in these models because they are viewed as an excellent approach to prepare for a dynamically changing health care field" (p. 53).

> *Nursing Education's Agenda for the 21st Century* (2002) stated differentiation of nursing roles and responsibilities, based on educational preparation, is necessary for efficient and effective health care delivery. A master's degree education prepares nurses for advanced practice roles, including health promotion, the management and delivery of primary health care, case management for the chronically ill, community health, and administration. (American Association of Colleges of Nursing, 2002, p. 8)

According to Roderick King, Director of the New England Region of Health Resources and Services Administration, Rhode Island's nursing shortage reflects the national trends. Although the findings from the *National Sample Survey of Registered Nurses* (2002) revealed that Rhode Island was significantly above the

national average with 1,101 registered nurses per 100,000 population, as compared to 782 nurses per 100,000 nationally, the *Projected Supply and Demand Shortages of Registered Nurses 2000-2002,* estimated that Rhode Island would face a 16% shortage by 2005 and a 26% shortage by 2010. Consistent with national standards it was estimated that by 2020 Rhode Island will have the eighth highest shortage of nurses along with 13 other states at 40% or higher.

Methodology

The framework of action research is structured to identify an educational problem, collect data relative to the concerned population, evaluate the data collected, and to recommend specific actions relative to the problem under investigation (Gay & Airasian, 2000). The intent of this dissertation was to survey a representative sample of Baccalaureate prepared registered nurses employed within a public/community health setting with regard to their reported level of need for an interdisciplinary graduate program in nursing and public health. In addition, data was also collected from a focus group and interviews with local experts.

The research methodology was both qualitative and quantitative. Qualitative research designs are most often employed to gain insights, and to determine the needs and attitudes of a particular group of interest (Gay & Airasian, 2000). Moreover, qualitative methodologies were utilized in order to discover multiple perspectives and to acquire in depth understanding of the subjects' needs and attitudes. Quantitative research designs were drawn upon

to compare the results of the survey from the focus group participants with the survey results from nurses to determine any differences between the two groups regarding the importance of public health workforce competencies.

The research data presented in this dissertation are particularly relevant within nursing, public health, and education. All three disciplines have a vested interest in the program designs best suited to serve the needs of the nursing community, and to universities conducting needs assessments. Furthermore, the applications of this dissertation will contribute to the literature regarding dual degree nursing programs.

The purpose of this dissertation was to conduct a needs assessment of a Master of Science in Nursing (MSN) and Master of Public Health (MPH) dual degree program in Rhode Island. Specifically, the research examined the following objectives:

1. To identify the competencies required for leadership in public health.
2. To identify the needs of baccalaureate prepared nurses with regard to interdisciplinary graduate programs.
3. To assess the feasibility of MSN/MPH program development.

Limitations of the Study

Survey respondents used hold a Baccalaureate of Science Degree in Nursing (BSN), and licensure as a Registered Nurse (R.N.). This limitation is significant as it delineates the needs assessment data collection to a specific population, regarding educational background and employment status. In addition, the accuracy of the self-reported information on the survey is also

considered a limitation of this study (Gay & Airasian, 2000). Program development concerns are limited to those college and universities which have dual MSN/MPH degree programs.

Delimitations of the Study

The delimitations of the study include the relative size of Rhode Island. Furthermore, Rhode Island does not have local health departments throughout the state, rather there is one functioning body of statewide public health. This is significant with regard to data collection from the focus group, key informants, and employment opportunities. However, generalizations may be made with regard to employment opportunities based upon future projections of nursing shortages in the region and, in particular, Rhode Island. The current economic forecast may also inhibit public agency support for program development.

Organization of the Study

This study is divided into five chapters. Chapter one presents the introduction, statement of the problem, the definitions of terms used in this study, significance of the study, background of the study, methodology, and delimitations of the study. Chapter two presents a review of the literature. Chapter three explains the methodology used in this study for data collection and treatment. Chapter four describes the findings and analysis revealed from the data. Chapter five contains the summary and discussion of major findings, conclusions and recommendations.

Summary

Critical changes in the health care system and the composite of the public

health workforce has led to the development of interdisciplinary graduate nursing programs. These programs may serve to alleviate some of the problems associated with the national nursing shortages, ensure a competent public health workforce, and to increase the efficiency of public health human resources.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

The literature presented in this dissertation begins with a historical perspective of public health nursing, the development of public health infrastructures, and the national health care system. Medical and public health literature is presented to explain the major changes facing public health and the present health care system. The literature is used to illustrate the transition of the focus of health care from illness to disease prevention and public health promotion.

A review of the literature did not reveal any data regarding the development of graduate nursing programs. However, as a result of the current national nursing shortage, some literature suggests the need for implementation of interdisciplinary graduate nursing programs. As a result of nursing shortages, the aging nursing workforce, and the shortage of nursing faculty, new graduate programs of nursing have been developed. The literature examined in this section pertains to the significance of interdisciplinary graduate nursing programs and includes current trends nursing education and the rationale supporting interdisciplinary graduate nursing programs (American Association of Colleges of Nursing [AACN], 2002; Beauchesne & Meservey, 1996; Gebbie & Hwang, 2000; Nagelkerk, 1996).

The literature further analyzed nursing in relation to public health, public health leadership, community health, and interdisciplinary education within the

nursing profession. The databases used for this literature review included PubMed (National Library of Medicine), DISSERTATION ABSTRACTS ONLINE, Cumulative Index of Nursing and Allied Health Literature (CINAHL), and Online Journal of Issues in Nursing (OJIN). Literature was also accumulated from the American Public Health Association (APHA), and the American Association of Colleges of Nursing (AACN).

A Historical Background of Public Health Nursing

More than 140 years ago, Florence Nightingale's efforts to reduce mortality rates among the British troops in the Crimean War laid the foundation for public health nursing. Her detailed accounts of patterns of distribution of disease among certain populations significantly reduced infantry mortality rates. Nightingale's work resulted in improved sanitary conditions for soldiers and thereby reduced the mortality rate from 40% to 2%. (Josten, Aroskar, Reckinger, & Shannon, 1996). Following the war, Nightingale's findings quickly influenced the nursing profession in England. As opposed to a social perspective of public health provided by most religious or philanthropic organizations, nurses began delivering health care services from the scientific basis of epidemiology.

During the 1800's and continuing into the early 1900's, the onslaught of immigrants and an ever growing population of underprivileged in America implicated the need for public health codes in order to control widespread disease. Organizations of lay people were formed to visit the poor who were sick or infirmed. Many of these organizations were developed as a response to the epidemic of yellow fever from the War of 1812. The American Civil War also

represents a critical event in the history of public health nursing. The most common infectious diseases during the period were pneumonia, typhoid, diarrhea, dysentery, and malaria. According to Sartin (2002), these diseases accounted for two-thirds of all deaths during the period from 1861 to 1865 and may have increased the war by as long as two years. Clara Barton, founder of the American Red Cross, was responsible for coordinating methods to equip soldiers with supplies and arranged for nursing care during the war.

Following the war, several nursing societies were formed. However, most of the personnel consisted of young women who were untrained as nurses. These care takers were assigned to families by physicians, and remained with each family throughout the duration of the illness or until discharged by the physician.

By the late 1800's, trained nurses began home visitations within districts of industrialized cities in the northeast. The primary focus of the services provided by these visiting nurses was social and religious in nature and therefore lacking in education regarding hygiene, sanitation, and disease prevention. In 1893, Lillian Wald pioneered the founding of American public health nursing and organized the Nurse's Settlement House in New York City. Wald and her partner, Mary Brewster, lived in a poverty-stricken neighborhood and stressed the importance of the nurse to the community by bridging the gap between disease and social factors. Their efforts resulted in significant improvements in living conditions and access to health care for the poor. "Alleviation of human

suffering and illness was profound. The results in terms of creative nursing practice and inception of new modes of health care delivery are with us today" (Smith & Maurer, 1995, p. 36).

By the turn of the century in England, Florence Nightingale's work had substantially impacted public health. Nightingale affected improvements in sanitary living conditions by means of understanding the causation of disease, epidemiology, and analyzing data regarding diseases, biostatistics. These improvements came in the form of water and waste sanitation, personal hygiene, and population based health objectives.

In America, reforms regarding the public's health were enacted to prevent communicable disease and protecting food and water supplies. In 1902, Lillian Wald once again emphasized the importance of community health nursing with regard to public education. Wald demonstrated a reduction in absenteeism among school children by 50% within a matter of weeks due to practices regarding the control of infectious diseases. In addition to the social reforms afforded by the early work of these pioneering women regarding community nursing, the medical community also made significant contributions to public health.

> By the last quarter of the 19th century, the discovery of microbes had transformed the sanitary movement into the "golden age of public health" (1880-1910). General sanitary reforms were supplemented by specific actions aimed at preventing communicable diseases. These included pasteurization of milk, surgical asepsis, and immunization. The germ theory of disease also gave new impetus to campaigns for adequate housing, public water and sewage systems, pure food and drugs, and reporting systems for disease surveillance. Public health nurses continued to be leaders in educating the public about disease prevention. As the demand for public health nurses increased, specialization within community health nursing emerged.
> (Smith & Maurer, 1995, p. 39)

Specializations of Public Health Nursing

In 1911, Ella Crandall organized a movement to formalize the standards of visiting nurses (Smith & Maurer, 1995). The American Nurses' Association (ANA) appointed a committee to develop standards of visiting nurse care. The National Visiting Nurse Association was formed and accepted as a member of the ANA. Following much debate, Crandall led the movement to rename the organization, The National Organization for Public Health Nursing (NOPHN). Although the term "visiting nurse" had more recognition among the community members as to the nature of the services provided by the nurses, Crandall asserted that Lillian Wald's term 'public health nursing' embodied all of the nursing specialties along with the doctrines of public health (Smith & Maurer, 1995). In order to uphold the principles established by the NOPHN, health care was brought to the masses, as opposed to the specific populations of the military and the poor infirmed.

Therefore, at the first meeting of the NOPHN in 1913, the organization recognized seven subspecialties: (a) general visiting nursing, (b) rural nursing, (c) school nursing, (d) tuberculosis nursing, (e) infant welfare, (f) mental hygiene, and (g) industrial welfare (Smith & Maurer, 1995).

These specialties were subdivided between two schemes. One scheme considered the total population served including school children and industrial workers. The second scheme included health problems, maternity, disease prevention education, and illnesses. These specialties of public health nursing

initiated several local and federal public health interventions (Smith & Maurer, 1995).

The Development of Public Health Infrastructures

By the turn of the century, 38 states had public health departments. These public health departments operated under the auspices of state and federal governments. As government control over public health increased, public health nurses became government employees. The NOPHN supported government intervention in public health nursing. "By the mid-1920's more than 50% of public health nurses were government employees. By the late 1930's all 48 states had public health nursing programs (Roberts, & Heinrich, 1985, as cited in Smith & Maurer, 1995). The NOPHN had reservations about the shift in nurse employee status from being employed by non-profit agencies to being employed by the government. A chasm in public health nursing arose as a result of factions between public health departments and private practice physicians. Consequently, government employee public health nurses were relegated to the prevention of disease while the visiting nurse association and other proprietary home health agency employees were responsible for the care of the sick. The distinction of duties split the public health nursing profession and remained in place until the 1965 enactment of the federally funded Medicare/Medicaid health care system. The Medicare/Medicaid legislation established the role of local and federal governments with regard to financial support of health care of the elderly and the poor. However, the systematic division of authority over public health,

public assistance for health care, and private care further segregated the public health nursing profession (Smith & Maurer, 1995).

Local and Federal Sectors in Public Health

Local and state governments reigned autonomously over the health matters of individual cities and states, while the role of the federal government remained grounded in the Constitution. The Sixteenth Amendment allowed the federal government, under the commerce clause of the doctrine of implied powers, to establish a federal income tax to generate funds to insure the public welfare. By the 1930's and continuing into the Great Society period of the 1960's, these funds protected the health of the public through regulations regarding commerce and trading. However, the decade following the 1960's redefined the role of the federal government in public health.

State authorities overtook local control of public health policy and funding. The shift in public health management resulted in two key roles for local public health departments. These roles are:

> Statewide assessment, policy development, and assurance. It is the state's responsibility to see that functions and services necessary to address the mission of public health are in place throughout the state. . . . Designating a lead agency for public health in the state (the place of ultimate responsibility) to fulfill the functions of assessment, policy development, and assurance. In most cases this well be the state health department, which has the obligation-and should have the authority-to ensure that important public health policy goals are being met, even when their implementation has been assigned to another entity. (Institute of Medicine [IOM], 1988, p. 49)

Roles and Responsibilities of State and Federal Public Health Agencies

By the mid 1960's, the distinction of public health responsibilities became blurred. Although key objectives for state agencies had been established, the establishment of several new federally funded health programs placed a burden

of obligation to the federal government upon state agencies. For example, according the Institute of Medicine report entitled *The Future of Public Health* (1988):

> The strengths of local governments for the provision of public health are (1) to serve as a governmental presence at the local level, ensuring each citizen's access to the security, protection, and authority of government; (2) to provide a mechanism for implementation and integration of a complex array of needed services; (3) to perform these functions on the basis of both professional and community-specific knowledge and in line with community values to the extent that they are consistent with the maintenance of individual rights; and (4) to convey information on local needs, priorities, and program effects to the state and national levels. (p. 51)

Furthermore, the report indicated that the role of the federal government was one of advocacy of national health objectives, national health data and to conduct research. However, Rosenkrantz (1974), Duffy (1979), and Starr (1982, as cited in Institute of Medicine, 1988), reported that these responsibilities created a chasm between private and public health care which exist today.

The Comprehensive Health Planning Act of 1967 secured federal funds for the establishment of national health planning agencies and community health centers. However, this trend also allowed the federal government to fund private health care providers and physicians, thereby effectively bypassing state and local authorities.

By the mid 1970's through the 1980's health care changed dramatically. More federal monies were dispersed to serve the medically indigent, poor mothers and children, and new grants were developed to protect private physicians and the medical community.

> Despite the huge success brought about by scientific discovery and social reforms, and despite a phenomenal growth of government activities in health, the solving of public health problems has not taken place without controversy. Arguments about the scope of public health and the extent of public sector responsibility for health continue to this day. (IOM, 1988, p. 70)

The Health Care System

Despite recognition for world power, the United States is often under fire for having the least effective yet most complex health care system. This criticism is based upon a comparison between the U.S. system and comprehensive health care systems of other developed countries such as Great Britain, New Zealand, and all the Scandinavian countries (Smith & Maurer, 1995). Comprehensive health care systems provide services to all citizens whereby a central body of the national government is responsible for the financial and organizational structure of health care (Smith & Maurer, 1995). By the early 1990's in the United States, 14% of the gross national product was spent on health care (Smith & Maurer, 1995). However, this spending trend has not resulted in a significant improvement in health status indicators for United States citizens as compared with other industrialized countries. For example, The Congressional Budget Office reported in 1992 that approximately 37 million Americans had no health care coverage (Smith & Maurer, 1995). Moreover, according to Roemer (1991) the United States dedicates the least amount of public funding for health care as compared to other developed countries. According to statistics reported by Schieber, Pouiller, & Greenwald (1991) the United States ranked among the lowest of developed nations with regard to infant mortality as well as life expectancy.

Roemer (1991) identified three key features of the United States health care system. These features are a result of the history of the development of public health in this country and remain in place today; a decentralized federal government system, laissez faire attitude toward free market economy and abundant resources. Roemer (1991) also documented the two main components of the United States health care system; oversight and management. Within the organizational structure of the health care system, multiple levels of government and a variety of private management styles affect the coordination and cooperation of the private and public sectors. Although private facilities and organizations are subject to federal and state regulations regarding licensing, facility operations and services provided, the areas of greatest latitude in the private sector remain those associated with financing mechanisms, resources including health professionals, facilities, health care supplies and equipment, and health services (Smith & Maurer, 1995).

As a result of the discrepancy within the health care system in the United States, the federal government once again engaged in national efforts to address the differences in access to care between insured Americans and the medically indigent. The Public Health Service, within the Department of Health and Human Services is in effect the central health planning body for public health within this country. Although the federal government remains actively engaged in the aforementioned functions of research, policy development and assessment, the function of access to and assurance of health care remains in the control of the state and local governments. This juxtaposition is a major factor of the changes

facing the health care system and public health.

By 1984, the nation spent approximately $387 billion on health care. However, the majority of those funds were spent on private medical expenditures as opposed to population-based public health functions. For example, the Institute of Medicine (1988) reported that the Health and Human Services Department budget included $95 billion to finance the Medicare and Medicaid programs. In contrast, the U.S. Public Health Service budget totaled only $10 billion, yet provided for the Centers for Disease Control, the National Institutes of Health, the Health Resources and Services Administration, and the Alcohol Abuse, Drug Abuse and Mental Health Administration.

In addition, by the late 1980's, governmental cutbacks severely affected funding for many public health services, with the exception of those programs accepted by the public as necessary for the good of society. Heclo (1986) attributed the shaping of public philosophy toward concern for individual rights. In addition, the Institute of Medicine (1988, p. 42) reported "this mainstream perspective is tempered somewhat by another long-standing tradition in American political philosophy, rooted in concern for the community as a whole."

Public Health as a Component of the Health Care System

Economic trends and an abundance of private resources including, specialization of health care professionals, medical insurers, and Medicaid/Medicare patients, have forced public health agencies to become medical providers of the poor. The shift in the provision of health care has required the expansion of population-based public health activities in order to

include direct care provider services. Public health is acknowledged as the most diverse entity of all the allied health and medical professions and, as such, public health agencies have become overburdened. While the medical community and private health care providers have segregated into specialties, public health has expanded its umbrella of services to include (a) environmental health; (b) preventive medicine efforts, such as immunization programs, epidemiology and disease control; (c) primary medical care; (d) advocacy; (e) school health programs; (f) bio-terrorism response planning; (g) family planning; (h) dental care; (i) mental health; and (j) home health care (IOM, 1988). Although public health agencies have responded to the added burden of health care, national and local public health agencies have maintained their commitment to disease prevention, public health promotion and reform initiatives.

Public Health Initiatives

According to *Morbidity and Mortality Weekly Report*, "since 1990, the average lifespan of persons in the United States has lengthened by greater than 30 years; 25 years of this gain are attributable to advances in public health" (Morbidity and Mortality Weekly Report [MMWR], 1999, p. 1). The most notable public health advances credited with increasing the national average lifespan include: (a) vaccination, (b) motor-vehicle safety, (c) safer workplaces, (d) control of infectious diseases, (e) decline in deaths from coronary heart disease and stroke, (f) safer and healthier foods, (g) healthier mothers and babies, (h) family planning, (i) fluoridation of drinking water, and (j) the recognition of tobacco use as a health hazard (MMWR, 1999, p. 1). Through these efforts, federal and state

public health agencies have been instrumental in shifting the focus of health care from illness to prevention. The concept of wellness is no longer associated with the single theoretical construct of absence of disease, rather it has been adapted to focus upon disease prevention and health education (Smith & Maurer, 1995). Through public health education, multitudes of Americans have been successful in improving their own health through life-style and behavioral changes. Although these programs have been particularly successful in regard to underage alcohol and tobacco use, public health agencies have recently begun to focus attention toward the influences of business, economic and social environment upon health (Smith & Maurer, 1995). Two of the most important national public health initiatives, developed to address the nation's health problems, are the *Healthy People 2010* campaign and the establishment of *Core Competencies for Public Health Professionals.*

In 1979, the federal government established a national pubic health campaign entitled *Healthy People*. Since its inception, the initiative was updated in 1990, and was entitled *Healthy People 2000*. Then for a third time, the campaign was revised to reflect two critical goals, to increase the quality and years of healthy life, and to eliminate health disparities. *Healthy People 2010* has 467 objectives in 28 focus areas, and for the first time, ten leading health indicators to help communities track target areas of the program. The ten leading health indicators include: (a) physical activity, (b) overweight and obesity, (c) tobacco use, (d) substance abuse, (e) responsible sexual behavior,

(f) mental health, (g) injury and violence prevention, (h) environmental quality, (i) immunization, and (j) access to health care.

These leading health indicators serve to encompass all of the established categories of public health. A key issue associated with the improvement of health indicators is the expansion of educational and community based services.

> Community health is profoundly affected by the collective beliefs, attitudes and behaviors of everyone who lives in the community. Indeed the underlying premise of Healthy People 2010 is that the health of the individual is almost inseparable from the health of the larger community and that the health of every community in every State and territory determines the overall health status of the Nation (United States Department of Health and Human Services [USDHHS], 2000a, p. 3).

The ability of public health services to improve upon the health indicators, however, is somewhat limited without educational and training support for the workforce responsible for the delivery.

In order to properly respond to the objectives presented in *Healthy People 2010*, *The Council on Linkages Between Academia and Public Health Practice* established core competencies for public health workers. These competencies were based upon the ten essential services of public health and the core functions of public health. These competencies are highly regarded as a model for defining competency among all public health professionals, and are considered the basis for which training courses for public health professionals are developed as well as an evaluation tool of programs and professional skill (Chauvin, Anderson & Bowdish, 2002).

Numerous studies have been conducted to assess the competency of the public health workforce. According to Northwest Center for Public Health Practice (2002), The National League of Nursing Assessment and Evaluation

(2001), Missouri Department of Health (1999), and Chauvin Anderson and Bowdish (2002), needs assessment studies of members of the public health workforce should be conducted in order to offer the training and educational programs necessary to ensure a competent workforce. The impetus for these studies was grounded in the change of delivery and an increase in services offered through public health departments. However, these studies were broadly based including all public health workers and included focus groups, interviews with key informants, and in some instances, questionnaires. A study conducted the North Carolina Institute of Public Health (2002), used a survey instrument based upon the ten essential services of public health and the competencies established by The Council on Linkages Between Academia and Public Health Practice to assess the public health workforce training needs. The use of the core competencies as an effective measurement instrument for pubic health workforce training needs has become widely accepted. Upon finalization of these core competencies, Beckett (2002) explained that the list will be disseminated and utilized as a means to assess and meet public health workforce needs. Moreover, core competencies are a useful framework for education, training, assessment, evaluation, quality improvement, and accountability activities (Beckett, 2002).

In addition, John Kress, Director of the Public Health Training Centers for The Health Resources and Services Administration, asserted the framework would be of significant value as a guide for program development, workforce training, and education efforts (Beckett, 2002). Gebbie and Hwang (2000),

however, contended that special attention must also be paid to the educational needs of nurses. According to Gebbie and Hwang, (2000, p. 1), "collaboration between public health nursing practice and education and partnerships with other public health agencies will be essential for public health nurses to achieve the required skills to enhance the public health infrastructure." In effect, these studies suggest that the educational preparation for nurses must be reexamined and expanded to include a variety of training programs.

The Development of Educational Preparation for Nurses

Currently, the National League for Nursing Accrediting Commission (NLNAC) accredits five types of nursing programs: baccalaureate and master's degree programs, associate degree programs, Registered Nurse diploma programs, and practical nursing license programs (National League for Nursing Accreditation [NLNAC], 2003) The origins of these varied types of nursing education are closely related to the history and development of public health. At the turn of the twentieth century, some teaching hospitals placed students in private homes to provide nursing care. Most of these nurses gained apprenticeship status through collaborative efforts between the hospitals and local visiting nurse associations. By 1906, the Boston Instructive District Visiting Nurses Association had developed a four-month course for nurses. In 1910, the Teacher's College of Columbia University established the Department of Nursing and Health for postgraduate work for trained nurses. Following this protocol for

post-training education, the National League for Nursing Education, (NLNE) developed a standard third year training curriculum. This academic prerequisite created a gap that still exists today (Smith & Maurer, 1995).

The argument that nurses needed the additional academic component was often met with opposition from hospitals that sought trained nurses, rather than wait for academically prepared nurses. Fifteen other schools of postgraduate training for nurses had been developed by 1922. In 1924, the NOPHN proposed that public health nursing courses be included in the undergraduate nursing education curriculum. Between 1935 and 1950, all undergraduate nursing programs were encouraged to include an eight-week course of study dedicated specifically to the principles of community health nursing and include an association within a public health agency. By the end of the 1950's approximately one-fifth of public health nurses had earned academic degrees (Smith & Maurer 1995).

Beginning in the 1960's however, the American Nurses Association had begun to differentiate among nursing specialties: (a) community health, (b) gerontology, (c) maternal and child health, (d) medical and surgical care, and (e) psychiatric and mental health. Among these divisions of nursing practice, community nursing remains one of the most varied dimensions of nursing care practiced today. For example, community health nursing includes nurses employed within health departments, schools, worksites, private physicians' offices, private non-profit clinics, visiting nurses associations, and for profit home health agencies (Smith & Maurer, 1995).

Nursing Education Programs

Many models of nursing preparation exist. It is pertinent to briefly examine the differences among these programs. As previously noted, many of the current educational tracks available to nursing students today are the result of a shortage of nurses and philosophical differences regarding the level of academic preparation needed for nursing training.

Licensure as a Practical Nurse generally requires a year long course of study at a vocational school or junior college. Successful completion of a state licensure examination results in a license to practice as a practical nurse. The differences noted between licensure as a practical nurse (L.P.N.) and a registered nurse (R.N.) are found within the level of skilled nursing care an L.P.N. can provide. Most Licensed Practical Nurses work in hospitals, nursing homes or doctor's offices and generally deliver nursing care under the supervision of a physician or a registered nurse (y-axis, 2003).

The professional title of Registered Nurse (R.N.) is conferred upon graduates of accredited nursing programs after successful completion of the National Council Licensure Examination (NCLEX) for registered nurses. The designation of Registered Nurse signifies a graduate of an approved program who is qualified to perform higher level medical procedures and nursing duties. There are three levels of nursing programs which lead to preparation for the NCLEX-R.N. Examination; Diploma Program, Associate Degree, and Baccalaureate Degree (y-axis, 2003).

Hospital diploma programs are the oldest type of nursing programs. However, the existence of these programs has declined steadily over the last twenty years. A diploma program requires approximately three years' study. Academic credit is not awarded for course work, as a majority of nurse training takes place in teaching hospitals. These programs were originally designed to provide on the job training for nurses while simultaneously supplying trained hospital employees. Although graduates of accredited diploma programs are eligible to take the state licensing examination for registered nurses, graduates are limited to beginning hospital staff positions and are not qualified for managerial or administrative positions without further academic preparation (y-axis, 2003).

An Associate's Degree in Nursing (A.D.N.) usually requires enrollment in a two year accredited nursing program at a community or junior college. A graduate is eligible to take the state licensure examination to become a registered nurse. However, an Associate's Degree provides limited career opportunities for leadership capacity within nursing, administrative roles, or for positions in public health nursing (y-axis, 2003).

A Baccalaureate Degree program in nursing generally takes four years to complete at accredited colleges and universities and results in graduates receiving a Bachelor Degree of Science in Nursing (B.S.N.). Upon completion of a state-approved program, graduates may take the NCLEX- R. N. examination. The Baccalaureate Degree in Nursing, along with the R.N. license, prepares nurses for positions in administration and advanced nursing as well as in public

health. The degree also provides the basis for graduate education, which allows for greater career opportunities as teachers, clinical specialists, administrators, or researchers (y-axis, 2003).

In as much as educational preparation for registered nurse licensure is varied, a nurse in possession of a Baccalaureate Degree as well as registered nurse licensure, remains the caveat of standard of professional nursing. In its position paper, the American Association of Colleges of Nursing (2000) supported the Baccalaureate prepared Registered Nurse as the minimum educational qualification for professional nursing practice. The AACN (2000) adopted this position for several reasons; (a) the change in health care systems, (b) the application of clinical skills across multiple settings, and (c) patient education and health promotion in community based primary health care settings.

Current Trends in Nursing Education

In 1986, the American Association of Colleges of Nursing (AACN) presented a series of documents entitled *The Essentials*. These documents were revised in 1999 and contain a set of core standards for nursing education that were updated to identify the current essential elements required for nursing programs, education and training. In addition, each document based upon the select category or level of nursing education, presents facilitators and barriers to nursing programs in relation to present trends in health care system delivery.

According to *Nursing Education's Agenda for the 21st Century* (AACN, 2002) graduate education is required for advanced practice nursing, including

primary health care specializations, nursing education, administration, and community health. This focus on advanced nursing practice is based upon the recommendations of the *Essentials* series.

There are four specialties of advanced practice nursing which are sanctioned by the American Association of Colleges of Nursing; Certified Nurse-Midwife (CNM), Clinical Nurse Specialist (CNS), Nurse Practitioner (NP), and Certified Registered Nurse Anesthetist (CRNA). All four specialties require a combination of graduate education or certificate training with the appropriate licensure. In addition to these advanced nursing specialties, other interdisciplinary graduate degree programs in nursing have been developed (AACN, 2003).

Interdisciplinary Graduate Nursing Programs

The rapid change in the health care system throughout the 1990's prompted a transformation of nursing master's education programs. (AACN, Master's Education Conference, 2000). According to Jean Nagelkerk, Associate Professor of Nursing, Grand Valley State University, School of Nursing, "the complex demands of patient care require interdisciplinary collaboration for high quality, cost effective outcomes. Benefits to interdisciplinary education include providing students with the opportunity to participate in a holistic collaborative approach to practice high quality cost effective patient care while evaluating outcome data" (American Association of Colleges of Nursing, 1999 Master's Education Conference, 2000, p. 9).

The development of interdisciplinary graduate nursing programs coincided with the release of several influential national reports published by the Pew Health Professions Commission and the federal government. A report of the Public Health Functions Project, *The Public Health Workforce: An Agenda for the 21st Century*, included curriculum development in the necessary actions needed to train, educate, and recruit competent members of the public health workforce. This report offered specific measures to be undertaken by state and local health departments and educational institutions in order to enumerate the public health workforce. Included in those actions were: (a) assessing changes in workforce roles and functions, (b) identify training and educational needs for the core functions and essential services of public health, and (c) the use of distance learning methodologies to deliver quality public health educational programs. Concurring with this report, the companion document to *Healthy People 2010*, entitled *The Key Ingredient of the National Prevention Agenda: Workforce Development* acknowledged, "public health's diverse and multi-disciplinary workforce requires well-planned, competency-based continuing education" (USDHHS, 2002, p. 28). The document also reported high public health workforce turnover rates and attributed some of these findings specifically to nurses, "the lack of continuing education opportunities can force nurses out of the public arena into the private health workforce in hospitals, physicians' offices or other private settings" (USDHHS, 2002, p. 30).

The Pew Health Professions Commission reports *Critical Challenges: Revitalizing the Health Professions for the Twenty-First Century* (The Third

Report of the Pew Health Professions Commission) and *Recreating Health Professional Practice for a New Century* (The Fourth Report of the Pew Health Commission) released in 1995 and 1998 respectively, also illuminated the issues surrounding enumerating the public health workforce including nursing.

Two major findings of the *Critical Challenges* report concerned competencies of health care practitioners and improving health care delivery, both of which examined the education of professional public health workers. "At this point the knowledge, skills, competencies, values, flexibility, commitment, and morale of the health professional workforce serving the systems of care will become the most important factors contributing to the success or failure of the system" (The Pew Health Professions Commission, 1995, p. 23). The report made four educational and workforce recommendations relevant to all health professions:

1. Redesigning the health care workforce – "specifically, education must place more emphasis on producing providers with the qualities of superb generalists, able to practice in community- and ambulatory-based settings, able to bring a 'systems approach' to the way health care is organized and delivered, and able to work within collaborative practice models" (The Pew Health Professions Commissions, 1995, p. 25)
2. Re-regulate the health education and practice environment.
3. Right-size the professions.
4. Re-structure education – "to respond to this challenge to become demand-oriented means that education must provide students with knowledge, skills and competencies necessary for effective practice in

the type of health care system that is emerging" (The Pew Health Professions Commission, 1995, p. 28).

In addition, the report outlined seven specific recommendations for nursing (The Pew Health Professions Commissions, 1995, p. 43):

1. Educational diversity referring to multiple entry points to professional practice, diploma programs, Associate, Baccalaureate, and Master's Degrees.
2. Professional titles – "consolidate the professional nomenclature so that there is a single title for each level of nursing preparations and service" (The Pew Health Professions Commission, 1995, p. 43).
3. Career ladders.
4. Education programs.
5. Training programs.
6. Integration.
7. Management Roles.

In a response to the report, Claire Fagan, PhD, RN a member of the 1995 Pew Commission, wrote an article in 1997, published by the Online Journal of Issues in Nursing entitled, *How Nursing Should Respond to the Third Report of the Pew Health Professions Commission*. Dr. Fagan responded to the commission's findings in relation to nursing. Dr. Fagan's article supported the American Association of Colleges of Nursing (AACN) position paper recognizing the Baccalaureate prepared registered nurse as the minimum educational preparation for entry-level nursing. The article examined the history of the

development of diploma and associate degree nursing programs, and the present day situation of short-term solutions leading to long-term problems. Fagan supported the Commission's findings of dismantling pre-Baccalaureate programs. Fagan contended that such programs lessen the number of students entering graduate degree programs. Although the Commission suggested an increase in Master level programs for Advanced Practice Specialties, Fagan asserted that Master's programs should be integrated to offer broad professional roles for nurses, "educational programs developed collaboratively by universities, nursing organizations, and employers that focus on community nursing, case management, patient/family management skills, and the like will be of great benefit to all aspects of health services" (Fagan, 1997, p. 6).

The *Fourth Report of the Pew Health Professions Commission* was released in 1998. While this report reiterated many of the recommendations of the third report, *Recreating Health Professional Practice for a New Century*, brought forth four challenges facing the health professionals workforce and the public, dynamic health care systems, professional regulation, enumeration of the workforce and educational programs. In regard to nursing, the Commission noted a 116% increase in employment for nurses in the community and public health sector, from 1980 through 1996. While the Commission noted the variety of professional nursing entry points, it also cites the demand for health professionals with specialized skills, and the costs associated with upgrading employee skills to a baccalaureate level. Changing competencies are also cited within the report as more nurses begin to transition from direct care to

population-based services, in particular, to expand the number of learning experiences throughout all levels of nursing education in ambulatory, long-term care, and community-based settings (The Pew Health Professions Commission, 1998).

Rationale for Interdisciplinary Graduate Nursing Programs

> Many more nurses could become active contributors to the public health enterprise if they saw more clearly how the practice of nursing fits as an integral part of the process. The group of nurses working together on public health nursing and essential functions believe that while much of the workforce development associated with essential functions of public health should be done with interdisciplinary groups, there is justification for a special focus on nurse because nurses fill key roles in public health in the Americas. (Gebbie & Garfield, 2001, p. 6)

Several colleges nationwide have begun offer a dual Master of Science in Nursing, Master of Public Health (MSN/MPH) degree. Although many colleges and universities currently offering dual programs have cited the need expressed by students to acquire joint nursing degrees, many have engaged in needs assessment studies to confirm program adoption. For example, a needs assessment study conducted by the University of Minnesota was undertaken for several reasons. The University of Minnesota study was developed to prepare public health nurses for leadership roles in public health, and to improve upon graduate students' competencies with regard to analytical skills, managed care systems, and the core functions of public health.

The Johns Hopkins University School of Nursing also offers a dual MSN/MPH degree. The emphasis in this program is to prepare graduates to assume leadership positions in Advanced Practice Nursing and managed care. Many of the core curricula of these programs are evenly divided between graduate nursing courses and public health sciences. Curricula development studies have

also been conducted to determine best practices when designing MSN/MPH degree programs. A study conducted by Gebbie and Hwang (2000, p. 718) identified the goals of such programs which include:

1. Articulation of similarities and differences between and individual and population-focused nursing practice;
2. Description of the history and current perspectives of public health nursing practice;
3. Demonstration of the skills in applying key nursing knowledge to public health practice (core functions and essential public health services) in a community;
4. Application of the principles and skills of population health to his/her practice in the public health agency;
5. The use of current information and communication technology in all public health practice; and
6. Communication of the benefits of public health and public health nursing practice to others.

Gebbie and Garfield (1998) reiterated that these program goals include public health sciences and could be provided in multidisciplinary settings. "If this were indeed taught to all key public health personnel including nurses, the delivery of essential public health services, and the quality of essential public health function would be dramatically increased" (Gebbie & Garfield, 1998, p. 19).

Summary

Currently within Rhode Island, there are five schools of nursing, one of which is a hospital diploma program. Other institutions offer R.N. to B.S. programs, however, the lack of pay differential and incentive bonuses, and the equality of professional entry level among R.N.'s regardless of degree status, prohibits many of these programs from flourishing. There are two Master's levels programs offering a Master's Degree in Nursing and a Master's Degree in Health Services Administration, and one Master of Public Health Degree program. However, a void exists for interdisciplinary or dual graduate degree programs for baccalaureate prepared registered nurses.

One reason for the lack of such programming may be the barrier of collaboration between schools of nursing and other disciplines. Studies conducted by Gebbie and Garfield (2001), Josten, Aroskar, Reckinger, and Shannon (1996), and The Northwest Center for Public Health Practice (2002), regarding joint nursing degrees, have cited these barriers. For example, according to The Northwest Center for Public Health Practice (2002) referred to a lack of funds, geographic isolation, limited staff, lack of time and politics as the primary barriers for the public health workforce to obtain the needed training.

Moreover, a study conducted by Aroskar, Reckinger, and Shannon (1996), cited the barriers reported by nurses with regard to a dual MSN/MPH degree and included the lack of collaboration between schools of public health and schools of nursing, institutional policies, evolving curricula, and the rapidly changing health care system. According to Gebbie and Garfield (1998),

> there has been limited access to continuing education, or to baccalaureate and masters programs that can be completed while balancing employment and family commitments. Many of these concepts are common to all public health disciplines and could be provided in interdisciplinary settings, if the students are prepared to work collaboratively and respect both differences and similarities. However, interdisciplinary models for delivery of essential public health services are poorly designed, with no clear understanding of the potential division of work. Further, when they are offered, they often do not function effectively due to inter-disciplinary tension. (p. 18)

Rhode Island has a long history of commitment to public health. Several national studies have cited Rhode Island as a forerunner in innovative public health programs, most notably, childhood immunization programs, and lead poisoning initiatives. More recently, national concerns for bio-terrorism and chemical warfare have once again brought public health workforce competencies to the forefront. As indicated throughout the literature presented in this chapter, the dynamic nature of the health care system, burdens placed upon public health agencies and the national shortage of nurses place an incredible value on interdisciplinary skills of the public health workforce, particularly nurses.

The literature in this chapter illustrated the basis for which interdisciplinary graduate nursing programs have been developed. The professions of public health and nursing are reacting to anticipated changes within the health care system. The rationale for dual graduate nursing degree programs presented in the literature is directed toward increasing the number of Master's prepared nurses, thereby increasing the number of potential nurse educators, as well as providing a well rounded nursing workforce equipped with an increased level of clinical skills and public health competencies.

Chapter 4 presents the methodology used to conduct this study in order to address the research objectives.

CHAPTER III

METHODOLOGY

Introduction

This chapter describes the methodology used to conduct the research for this dissertation. A combination of qualitative and quantitative research designs was chosen as the most appropriate methodology to gather data for this dissertation. Gall, Gall, and Borg (2003) suggested the use of both designs to satisfy the approach of discovery and confirmation. That is the mixed design provides for enhancement and cross-confirmation of the competencies required for public health workforce and the educational needs of registered nurses.

The chapter is organized chronologically according to the research methodology employed to examine each research objective and includes: (a) a description of the instrument, (b) the sample, (c) data collection, and (d) analysis of the data. The design included three sources of primary data: (a) a focus group, (b) survey instruments, and (c) interviews.

The limitations of this dissertation restricted survey data collection to a specific population of nurses within Rhode Island. Although the use of the first survey instrument was supported through the literature, the responses may not generalizable. In addition, the data reported reflect descriptive statistics therefore, correlational or predictive results may not be inferred. Furthermore, data collected from the focus group and interviews were limited by the relative size of Rhode Island, and represent a smaller number of public health officials.

Research Objectives

The purpose of this dissertation was to identify the need for and benefits of a Master of Science in Nursing/Master of Public Health dual degree program which may help to alleviate the shortage of Master's prepared nurses equipped for public health, clinical nursing, and nursing faculty positions. The research objectives assessed by this dissertation were;

1. To identify the competencies required for leadership in public health as established by the *Council on Linkages Between Academia and Public Health* (2001).
2. To identify the needs of Baccalaureate prepared nurses with regard to interdisciplinary graduate programs.
3. To assess the feasibility of MSN/MPH program development.

The focus of this dissertation was to conduct a needs assessment in order to determine the feasibility of a dual MSN/MPH degree program at Johnson & Wales University, Providence, Rhode Island.

Several public health workforce assessment studies, (Chauvin, et al., 2001; Felknor, Burau, Drewery, Hout, & Disnard, 2001; Northwest Center for Public Health Practice, 2002) have used the competencies established by the *Council on Linkages Between Academia and Public Health* (2001) as a basis for developing a needs assessment questionnaire. These sets of competencies, within eight domains, represent the skill sets needed by public health professionals in order to deliver the essential public health services and to carry out the functions of public health (Felknor et al., 2001). The use of the core

competencies as an evaluation tool is supported as a method to identify training needs to retain and recruit a competent public health workforce (Public Health Foundation, 2001).

Description of the Instrument

A questionnaire was designed from the competencies and skill sets needed by public health professionals representing the eight domains. Content validity of the eight domains and their use was supported throughout the literature. The eight domains contained a total of 66 competencies. Each competency within the eight domains was rated on a 5-point importance scale, from 1= not very important to 5 = very important. The eight domains were developed based upon the three functions of public health (IOM, 1988) and the ten essential public health services (Public Health Functions Steering Committee, 1994) and include:

1. Analytic Assessment
2. Policy Development
3. Communication Skills
4. Cultural Competencies
5. Community Skills
6. Public Health Sciences
7. Financial Planning
8. Leadership Skills (United States Department of Health and Human Services, 1994, p. 29).

The survey questionnaire (Appendix A) includes the exact competencies identified for public health workers, as established within the literature and adopted by the *Council on Linkages Between Academia and Public Health* (2001). The second section of the questionnaire was designed to provide demographic information on the respondents including gender, age, professional experience and training needs.

Sample

A focus group, *N* = 12, was assembled to examine the content validity of the questionnaire, to pilot the administration protocol of the instrument, and to conduct a group interview. Members of the focus group were well-informed representatives from community health providers, members of the public health workforce, and nurses. The focus group was comprised of three registered nurses, two directors of local community health agencies, three members of the Rhode Island public health workforce, and four nursing administrators. The guidelines for the use of focus groups for qualitative research designs stipulate that purposeful sampling may be employed in order to select an information rich sample specifically dedicated to the purpose of the study (Gall, et al. 2003).

Useable data for the instrument were obtained from 10 of the 12 experts, yielding an 80% response rate. Minor typographical revisions were necessary to conduct a pilot study.

The sample for the pilot study, *N* = 25, yielded an 80% response rate. The pilot study sample was comprised of 25 registered nurses employed by a local hospital in Rhode Island, through a tertiary care community outreach model

program. A Cronbach's Alpha internal consistency reliability coefficient was obtained from the focus group and the pilot study group, and reported at the domain levels. Table 1 contains the Cronbach's Alpha coefficient calculated for both groups within each domain.

Table 1
Cronbach's Alpha Coefficient by Domain

Domains	Number of Competencies (N = 66)	Focus Group (N = 10) α	Pilot Group (N = 25) α
1. Analytic Assessment	11	.74	.72
2. Policy Development	10	.61	.74
3. Communication Skills	7	.60	.74
4. Cultural Competencies	5	.82	.87
5. Community Skills	8	.80	.76
6. Public Health Sciences	7	.77	.62
7. Financial Planning	10	.85	.83
8. Leadership Skills	8	.91	.88

Table 1 revealed a lower level of item reliability than generally accepted (Gabie & Wolf, 1993). In particular, Table 1 reports the lowest levels of reliability from the focus group for the policy development domain (.61) and the communication skills domain (.60). Data from the pilot group report a low reliability coefficient of .62 for the public health sciences domain. Yet, according to Gall et al., (2003, p. 223), "a lower level of item reliability is acceptable when

the data are to be analyzed and reported at the group level than at the level of individual responses." Furthermore, Gall et al., (2003) suggested needs assessment data are usually reported as group trends. However, overall dissatisfaction was reported from the pilot respondents as to their understanding of the public health competency skills within each domain.

The purpose of a t-test is to determine whether two means are significantly different (Gay & Airasian, 2000). For the purposes of this dissertation, t-tests were conducted for each domain (dependent variables) to determine the difference between the focus group sample and the pilot group sample (independent variables) with regard to the importance of each domain. The data for the means, standard deviations, t-tests on the sample means (alpha = .05), and p-values for the differences between the groups among the eight domains are presented in Table 2.

Table 2

Domain Importance Ratings of Focus Group and Pilot Group

Domains	Focus Group *N* =10		Pilot Group *N* =25			
	M	SD	M	SD	*t*	*p*
1. Analytic Assessment	4.40	.69	4.44	.58	-.17	.86
2. Policy Development	4.40	.84	4.16	.85	.75	.45
3. Communication Skills	4.60	.96	4.52	.87	-.23	.81
4. Cultural Competencies	4.10	.99	3.88	.88	.64	.52
5. Community Skills	4.00	.81	3.88	1.05	.32	.74
6. Public Health Sciences	4.60	.69	4.44	.76	.57	.57
7. Financial Planning	3.80	1.13	3.76	1.12	.09	.92
8. Leadership Skills	4.60	.69	4.16	.85	1.44	.15

Inspection of the data presented in Table 2 revealed no significant differences between the focus group and the pilot group with regard to the importance of each domain. However, data from the Leadership Skills Domain of the focus group and the pilot group differed the most with means (4.60 and 4.16, respectively) and standard deviations (.69 and .85, respectively), and revealed a value of p = .15. This set of data may support the trend toward restructuring graduate nursing education to include public health leadership skills and competencies.

Although the data from Table 2 supported the instrument design, feedback from the pilot study coordinator revealed that respondents reported considerable

difficulty completing the survey. Therefore, the inferences drawn from the data presented in Table 2 are tentative at best. The inconsistency between the statistical data and the reported level of difficulty in completing the survey may be attributed to two factors: (a) extreme positive response patterns may have effected the reliability of the data, and (b) the disassociation of nurses as considering themselves public health workers. According to Gall et al., (2003) needs assessments studies seldom include personal values and individual differences which may determine needs thus data reported at the group level may not accurately account for individual differences.

Several members of the original focus group (N = 8) were re-convened to review the reported findings and to examine content validity for a new instrument. The new instrument was compiled from the literature and existing surveys, and consisted of two sections. The first section of the new instrument contained demographic items including gender, age, level of education, and professional experience. The second section consisted of indicating a level of interest, from 4 = very interested to 1 = not interested, regarding a variety of training and educational program opportunities. Educational program selections were developed through group discussion from the focus group and were based upon the core public health competencies within the eight domains presented within the original survey instrument. Content validity was established for this survey from the literature and expert judgment of the members of the focus group, in particular, three registered nurses, and four nursing administrators. Minor typographical revisions were necessary prior to administering this survey.

Data Collection

Data from the group interview were recorded by hand regarding: (a) the competencies required of public health workers; (b) training and education necessary to achieve the needed skills; (c) program designs to deliver the education and training needs identified; (d) the need for nurses trained within public health; (e) the need for nurses trained at the Baccalaureate, Master's or Doctorate level; and (f) the type of nursing training or educational programs for which a need exists.

Permission was obtained from one hospital administrator in Rhode Island to conduct the survey. A total of 250 surveys were distributed to Registered Nurses, via the nursing payroll office. The nursing payroll supervisor distributed the survey questionnaire to the nurses upon along with their bi-weekly paycheck. Nurses scheduled for automatic deposit of their check were invited to participate in the survey by word of mouth. The surveys were distributed to registered nurses with a cover letter and complete set of instructions (Appendix B). Participation in the study was voluntary and limited to a one-week completion period. Completed and returned surveys were collected from the distribution site. The survey yielded a response rate of 58%, (N = 147).

Ten interviews were conducted with key informants and experts from within the nursing and public health fields. Interviewees were identified by job description, throughout local literature and through networking. Specifically, interviews were conducted with an administrator of a Rhode Island hospital, two nursing administrators from two hospitals in Rhode Island, two officials from the

Rhode Island Department of Health, one representative from the Rhode Island Department of Health and Human Services, two nursing administrators from community visiting nurse agencies, and two nurses. Initial contact was made via telephone for permission for the interview and to schedule appointments. Upon arrival to each interview appointment, the interviewee was presented with a consent form (Appendix C). In each case, permission for the interview was granted and the consent form was signed.

According to Patton (as cited in Gall, et al., 2003, p. 239) the general interview guideline format is well suited for qualitative research purposes as it provides a set of questions to be explored with each participant without a predetermined order of questions.

Interviewees were asked broad questions, based upon the first research objective for this dissertation, regarding the competencies required for leadership in public health. Specifically, the importance of the eight domains of public health, particularly within the realms of public health sciences and leadership skills as they relate to nurses were explored.

Subsequent interview questions were employed to reflect the second research objective in this dissertation, regarding the interdisciplinary graduate program needs of baccalaureate prepared registered nurses.

Questions designed to elicit information regarding the third research objective were derived from public health literature and were based upon the following issues: (a) the level of need for nurses with an interdisciplinary graduate degree; and (b) the need for a dual MSN/MPH degree program as it relates to

the public's health, welfare, and safety including current and emerging health care needs. These interview questions were adapted from feasibility studies regarding nursing program development (State of Utah, Division of Occupational and Professional Licensing, 2003; State of California, Board of Registered Nursing, 2001). The data were recorded by hand.

Data Analysis

The data obtained from the group interview were recorded by hand, transposed, and recorded into specific categories. The data were reduced by *constant comparison* (Glaser & Strauss, as cited in Gall, et al., 2003, p. 456), in order to achieve a clear delineation of all categories and rank them according to importance. Constant comparison refers to "the continual process of comparing segments within and across categories. The term constant highlights the fact that the process of comparison and revision of categories is repeated until satisfactory closure is achieved" (Glaser & Strauss, as cited in Gall, et al., 2003, p. 456).

NCSS™ Statistical Software was used to complete the statistical analyses. Data obtained from the survey instrument were coded according to gender, age, years of professional experience and racial background. Educational and training program opportunities item responses were converted to numeric values for data compilation and analyses on a 4-point interest scale, from 4 = very interested to 1 = not interested. A qualitative meta-analysis was used to present data from the survey reflecting percentages of interest.

Summary tables were produced to further examine the results for the total

sample and from each section.

The data acquired through the key informant interviews were also recorded by hand and categorized by specific outcomes identified by the interviewees. According to Gall, et al., (2003, p. 251) "if the interview data were collected in the context of a qualitative research study, they could be analyzed by several methods, including the grounded theory approach." Data obtained from the group interview and the key informant interviews were coded into four categories: (a) unmet training needs, (b) program designs, (c) barriers to implementation, and (d) strengths and resources.

Summary

This chapter depicted the methodologies employed to meet the research objectives set forth in this dissertation. Three sources of primary data were used. The elimination of the first survey must be acknowledged as a limitation of this dissertation. However, the descriptive statistical analyses applied to the data acquired from the group interview, the subsequent survey, and the key informant interviews may provide insight into the educational needs of nurses and the feasibility of the development of public health programs and graduate nursing education.

Chapter 4 presents the results of the statistical analyses applied to the data obtained though the research. Tables representing the data from the survey were constructed to report the percents of responses in various categories. Qualitative data from the group interview and key informant interviews are presented together in narrative text to allow for a richer comparison and to

illustrate the specific categories of responses obtained from the research.

CHAPTER IV

ANALYSIS OF DATA

Introduction

The purpose of this dissertation was to identify the needs of Baccalaureate prepared registered nurses with regard to a Master of Science in Nursing and a Master of Public Health dual degree program.

The research objectives assessed by this dissertation were;

1. To identify the competencies required for leadership in public health as established by the *Council on Linkages Between Academia and Public Health* (2001).
2. To identify the needs of Baccalaureate prepared nurses with regard to interdisciplinary graduate programs.
3. To assess the feasibility of MSN/MPH program development.

This chapter reports the results and analysis of the data obtained from the research. The data are presented in tables and are organized by the research objectives of this dissertation.

The data identify the competencies required for leadership in public health and the educational needs of baccalaureate prepared nurses. Analysis of the data also provides insight regarding the feasibility of a dual graduate program in nursing and public health.

The purpose of a needs analysis is to identify the knowledge, abilities, and attitudes of particular group with regard to a desired set of skills (Gall et al., 2003). Qualitative data were gathered from a group interview and key informant

interviews to verify the skills essential for public health workers and to ascertain the need for a graduate program in nursing and public health. The quantitative data presented in this chapter include the responses to a 10-item questionnaire, distributed to registered nurses, (N = 147) designed to identify training and educational needs.

Sample

The sample for the focus group (N = 12) to identify the competencies needed for leadership in public health and engage in a group interview consisted of three registered nurses, two directors of local community health agencies, three members of the Rhode Island public health workforce, and four nursing administrators.

The total sample for the questionnaire (N = 147) consisted of registered nurses employed at one hospital in Rhode Island. The survey resulted in a 58% response rate and included 74 Associate Degree Registered Nurses, 57 Baccalaureate Degree Registered Nurses, and 16 Master's Degree Registered Nurses. The sample error estimate is 8.2% from the accessible population of nurses.

Ten interviews were conducted with key informants. The sample was comprised of three administrators of a hospital in Rhode Island, two administrators from the Rhode Island Department of Health, three nursing administrators, and two public health nurses. This sampling design provided for a rich description of the data.

Using Patton's (1990, as cited in Gall, Gall, & Borg, 2003) recommendations minimum sample sizes were based on reasonable coverage of the phenomenon given the purpose of the study.

Research Objective 1

To identify the competencies required for leadership in public health as established by the *Council on Linkages Between Academia and Public Health* (2001).

Research objective one was designed to identify the leadership competencies (Council on Linkages Between Academia and Public Health, 2001) required in public health. Qualitative data were gathered from a group interview conducted with the focus group. These data are presented in narrative text with the data gathered from the key informant interviews in order to present a richer analysis.

Data were also gathered from the initial meeting of the focus group and are presented at the domain level to respond to this objective.

Table 3 presents the means and standard deviations of the importance of each domain as gathered from the focus group, using a 5-point importance scale, from 1 = not very important to 5 = very important, from the initial survey instrument.

Table 3

Leadership Domain Competency Means on Importance Ratings

N = 10

Domain	Mean	Standard Deviation
1. Leadership Skills	4.60	.69
2. Public Health Sciences	4.60	.69
3. Communication Skills	4.60	.96
4. Analytic Assessment	4.40	.69
5. Policy Development	4.40	.84
6. Cultural Competencies	4.10	.99
7. Community Skills	4.00	.81
8. Financial Planning	3.80	.69

Table 3 presents the means and standard deviations of each domain and indicates that Policy Development, Public Health Sciences, and Leadership Skills were rated the most important leadership domains. The variance of response as reported in standard deviations revealed that Cultural Competencies (SD = .99), Communication Skills (SD = .96) and Policy Development (SD = .84) had the largest variance within the competency domains.

Research Objective 2

To identify the educational needs of Baccalaureate prepared nurses with regard to interdisciplinary graduate programs.

Research objective two was designed to identify the educational and training needs of Baccalaureate prepared Registered Nurses. Data were gathered from the survey respondents, *N* = 147. Five pie charts were created to present the demographic variables from the first section of the survey which include: (a) Figure 1, Gender, (b) Figure 2, Age, (c) Figure 3, Years of Professional Experience, (d) Figure 4, Racial Background, and (e) Figure 5, Level of Education.

Figure 1

Gender

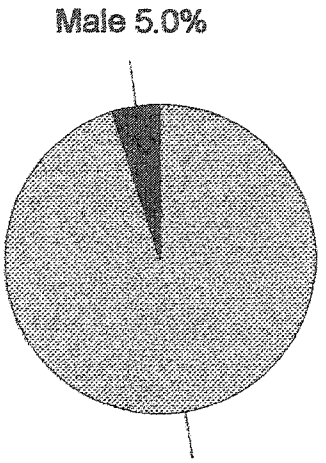


Figure 1 represents the gender demographic data of the survey sample, *N* = 147, and reported a 5% male distribution by gender and 95% female distribution by gender. These data reflect the current status of the profession of nursing with regard to gender predominance (National Sample Survey of Registered Nurses, 2000).

Figure 2 presents the demographic variable of age from the survey sample, *N* = 147.

Figure 2

Age

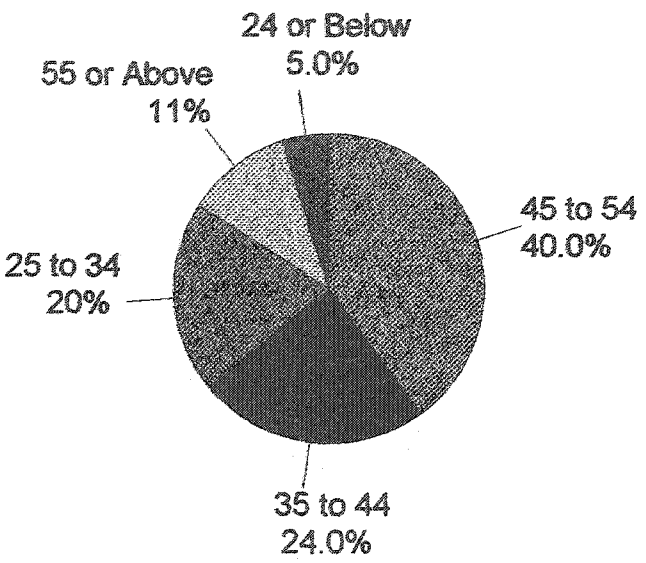


Figure 2 reports 51% of the survey respondents *N* = 147, were 45 years of age or older. These data are consistent with trends reporting the age of the nursing workforce (National Sample Survey of Registered Nurses, 2000).

Figure 3 presents the demographic data regarding years of professional experience from the survey sample, *N* = 147.

Figure 3

Professional Experience

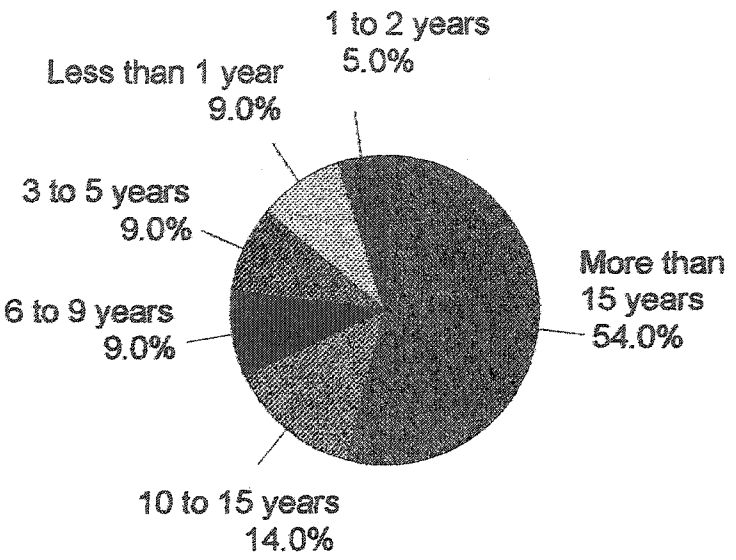


Figure 3 reports 54 % of the survey respondents have been employed as a professional nurse for more than 15 years. This data supports the national trends with regard to aging of the nursing workforce (National Sample Survey of Registered Nurses, 2000).

Figure 4 represents the racial demographics of the sample survey, *N* = 147.

Figure 4

Racial Demographic

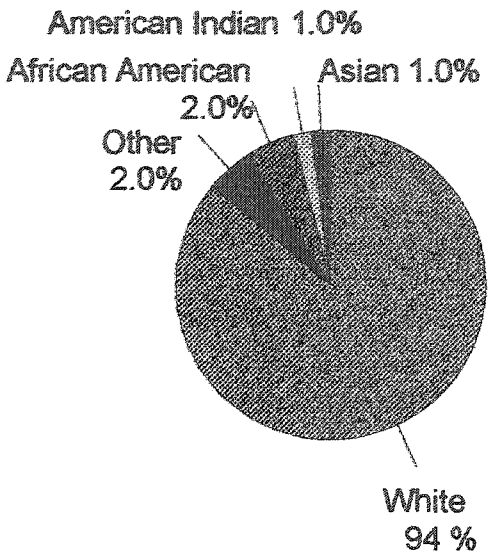
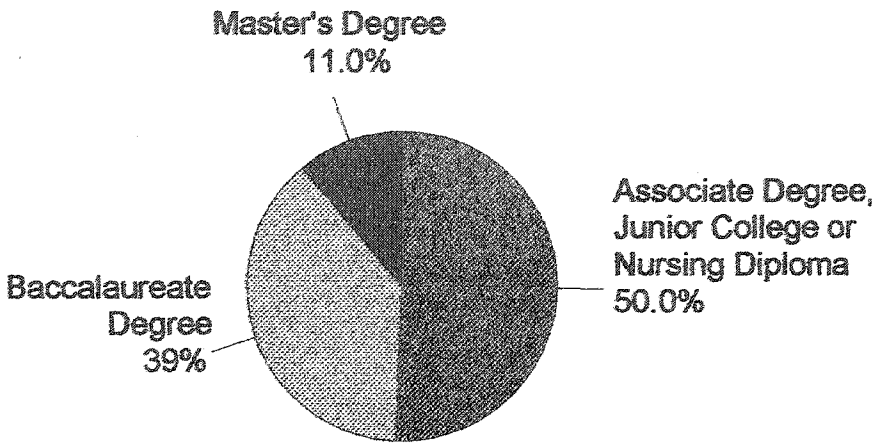


Figure 4 reports 94% of the survey respondents as White. These data support the trend in nursing education with regard to the increase minority representation within nursing (AACN, 1999).

Figure 5 presents the demographic data for the level of education for the survey sample, *N* = 147.

Figure 5

Level of Education



The data in Figure 5 demonstrate 50% of the survey respondents earned an Associates Degree, Junior College Degree, or a Hospital Diploma in Nursing. These data are consistent with the literature in regard to the need to increase the level of education of entry level registered nurses (AACN, 2000). Furthermore, the literature suggests that the greater number of Associate Degree nurses directly affects the ability of nurses to obtain graduate degrees (Fagin,1997). The data in Figure 5 report that only 11% of the survey respondents have earned a Master's Degree.

Table 4 presents a frequency distribution of the types of programs and levels of interest reported therein, expressed by Associate Degree Registered Nurses, *N* = 74. For clarity, only those educational programs not requiring a Baccalaureate degree were included in this analysis. Specifically, interest in

courses which could be applied toward a Baccalaureate Degree, interest in a public health certificate program, and interest in a degree other than nursing were examined.

The item relating to courses toward a Baccalaureate Degree did not specify a baccalaureate degree in nursing.

The Public Health Certificate item included: (a) epidemiology; (b) biostatistics; (c) health education; (d) health informatics; (e) health policy and administration; (f) environmental health sciences; and (g) maternal and child, family health. However, respondents were not directed to indicate a specific concentration area, rather merely a level of interest. Similarly, the "Other Degree" questionnaire item included (a) education, (b) social work, (c) business administration, (d) law, and (e) medicine. In this case, however, respondents reporting a level of interest were encouraged to specify which field.

Table 4

Program Interest by Associate Degree Nurses

N = 74

Program	Not Interested	Not Sure	Somewhat Interested	Very Interested
Baccalaureate Degree	29%	11%	24%	36%
Public Health Certificate	19%	11%	38%	32%
Other Degree	66%	18%	12%	4%

Table 4 reported the survey data gathered from Associate Degree Nurses. The data indicate 60% of Associate Degree Nurses were interested in a Baccalaureate Degree Program. However, this item did not stipulate a Baccalaureate Degree in Nursing, and therefore, its generalizability may be inhibited.

Data from Table 4 indicate 70% of Associate Degree Nurses reported interest in a public health certificate program. As previously noted, respondents were not directed to specify a particular concentration.

The data in Table 4 indicate 16% of Associate Degree Nurses reported interest in a degree in another field. The level of the degree sought was not

indicated on the survey questionnaire. However, a reasonable assumption belies a Baccalaureate Degree in another field for the Associate Degree group. In order to provide a richer analysis of other degree choices among the three groups of nurses, the data for this variable will be presented later in this section.

Table 5 presents the types of programs and levels of interest, converted to percents, expressed therein by Baccalaureate Degree Registered Nurses, *N* = 57. For consistency, only those educational programs beyond a Baccalaureate degree were included in this analysis. Specifically, interest in a Public Health Certificate Program, Master's Degree in Public Health, Master's Degree in Nursing programs, and programs leading to Other Degrees were examined. As previously noted, the Public Health Certificate item did not request respondents to indicate a particular concentration. However, respondents were encouraged to specify a concentration for the Master's of Public Health item and a Master's Degree in Advanced Practice Nursing specialty. Respondents were also encouraged to indicate a field of interest from the Other Degree item, however, a level of degree, Baccalaureate, Master's or Doctorate response was not sought.

Table 5

Program Interest by Baccalaureate Degree Nurses

N = 57

Program	Not Interested	Not Sure	Somewhat Interested	Very Interested
Public Health Certificate	14%	5%	43%	38%
Master of Public Health	36%	14%	23%	27%
Advanced Practice Nursing Master's Degree	25%	11%	28%	36%
Other Degree	61%	7%	14%	18%

The data in Table 5 demonstrate 81% of Baccalaureate Degree nurses expressed interest in a public health certificate program, and 50% reported an interest in a Master's Degree of Public Health. The data indicate 64% of Baccalaureate Degree registered nurses reported an interest in a Master of Science in Nursing in Advanced Practice Nursing. These data may be limited to representing a post-master's certificate program interest in Advanced Practice Nursing (APN) concentrations. The data acquired for Other Degree interest totaled 22%.

Table 6 presents the types of programs and the percentages of interest expressed by Master's Degree Registered Nurses, *N* = 16. Interest in a Public Health Certificate Program, Master's Degree in Public Health, Master's Degree in Nursing programs, and programs leading to Other Degrees were examined.

Table 6

Program Interest by Master's Degree Nurses

N = 16

Program	Not Interested	Not Sure	Somewhat Interested	Very Interested
Public Health Certificate	19%		50%	31%
Master of Public Health	50%	6%	31%	13%
Advanced Practice Nursing Master's Degree	69%		19%	12%
Other Degree	44%	12%	25%	19%

The data in Table 6 indicate 81% of Master's Degree nurses reported an interest in a public health certificate program and 44% reported an interest in a Master's Degree in Public Health. The data reveal 31% of Master's Degree nurses expressed interest in a Master of Science in Nursing and 44% reported interest in the Other Degree item.

As previously noted, some limitations to the applicability of this data are evident. For example, the Public Health Certificate item did not call for a denotation of a particular concentration, and the Other Degree item did not stipulate the level of degree. Another limitation may be the exclusion of an Advanced Practice Nursing certificate program within the Master of Science in Nursing item for the nurses within this sub-sample, those who have already earned a Master's Degree. This delimitation may have implications with regard to the lowest level of reported interest, 31%, in the Master of Science in Nursing item. This notation may be of interest whereas, 81% of this sub-sample of nurses reported an interest in the public health certificate program item and 44% reported interest in the Other Degree item.

Table 7 presents the concentrations reported within specific Master of Public Health concentrations between the Baccalaureate and Master's Degree nurses. These two groups were included in this analysis to provide a visual description of the differences among choices in educational programs between these groups, and for the reason that both levels of previous educational achievement, Baccalaureate and Master's Degree level, could be pursued by these nurses without prior educational enhancement. In order to preserve the integrity of the data, only those respondents indicating a concentration along with a level of interest were included.

Table 7
Percents of Master's Degree of Public Health Concentrations

Master of Public Health Concentrations	Baccalaureate Degree Nurses n = 21	Master's Degree Nurses n =7
Family and Community Health	43%	
Health Care Management	14%	14%
International Health	10%	
Law and Public Health	19%	86%
Occupational and Environmental Health	14%	

The data in Table 7 reveal the Master of Public Health Degree concentrations of interest between Baccalaureate and Master's level nurses. The subset of respondents is small in both groups. As previously noted, only those responses providing a concentration were included. Although generalizability may not be implied by the data, it is noteworthy to acknowledge the predominant concentration choice of each group. For example, 43% percent

of the Baccalaureate Degree nurses indicated Family and Community Health as the preferred public health concentration. Conversely, the Master's Degree nurses were less dispersed among the concentrations with 14% reporting an interest in health care management and 86% reporting an interest in law and public health.

The data in Table 7 is limited by sample size; however, some inferences may be made with regard to the relationship between the only two concentrations reported among the Master's Degree nurses, health care management, and law and public health. Health care systems management, along with an understanding of the social and legal perspectives of health care, is acknowledged as one of the health care workers competencies as established by *The Third Report of the Pew Health Professions Commission* (1995). While the small subset of this sample limits the reliability of the data, these findings do support the literature with regard to competencies of the health care workforce and the changing nature of the health care system (The Pew Health Professions Commission, 1995).

Table 8 presents the data gathered from Baccalaureate and Master's Degree nurses regarding interest in Advanced Practice Nursing specialties. As previously noted, Baccalaureate and Master's degree nurses were included in this analysis, for an enhanced comparison.

Table 8

Percents of Master's Degree of Science in Nursing, Advanced Practice Nursing Concentrations

Master of Science in Nursing Advanced Practice Specialties	Baccalaureate Degree Nurses n = 22	Master's Degree Nurses n = 6
Clinical Nurse Specialist	31%	17%
Nurse Practitioner	41%	33%
Nurse Anesthetist	23%	33%
Certified Nurse-Midwife	5%	17%

The data in Table 8 illustrate the advanced practice nursing specialties reported with interest by Baccalaureate and Master's Degree nurses. The data report 41% of the Baccalaureate group reported an interest in a nurse practitioner concentration and 31% of respondents in this subset cited an interest in a clinical nursing specialty. The data gathered for the Master's degree group revealed 33% of this subset indicated an interest in the Nurse Practitioner

specialty and 33% cited an interest in the Nurse Anesthetist specialty. The data presented in this table represent a small sample and, therefore, may not be generalizable. However, minor inflections from the data may support the literature with regard to differentiated care and the respective levels of medical procedures which may be conducted by Master's Degree nurses (AACN, 2002).

The data in Table 9 present the selections indicated for the Other Degree survey item. For the purposes of this dissertation and in particular the second research objective, all three groups of nurses were included in this analysis. However, some limitations must be noted. This item did not stipulate which level of degree was being sought, and only those respondents indicating an interest and a specific area of concentration were included.

Table 9

Percents of Interest in Other Degree Concentrations Among Associate's, Baccalaureate, and Master's Degree Nurses

Other Degree Concentrations	Associate Degree Nurses n = 6	Baccalaureate Degree Nurses n = 26	Master's Degree Nurses n = 8
Education	17%	46%	25%
Social Work	33%		
Business Administration	17%	8%	38%
Law	33%	8%	37%
Medical Doctor (MD)		15%	
Physician's Assistant (PA)		23%	

Table 9 presents the data relating to the percents of interest reported for the Other Degree item. The subset samples for this item were small, particularly within the Associate Degree sample, n = 6, which represents 8% of the total Associate Degree group. The Master's Degree group in this subset, n = 8,

represents 50% of the total Master's Degree group from the sample. The Baccalaureate subset, n = 26, represents 48% of the total Baccalaureate sample.

The data in Table 9 reveal a similarity between the specific concentrations indicated among the Master's Degree Nurses for Business Administration and Law, 38% and 37%, respectively, and the Master of Public Health concentrations identified by the Master's Degree Nurses in that data category, in Table 7, 14% and 19% respectively for Health Care Management and Law.

Research Objective 3

To assess the feasibility of the development of a dual Master of Science in Nursing/Master of Public Health program

Research objective three was designed to assess the viability of a dual MSN/MPH program at Johnson & Wales University, Providence, Rhode Island. Data were gathered from the group interview and key informant interviews. The group interview participants included three registered nurses, two directors of local community health agencies, three members of the Rhode Island public health workforce, and four nursing administrators.

Ten interviews were conducted with key informants. The sample was comprised of three administrators of a hospital in Rhode Island, two administrators from the Rhode Island Department of Health, three nursing administrators and two public health nurses.

The group interview and the key informant interview questions were based upon the core competencies of the public health workforce. Subsequent questions were designed to elicit responses from the group interview participants

and the interviewees regarding the training and educational programs needed to achieve the identified competencies. The data from the group interview and key informant interviews were recorded and transcribed by hand. Identifying categories of responses reduced the data. The responses to each interview question were coded and classified according to the established categories.

The data were reduced into distinct categories: (a) unmet training needs, (b) program designs, (c) barriers to implementation, and (d) strengths and resources. The data are presented in narrative text according to each category.

Unmet Training Needs

The group interview conducted with the focus group participants and interviews with key informants identified policy development skills, public health sciences, and leadership skills as the most important competencies for the public health workforce and nurses in particular. However, through identification of the most important public health competencies, a major theme of unmet training needs emerged. While both groups recognized the importance of the public health competencies, each group had distinct orientations upon which to base opinions. This may have perhaps influenced the failure of the initial survey instrument.

Although many members of the hospital community, including administrators, nursing supervisors, and nurses expressed views supporting dual nursing and public health programs, due to the changing nature of health care, the overwhelming response, 90%, supported the literature with regard to an abundance of Associate Degree prepared nurses. These findings support the

literature on many contextual levels. For example, the group interview participants and key informant interviewees agreed upon the relevance of public health competencies and expressed a desire to benefit from a public health skilled nursing workforce; however, a more immediate concern is the need for an increase in Baccalaureate prepared entry-level nurses. This revelation is consistent with reports from the American Association of Colleges of Nursing, 2000; Fagin, 1997; and The Pew Health Professions Commission, 1995. These reports each substantiate the need to increase the number of entry-level Baccalaureate nurses. In addition, according to the American Association of Colleges of Nursing, (2000), Baccalaureate prepared nurses are exposed to theoretical and practical public health experiences.

Additionally, key interviews conducted with public health informants reiterated the need for qualified public health employees. Public health is viewed as the most complex organization of health care delivery (IOM, 1988). As such, an overwhelming majority of the public health interviewees, 95%, expressed concerns for the focus of this study as it was limited to the public health competency training of nurses.

Program Designs

Another key category to emerge from the group interview and the key informants was the length and educational requirements of dual Master of Science in Nursing and Master of Public Health programs. This category emerged from the data of the group interview and the key informant interviews as a direct result of identification of the most important public health competencies,

the unmet training needs of professional registered nurses and public health employees, and the most desired method of training delivery. The nature of entry level nursing positions offers little or no incentive, financially or professionally, for students to pursue Baccalaureate nursing preparation. These findings were consistent with the literature (AACN, 2000; Pew Health Professions Commission, 1995) and to some extent the quantitative data presented earlier in this chapter, specifically 50% of the sample population had earned an Associates Degree.

The group interview participants and key informants cited the lack of incentive associated with pursuing a graduate degree as a significant obstacle to program development. However, support was indicated for training and certificate programs offered to Baccalaureate prepared or Graduate Degree nurses, 90% and 85%, respectively.

Similarly, key public health informants viewed public health training programs positively, 90%. The vast majority of public health employees are aptly educated within their own fields; however, due to dynamic social and political forces many professionals have had little or no formal public health training. This finding corroborates the Bureau of Health Professions (2002), report which approximated only 20 percent of the nation's public health workforce had appropriate public health training.

Throughout this data category, certificate program designs most often emerged as the preferred mode of training, 85%.

In both cases, the group interview participants and the key informants viewed a public health certificate program positively.

Barriers to Implementation

The major element associated with program implementation was program delivery. The principle finding for this data category revealed a lack of continuing education certificate programs for nurses and members of the public health workforce. This finding is not in concurrence with the literature. A number of public health workforce needs assessment studies (Kahn & Tollman, 2000; Wright et al., 2000; Potter et al., 2000), have illustrated the benefits of public health training programs. For example, a survey conducted by Wright et al., (2000) recognized a trend in public health professionals' preference for flexible professional development programs. Furthermore, the data presented in Tables 4, 5, and 6 reported a 70%, 81%, and 81% level of interest in a public health certificate program by Associate Degree, Baccalaureate Degree and Master's Degree nurses, respectively.

Several explanations were offered as clarification of this finding. The primary reason for a lack of continuing education and professional development public health certificate programs is the relative size of Rhode Island. Rhode Island has one state public health facility and as such, a smaller number of public health officials. In addition, Rhode Island has one medical school which has recently incorporated a school of public health. However, this program is not currently offered within a continuing education format. Furthermore, nursing education programs in Rhode Island are primarily dedicated to degree programs

and offer no advanced practice nursing certificate training programs for nurses prepared at the Baccalaureate or graduate level.

Strength and Resources

Ironically, the principle finding for this set of data also relates directly to the relative size of Rhode Island. The containment of the Rhode Island Department of Health to within one state body affords a greater concentration of professionals in close proximity and fluency among programs. In addition, Rhode Island has been nationally recognized as a forerunner for public health programs, namely, childhood lead poisoning and AIDS research programs. Data gathered from the group interview as well as from key informants specifically made note of the preeminent public health expertise within Rhode Island.

In addition, several Rhode Island hospitals have been the recipients of national research grants. These research grants and the national recognition associated with their findings will once again place Rhode Island among the nationally recognized areas for improvements and innovations in health care and research.

Discussion

Several studies presented in Chapter 2, Chauvin, Anderson, and Bowdish (2000), Missouri Department of Health (1999), North Carolina Institute of Public Health (2002), Northwest Center for Public Health Practice (2002), supported the use of the public health competencies as a basis for a needs assessment study. In addition, several studies AACN (2002), Gebbie and Hwang (1998), The Pew Health Professions Commission (1998) suggested the inclusion of nurses among

these public health professional competency assessments. However, the relative size of Rhode Island and the relatively small number of nurses considered public health workers, by job description rather than by duties, presented a significant problem with the public health competency survey.

Through the use of a group interview and key informant interviews, a subsequent survey was developed in order to assess the training needs of nurses. This survey included all registered nurses employed at a Rhode Island hospital, regardless of educational preparation.

The data gathered from this survey were presented in tables throughout this chapter. The major findings revealed through the data reported that training programs generated the most interest among nurses regardless of educational background. However, among nurses with Baccalaureate and graduate nursing degrees, a considerable portion of the sub-samples reported a level of interest in two other educational concentrations, law and business administration.

These findings should be viewed with limited applicability due to the relatively small sample and sub-sample sizes. However, some inferences may be extracted to reflect the literature, with regard to interdisciplinary programs for nurses as well as training certificate programs for public health workers.

Data acquired through the focus group and interviews was consistent yet decidedly oriented toward each specific group of participants. Nursing workforce participants were particularly interested in programming options for nurses within nursing, such as Advanced Practice Nursing Programs and Registered Nurse to Baccalaureate Degree, RN to BS, programs. These data were consistent with

the literature and the demographic information gathered. The data revealed that the predominant educational background of the survey participants was an Associate Degree. This finding was consistent with interview data gathered from hospital and nursing administrators as a vehicle through which to increase the number of Baccalaureate prepared nurses.

Data gathered from interviews conducted with public health officials revealed reluctance to support a MSN/MPH dual degree program which would eliminate other public health workers. Rather, both factions from the nursing profession and the public health workforce supported continuing education certificate programs pedagogically aligned with the public health competencies.

These findings are somewhat limited in scope due to the small sample size and survey design errors. Although the data are not statistically significant with regard to MSN/MPH program development, they may theoretically reflect the literature with regard to issues in nursing education and public health training.

Summary

The data analysis performed and presented in the chapter assessed the objectives of this dissertation research study. Chapter Four also presented the interpretation of the analysis of data and the results obtained. Chapter 5 includes the summary, conclusions and results of this study, and recommendations for further research.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The purpose of this dissertation was to identify the needs of Baccalaureate prepared registered nurses with regard to a Master of Science in Nursing and a Master of Public Health dual degree program.

The research objectives assessed by this dissertation were;

1. To identify the competencies required for leadership in public health as established by the *Council on Linkages Between Academia and Public Health* (2001).
2. To identify the needs of Baccalaureate prepared nurses with regard to interdisciplinary graduate programs.
3. To assess the feasibility of MSN/MPH program development.

The methodology used for this dissertation included qualitative data collected from a focus group (N = 12) and interviews with key informants (N = 10). Quantitative data were gathered from a survey of registered nurses (N = 147) designed to identify training and educational needs.

This chapter contains a summary of the principal findings and conclusions drawn from the analysis of the data. The final section of this chapter includes recommendations regarding the educational needs of nurses and the feasibility of a dual graduate program in nursing and public health.

Summary

Research Objective 1

To identify the competencies required for leadership in public health as established by the *Council on Linkages Between Academia and Public Health* (2001).

A focus group was convened to identify the competencies required for leadership in public health and to conduct a group interview. The sample for the focus group (N = 12) consisted of three registered nurses, two directors of local community health agencies, three members of the Rhode Island public health workforce, and four nursing administrators.

The group interview revealed four qualitative themes; (a) the need to increase the number of Baccalaureate Degree Registered Nurses, (b) best practice educational and training programs, (c) programming implementation, and (d) educational and training program support. These themes were reduced to specific categories:

1. Unmet Training Needs
2. Program Designs
3. Barriers to Implementation
4. Strengths and Resources

The focus group ranked the importance of the competencies required for leadership in public health as established by the *Council on Linkages Between Academia and Public Health* (2001). Descriptive statistics, means and standard

deviations, were computed to determine the order of from most important to least important of the competencies as reported by the focus group:

1. Leadership Skills
2. Public Health Sciences
3. Communication Skills
4. Analytic Assessment
5. Policy Development
6. Cultural Competencies
7. Community Skills
8. Financial Planning

The most important competency as ranked by the focus group was Leadership Skills. This ranking of the Leadership Skills is consistent with Wright, et al., (2000) regarding the need for leadership skill development in the public health workforce. The next three domains ranked in order of importance, Public Health Sciences, Communication Skills, and Analytic Assessment are consistent with the benefits of Baccalaureate preparation for entry level registered nurses (AACN, 2000), and anticipated changes within the national health care system requiring new skills for public health workers (Pew Health Professions Commission, 1995). Furthermore, Analytic Assessment and Policy Development are recognized as two of the three core functions of public health (IOM, 1988).

Cultural Competencies, Community Skills, and Financial Planning were ranked the lowest among the eight domains. However, forecasted changes within the national health care system (Gebbie & Hwang, 2000), and the

increasing disparity between access to health care and minority groups cite the need for increased public health services, and cultural awareness and sensitivity of the public health workforce and health care employees in general (United States Department of Health and Human Services, 2002).

Research Objective 2

To identify the needs of baccalaureate prepared nurses with regard to interdisciplinary graduate programs.

A survey was conducted among registered nurses (N = 147) at a hospital in Rhode Island. Demographic data were gathered for the survey group and revealed: (a) 95% of the respondents were female; (b) 64 % were between the ages of 35 and 64; (c) 54% had more than 15 years of professional experience; (d) 95% of the respondents were White; and (e) 50% had earned an Associate Degree, Junior College Degree or Nursing School Diploma. All of the data from the demographic variables support the literature with regard to gender, age, years of professional experience, race, and highest level of education (National Sample Survey of Registered Nurses, 2000).

The survey variables dedicated to educational and training needs were converted to percentages based upon the reported level of interest, from not interested to very interested. For clarity, the principal findings in regard to the educational and training needs of registered nurses are presented according to the level of educational preparation; (a) Associate Degree, Junior College Degree, or Nursing School Diploma, (b) Baccalaureate Degree, and (c) Master's Degree.

Associate Degree, Junior College Degree, or Nursing School Diploma

The sub-sample of Associate Degree, Junior College Degree or Nursing School Diploma registered nurses totaled 74. Interest in a Baccalaureate Degree totaled 70%. However, this item did not include an interpretation specifying a Baccalaureate Degree in Nursing.

Interest in a public health certificate program totaled 70%. However, since this item did not stipulate a specific concentration, the total sub-sample of *N* =74 was included.

Similarly, the Other Degree item did not stipulate a Baccalaureate Degree, however, a reasonable assumption concludes that for the Associate Degree group, the Baccalaureate level is indicated. Only those respondents (*n* = 6) indicating a specific concentration for the Other Degree item were included. Other Degree preference among the Associate Degree Group revealed 33% of the respondents were interested in Social Work and 33% were interested in Law.

Baccalaureate Degree

The sub-sample of baccalaureate degree nurses totaled 57. A total of 81% of the Baccalaureate respondents reported an interest in a public health certificate program, and 50% of the respondents reported interest in a Master's of Public Health Degree. The Master's of Public Health Degree included specific concentration areas, and only those baccalaureate degree registered nurses who indicated a specific concentration were included in the analysis, n = 21. Within this subset, n = 21, 43% reported an interest in Family and Community Health, and 19% reported an interest in Law and Public Health. The concentrations of

Health Care Management and Occupational and Environmental Health each had a 14% reported level of interest. The level of interest for International Health reported for this group was 10%.

Similarly, the Master's Degree of Science in Nursing item included specific concentration areas of Advanced Practice Nursing. For conformity of the data, only those Baccalaureate nurses expressing an interest and a concentration in an Advanced Practice specialty were included in this subset, n = 22. Among the Advanced Practice specialties, Nurse Practitioner had the highest reported level of interest, 41%; 31% reported an interest in Clinical Nurse Specialist; 23% reported an interest in Nurse Anesthetist; and 5% reported an interest in a Certified Nurse-Midwife specialty.

The Other Degree item included a subset of Baccalaureate prepared nurses who indicated a level of interest as well as a specific concentration, n = 26. A concentration in education was the highest reported level of interest, 46%; 23% of the respondents reported an interest in a Physician's Assistant (PA) program; 15% of the respondents indicated an interest in medicine (MD); and 8% reported an interest in Business Administration and Law.

Master's Degree

The sub-sample of Master's Degree of Science in Nursing totaled 16. The Public Health Certificate item had an 81% reported level of interest among Master's prepared registered nurses. Comparatively, only those nurses who indicated a specific concentration of a Master's Degree in Public Health were included in the subset for this item, n = 7. An 86% level of interest was reported

for the Law and Public Health concentration. Health Care Management garnered a 14% level of interest.

Similarly, the subset of nurses who reported a specific Advanced Practice Nursing specialty were included in the data, n = 6. Interest in the Nurse Practitioner and the Nurse Anesthetist specialties revealed a 33% level of interest. Likewise, the Clinical Nurse Specialist and Certified Nurse-Midwife specialties each attained 17% level of interest.

Interest in the Other Degree item was also limited to those respondents who indicated a level of interest and a concentration, n = 8. Interest in a degree in Business Administration was reported at 38%. Interest in degrees in Law and Education were reported at 37% and 25%, respectively.

These data suggest that nurses are interested in certificate training programs within nursing, public health, and other areas. However, the educational preparation of entry level nurses may influence the method by which further training is pursued, by degree or training certificate programs.

Research Objective 3

To assess the feasibility of a dual Master of Science in Nursing and Master of Public Health Degree Program.

To examine the feasibility of MSN/MPH program development, a group interview was conducted among members of the focus group and interviews were held with key informants.

The sample for the focus group (N = 12) consisted of three registered nurses, two directors of local community health agencies, three members of the Rhode Island public health workforce, and four nursing administrators.

Ten interviews were conducted with key informants. The sample was comprised of three administrators of a hospital in Rhode Island, two administrators from the Rhode Island Department of Health, three nursing administrators and two public health nurses.

The interview questions were based upon the core competencies of public health. Additional questions were designed to obtain data regarding desired training and educational programs for registered nurses in order to increase the level of public health competency within the workforce.

The data from the interviews were recorded and transcribed by hand. Identifying categories of responses reduced the data. The responses to each interview question were coded and classified according to the established categories. The data were presented in narrative text throughout Chapter 4. The four distinct categories to emerge from the data were: (a) unmet training needs, (b) program designs, (c) barriers to implementation, and (d) strengths and resources.

Unmet Training Needs

The most important findings from the group interview and the key informant interviews regarding unmet training needs revealed two key factors:

(a) an overwhelming majority of entry-level registered nurses are educated at the Associate Degree level, and (b) the lack of public health competencies among Associate Degree nurses and public health employees.

These findings support the contention of the American Association of Colleges (2000), whereby it recognizes Baccalaureate Degree preparation as the minimum educational standard for entry-level nursing. The Baccalaureate Degree framework is better suited to prepare registered nurses to work within changing health care systems and to pursue varied employment opportunities as well as advanced degrees, without prior educational augmentation. Furthermore the AACN (2000) acknowledges the inclusion of public health training within the Baccalaureate nursing curriculum as a sound mechanism through which to deliver public health competencies. The data support national trends with regard to the need to restructure educational and training programs for entry-level registered nurses and graduate nursing programs as identified by the American Association of the Colleges of Nursing, (2000; 2000a) and the Pew Health Professions Commission (1995).

The data from the focus group regarding the public health competencies as established by the *Council on Linkages Between Academia and Public Health* (2001), revealed Policy Development Skills, Public Health Sciences and Leadership Skills as the three most important competencies. The group interview surrounding the issue of the importance of and the need for these competencies among the nursing workforce were also coded and recorded within the category of unmet training needs.

Similarly, the data from the key informant interviewees identified Policy Development Skills, Public Health Sciences and Leadership Skills as the three most important public health competencies. Identifying the need for public health employees to acquire these skills reduced these data. Similarly, these data were also coded within the category of unmet training needs.

The data in this category supported the literature with regard to the need to create training programs to develop the established competencies throughout the public health workforce (The Pew Health Professions Commission, 1995; Wright, et al., 2000).

Program Designs

Themes regarding best practices of training programs from the group interview and responses from the key informant interviews were coded within the category of program designs. Two subsets of data emerged within this category, training programs for nursing and public health training.

1. A major result of this data was the lack of training opportunities for registered nurses. Although the data from the focus group and interviews revealed a need for Baccalaureate prepared nurses, programs designed to provide advanced training certificates, which would not require a Baccalaureate Degree prior to acceptance, were identified as the most desired program designs.
2. The second major finding revealed within this category was the need for public health training certificate programs. This need was based upon public health workforce status, rather than nursing

exclusively. To this end, public health certificate programs were viewed as an optimal training and least restrictive program.

3. The current public health workforce is composed of employees educated within specific areas, not necessarily public health. This finding is supported throughout the literature, particularly with regard to the public health competencies (Wright, et al., 2000). The greatest need to emerge from this category of data was not the requirement of a Master's Degree of Public Health rather a certificate or training program dedicated to the public health competencies as established by the *Council on Linkages Between Academia and Public Health* (2001).

Barriers to Implementation

Qualitative data from the group interview and key informant interviews which offered insight as to the lack of nursing and public health programming were coded within the category of barriers to implementation.

1. The principal finding from this data revealed the lack of continuing education format for program offerings. This finding is significant with the literature regarding nursing shifts and the incongruence with regular educational scheduling (Gebbie & Garfield, 2001). In addition, studies conducted by Kahn and Tollman, (2000), and Wright, et al., (2000), also cited the trend toward alternative public health training program delivery.

Strengths and Resources

The qualitative data gathered group interview and the key informant interviews which supported nursing and public health programs were coded within the category of strengths and resources. The major finding from these data indicate a significant amount of resources within Rhode Island. Despite the relatively small size of Rhode Island, it is unique with regard to the number of hospitals within the state, and its' nationally recognized Department of Health. A majority of the focus group participants and interviewees expressed support for nursing and public health training programs.

Conclusions

The design for this dissertation was based upon needs assessment studies of nursing and public health, in particular the development of a dual Master's Degree of Science in Nursing and Master's Degree of Public Health program (Gebbie & Hwang, 2000; Josten, Aroskar, Reckinger, & Shannon; 1996).

Numerous studies conducted by the federal government (United States Department of Health and Human Services, 2000, 2000a; Health Resources and Services Administration, 2002) illustrated the need for a competent public health workforce due to changes in the health care system.

This study used the competencies established by the *Council on Linkages Between Academia and Public Health* (2001) to identify the competencies required for leadership in public health. Increasingly, the demands on public health organizations are requiring a competent workforce with public health

leadership skills (Wright, et al., 2000). In particular, nurses are often overlooked as an integral component of the public health workforce (Gebbie & Hwang, 2000).

Based upon the data from this study, Policy Development, Public Health Sciences and Leadership Skills were ranked most important among the public health competencies. These findings are consistent with public health workforce training studies (Potter, et al., 2000), as well as studies outlining the needs for public health competencies among nurses (Gebbie & Hwang, 2000; Gebbie and Garfield, 2001).

In addition, this study examined the needs of registered nurses with regard to training and education. Reports from the American Association of Colleges of Nursing (1997), demonstrated the effectiveness of interdisciplinary graduate nursing programs. The impetus for such programs was acknowledged to be the anticipated changes within the health care system as well as the national nursing shortage (AACN, 1997). This study surveyed nurses from a hospital in Rhode Island to examine the extent to which a need exists for additional educational opportunities.

The multiple educational preparation options for entry-level registered nurses somewhat shifted the focus of this study to include varying types of educational programs as opposed to solely graduate programs. According to the data from this study, the majority of the nurses surveyed were Associate's Degree registered nurses. This finding was supported throughout the literature (National Sample Survey of Registered Nurses, 2000).

Despite some limitations of the survey instrument, namely clarifications regarding the types of Baccalaureate education and levels of desired education, the nurses in this study were interested in certificate programs more often than degree programs. This finding supported the literature with regard to training program delivery (Gebbie & Garfield, 2001).

The third component of inquiry of this study was to examine the feasibility of a dual Master of Science in Nursing and Master of Public Health Degree program. Data from this research did not suggest the need for a dual MSN/MPH program. However, the data indicated interest in a public health certificate program. This finding is particularly relevant with regard to nursing (Gebbie & Hwang, 2000) and public health literature (Potter, et al., 2000), and the types of programs most needed.

The results of this study do not provide enough support for a dual MSN/MPH degree program. However, insights gathered from the qualitative data may be used to suggest other training options for nurses and public health workers. Interestingly, nurses arrive at entry-level positions from varying methods of educational preparation, and the same may be said regarding the educational background of many public health workers. This revelation is noteworthy to consider for several reasons.

Hospital administrators as well as pubic health agencies are bound by financial constraints. Personnel shortages have exacerbated the need for employees who possess a wide scope of skills. This research has explored the surface of a critical health care issue; the ability of nurses to contribute to the

leadership of public health and move flawlessly throughout the many dimensions of health care systems.

Public health employees voiced concern regarding the dedication of this study to nurses. This discovery illustrates the growing burden placed upon public health agencies to provide access to health care and a variety of other health programs despite lack of funding. Although technology and modern medicine have eradicated a host of dreaded diseases, new infectious epidemics have replaced them and are becoming more widespread as the world becomes smaller. A common set of competencies among nurses and other public health employees may serve to fortify the efficacy of health care systems and public health agencies.

Recommendations

This study was intended to assess the feasibility of a dual Master's Degree of Science in Nursing and Master's Degree of Public Health. It was prudent to examine the competencies required for leadership within public health and identify the needs of nurses with regard to interdisciplinary graduate programs. The results of the data do not suggest the need for a dual MSN/MPH program. However, the data do indicate interest among nurses in training programs. This research demonstrated interest in public health certificate programs among nurses. In addition, the qualitative data suggested the need to assess public health workers' interest in public health certificate programs.

Using the results of this study and information gathered from the literature, a tentative public health certificate program, accredited by the Council on

Education in Public Health (CEPH), design may include the following components:

1. Program Goals: The first goal of a public health certificate program is to provide students with an educational experience and practicum opportunities which prepare them to work collaboratively with other disciplines dedicated to the mission of public health.

The second goal of a public health certificate program is to prepare students to perform the core functions of public health as established by the Institute of Medicine (1988); (a) assessment, (b) policy development, and (c) assurance.

The third goal of a public health certificate program is to prepare students to evaluate the health status of populations in order to initiate and utilize research to analyze current issues which influence public health.

2. Objectives: The objectives of a public health certificate program would provide learning opportunities for students through which public health competency skill acquisition may be measured in a variety of educational, health care, and public health agency settings. Program objectives may be measured through the use of written and oral exams, and thesis and practicum reports.

3. Program Design: A public health certificate program should be available to working professionals. Weekend and part-time continuing education training programs may be better suited for working professionals. Weekend or part-time delivery is especially sensitive to nurses' schedules. Furthermore, currently employed nurses and public health workers may fulfill program

practicum requirements while employed. In addition, attention should be paid to distance learning opportunities.

4. Coursework: The foundation of coursework is based upon the public health sciences, in particular, epidemiology and biostatistics. Moreover, course work should be founded upon the results of this study with regard to the competencies required for leadership in public health, based upon the eight domains of competencies as established by the *Council on Linkages Between Academia and Public Health* (2001). In particular, coursework should be designed to reflect (a) Leadership Skills, (b) Communication Skills, (c) Analytic Assessment Skills, (d) Policy Development Skills, (e) Cultural Competency Skills, (f) Community Skills, and (g) Financial Planning Skills.

5. Career and Placement: Career guidance should be integrated within the academic framework and clinical and practicum collaboration between health agencies should be incorporated throughout the program.

Based on the results and conclusions of this study, several recommendations for further study are presented.

1. Further study is recommended to ascertain the need for public health certificate programs among all allied health personnel.

The data indicated interest in Advanced Practice Nursing specialties among the registered nurses in this study.

2. Further study is recommended within the area of Advanced Practice Nursing programs.

The demographic data presented reflected the literature with regard to the majority of registered nurses educated at the Associate's Degree level.

3. Research is needed to address the need to increase the number of Baccalaureate prepared registered nurses.

The literature presented in this dissertation cited changes in the health care system and the need for a skilled workforce.

4. Large scale studies within hospital operating agencies and the Department of Health regarding human resource needs are recommended.

The data in this study supported the literature in regard to gender predominance, age, and the lack of minority representation in nursing.

5. Further study is recommended to develop new recruitment methods to attract racially diverse nursing students and allied health professionals.

Actions to Result

The results of this study should be presented to Johnson & Wales University in order to encourage further needs assessment studies for allied health professionals. The results of this study should be used to coordinate efforts among hospitals and public health agencies to develop certificate programs for registered nurses and public health employees. Partnerships may be established between hospital operating organizations, public health agencies, and Johnson & Wales University to provide educational modules. These modules may be used to bridge the clinical, practicum, and educational processes for nurses and other allied health professionals.

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Appendix A

Survey Cover Letter

Dear Public Health Colleague,

This questionnaire is designed to obtain input from Baccalaureate Degree Registered Nurses (BS, RN's) regarding their individual training needs.

This survey is collecting information as a part of a doctoral dissertation to assess the training and educational needs of BS RN's.

This survey consists of the Core Competencies developed for Public Health Professionals, and is being distributed to nurses employed at local community health agencies throughout Rhode Island and Southeastern Massachusetts.

Please take the time to review the questionnaire before you complete it. I have pilot tested the questionnaire and found that is does take approximately 15 minutes to complete. Participation in this survey is completely voluntary.

I am committed to protecting your privacy. Please do not put your name on any of the materials. The code at the top of the survey is for data analysis purposes only.

Thank you for helping me to understand your professional needs. Your input will contribute significantly to my research.

Sincerely,

Roxie DeBlois, M.Ed.
Johnson & Wales University
Providence, Rhode Island

Survey of Core Competencies for Public Health Professionals
Adapted from the Council on Linkages Between Academia and Public Health Practice

Instructions: Using the rating scale provided, rank the importance of each competency within every skill domain. Please darken the square which best represents your judgment of the level of importance of each competency for public health workers.

Domain #1: Analytic Assessment Skills

The public health professional is able to :	Not very Important 1	Somewhat Important 2	Neutral 3	Important 4	Very Important 5
Define a problem.	☐	☐	☐	☐	☐
Determine appropriate uses and limitations of both quantitative and qualitative data.	☐	☐	☐	☐	☐
Select and define variables relevant to defined public health problems.	☐	☐	☐	☐	☐
Identify relevant and appropriate data and information sources.	☐	☐	☐	☐	☐
Evaluate the integrity and comparability of data and identify gaps in data sources.	☐	☐	☐	☐	☐
Apply ethical principles to the collection, maintenance, use, and dissemination of data and information.	☐	☐	☐	☐	☐
Partner with communities to attach meaning to collected quantitative and qualitative data.	☐	☐	☐	☐	☐
Make relevant inferences from quantitative and qualitative data.	☐	☐	☐	☐	☐

Domain #1: Analytic Assessment Skills – continued

The public health professional is able to :	Not Very Important 1	Somewhat Important 2	Neutral 3	Important 4	Very Important 5
Obtain and interpret information regarding risks and benefits to the community.	☐	☐	☐	☐	☐
Apply data collection processes, information technology applications, and computer systems storage/retrieval strategies	☐	☐	☐	☐	☐
Recognize how the data illuminates ethical, political, scientific, economic, and overall public health issues.	☐	☐	☐	☐	☐

Domain #2: Policy Development/Program Planning Skills

The public health professional is able to :	Not very Important 1	Somewhat Important 2	Neutral 3	Important 4	Very Important 5
Collect, summarize, and interpret information relevant to an issue.	☐	☐	☐	☐	☐
State policy options and write clear and concise policy statements.	☐	☐	☐	☐	☐
Identify, interpret, and implement public health laws, regulations, and policies related to specific programs.	☐	☐	☐	☐	☐
Articulate the health, fiscal, administrative, legal, social, and political implications of each policy option.	☐	☐	☐	☐	☐
Utilize current techniques in decision utilize current techniques in decision analysis and health planning.	☐	☐	☐	☐	☐
Decide on the appropriate course of action.	☐	☐	☐	☐	☐

Domain #2: Policy Development/Program Planning Skills – continued

The public health professional is able to:	Not very Important 1	Somewhat Important 2	Neutral 3	Important 4	Very Important 5
Develop a plan to implement policy, including goals, outcome and process objectives, and implementation steps.	❑	❑	❑	❑	❑
Translate policy into organizational plans, structures, and programs.	❑	❑	❑	❑	❑
Prepare and implement emergency response plans.	❑	❑	❑	❑	❑
Develop mechanisms to monitor and evaluate programs for their effectiveness and quality.	❑	❑	❑	❑	❑

Domain #3: Communication Skills

The public health professional is able to:	Not Very Important 1	Somewhat Important 2	Neutral 3	Important 4	Very Important 5
Communicate effectively both in writing and orally, or in other ways.					
Solicit input from individuals and organizations.	☐	☐	☐	☐	☐
Advocate for public health programs and resources.	☐	☐	☐	☐	☐
Lead and participate in groups to address specific issues.	☐	☐	☐	☐	☐
Use the media, advanced technologies, and community networks to communicate information.	☐	☐	☐	☐	☐
Effectively present accurate demographic, statistical, programmatic, and scientific information for professional and lay audiences.	☐	☐	☐	☐	☐
Listens to others in an unbiased manner, respect points of views of others, and promote the expression of diverse opinions and perspectives.	☐	☐	☐	☐	☐

Domain #4: Cultural Competency Skills

The public health professional is able to:	Not very Important 1	Somewhat Important 2	Neutral 3	Important 4	Very Important 5
Utilize appropriate methods for interacting sensitively, effectively, and professionally with persons from diverse cultural, socioeconomic, educational, racial, ethnic and professional backgrounds, and persons of all ages and lifestyle preferences.	☐	☐	☐	☐	☐
Understand the importance of a diverse public health workforce.	☐	☐	☐	☐	☐

Domain #4: Cultural Competency Skills – continued

The public health professional is able to:	Not very Important 1	Somewhat Important 2	Neutral 3	Important 4	Very Important 5
Identify the role of cultural, social, and behavioral factors in determining the delivery of public health services.	☐	☐	☐	☐	☐
Develop and adapt approaches to problems that take into account cultural differences.	☐	☐	☐	☐	☐
Understand the dynamic forces contributing to cultural diversity.	☐	☐	☐	☐	☐

Domain #5: Community Dimensions of Practice Skills

The public health professional is able to:	Not very Important 1	Somewhat Important 2	Neutral 3	Important 4	Very Important 5
Establish and maintain linkages with key stakeholders.	☐	☐	☐	☐	☐
Utilize leadership, team building, negotiation, and conflict resolution skills to build community partnerships.	☐	☐	☐	☐	☐
Collaborate with community partners to promote the health of the population.	☐	☐	☐	☐	☐
Identify how public and private organizations operate within a community.	☐	☐	☐	☐	☐
Accomplish effective community engagements.	☐	☐	☐	☐	☐
Identify community assets and available resources.	☐	☐	☐	☐	☐
Develop, implement, and evaluate a community public health assessment.	☐	☐	☐	☐	☐
Describe the role of government in the delivery of community health services.	☐	☐	☐	☐	☐

Domain #6: Basic Public Health Sciences Skills

The public health professional is able to:	Not very Important 1	Somewhat Important 2	Neutral 3	Important 4	Very Important 5
Identify the individual's and organization's responsibilities within the context of the Essential Public Health Services and core functions.	☐	☐	☐	☐	☐
Define, assess, and understand the health status of populations, determinants of health and illness, factors contributing to health promotion and disease prevention, and factors influencing the use of health services.	☐	☐	☐	☐	☐
Identify and apply basic research methods used in public health.	☐	☐	☐	☐	☐
Apply the basic public health sciences including behavioral and social sciences, biostatistics, epidemiology, environmental public health, and prevention of chronic and infectious diseases and injuries.	☐	☐	☐	☐	☐
Identify and retrieve current relevant scientific evidence.	☐	☐	☐	☐	☐
Identify the limitations of research and the importance of observations and interrelationships.					
Develop a lifelong commitment to rigorous critical thinking.	☐	☐	☐	☐	☐

Domain #7: Financial Planning and Management Skills

The public health professional is able to:	Not very Important 1	Somewhat Important 2	Neutral 3	Important 4	Very Important 5
Develop and present a budget.	☐	☐	☐	☐	☐
Manage programs within budget constraints.	☐	☐	☐	☐	☐
Apply budget processes.	☐	☐	☐	☐	☐
Develop strategies for determining budget priorities.	☐	☐	☐	☐	☐
Monitor program performance.	☐	☐	☐	☐	☐
Prepare proposals for funding from external sources.	☐	☐	☐	☐	☐
Apply basic human relations skills to the management of organizations, motivation of personnel, and resolution of conflicts.	☐	☐	☐	☐	☐
Manage information systems for collection, retrieval, and use of data for decision-making.	☐	☐	☐	☐	☐
Negotiate and develop contracts and other documents for the provision of population-based services.	☐	☐	☐	☐	☐
Conduct cost-effectiveness, cost-benefit, and cost utility analyses.	☐	☐	☐	☐	☐

Domain # 8: Leadership and Systems Thinking Skills

The public health professional is able to:	Not very Important 1	Somewhat Important 2	Neutral 3	Important 4	Very Important 5
Create a culture of ethical standards within organizations and communities.	☐	☐	☐	☐	☐
Help create key values and shared vision and uses these principles to guide action.	☐	☐	☐	☐	☐
Identify internal and external issues that may impact delivery of essential public health services (i.e. strategic planning).	☐	☐	☐	☐	☐
Facilitate collaboration with internal and external groups to ensure participation of key stakeholders.	☐	☐	☐	☐	☐
Promote team and organizational learning.	☐	☐	☐	☐	☐
Contribute to development, implementation, and monitoring of organizational performance standards.	☐	☐	☐	☐	☐
Use the legal and political system to affect change.	☐	☐	☐	☐	☐
Apply theory of organizational structures to professional practice.	☐	☐	☐	☐	☐

Demographics

1. What is your gender?
   - ☐ Male
   - ☐ Female

2. What is your age?
   - ☐ 24 years or below
   - ☐ 25 – 34
   - ☐ 35 – 44
   - ☐ 45 – 54
   - ☐ 55 years or older

3. How many years have you been in nursing?
   - ☐ Less than one year
   - ☐ 1 – 2 years
   - ☐ 3 – 5 years
   - ☐ 6 – 9 years
   - ☐ 10 – 15 years
   - ☐ More than 15 years

4. Which of the following training or educational programs would you be interested in participating?
   - ☐ Courses that provide professional continuing education credits, but don't lead to a certificate or a degree.
   - ☐ Certificate programs that cover the core public health areas (epidemiology, biostatistics, health education, health policy, or environmental health sciences).
   - ☐ A program that leads to a dual Master's Degree in Nursing and Public Health.
   - ☐ Other (please specify)

_____.

Appendix B

Nursing Training Needs Survey

Dear Registered Nurse,

This questionnaire is designed to obtain input from nurses regarding their individual training needs.

This survey is collecting information as part of a doctoral dissertation to assess the training and educational needs of registered nurses.

This survey consists of demographic questions and is being distributed to registered nurses employed within Rhode Island and Southeastern Massachusetts.

Please take the time to review the questionnaire before you complete it. I have pilot tested the questionnaire and found that it does take approximately 10 minutes to complete.

I am committed to protecting your privacy. Please do not put your name on any of the materials.

Participation in this survey is completely voluntary. If you choose to participate, please return your completed survey in the Nursing Payroll office by **Wednesday February 19, 2003**.

Thank you for helping me to understand your professional needs. Your input will contribute significantly to my research.

Sincerely,

Roxie DeBlois, M. Ed.
Johnson & Wales University
Providence, Rhode Island

DEMOGRAPHICS

1. What is your gender?
   - ☐ Male
   - ☐ Female

2. What is your age?
   - ☐ 24 years or below
   - ☐ 25 – 34
   - ☐ 35 – 44
   - ☐ 45 – 54
   - ☐ 55 years or above

3. How many years have you been in nursing?
   - ☐ Less than one year
   - ☐ 1 – 2 years
   - ☐ 3 – 5 years
   - ☐ 6 – 9 years
   - ☐ 10 – 15 years
   - ☐ More than 15 years

4. Which of the following best describes you racial background?
   - ☐ African American
   - ☐ American Indian
   - ☐ Asian
   - ☐ Hispanic/Latino
   - ☐ Native Hawaiian or Other Pacific Islander
   - ☐ White
   - ☐ Other (please specify)_____

EDUCATION

Please check your level of educational achievement.

1. _____ Associate/junior college degree or diploma in nursing.
2. _____ Baccalaureate Degree (BS, BA, BSN).
3. _____ Master's Degree
4. _____ Doctoral Degree (PhD, DNSc., ND, Ed.D.)

TRAINING NEEDS

Which of the following training programs would you be interested in?

I. Courses that could be applied toward a Baccalaureate Degree.

1. _____ Not interested
2. _____ Not sure
3. _____ Somewhat interested
4. _____ Very interested

II. Certificate programs that cover the core public health areas (epidemiology, biostatistics, health education, health infomatics, health policy/administration, environmental health sciences, or maternal and child/family health).

1. _____ Not interested
2. _____ Not sure
3. _____ Somewhat interested
4. _____ Very interested

III. A program that leads to a Master's Degree in Public Health with a concentration in Family and Community Health, Health Care Management, International Health, Law and Public Health, or Occupational and Environmental Health.

1. _____ Not interested
2. _____ Not sure
3. _____ Somewhat interested*
4. _____ Very interested*

* If you checked 3 or 4, please specify which concentration.

_____

IV. A program that leads to a Master's Degree in an Advanced Practice Nursing specialty such as Clinical Nurse Specialist, Nurse Practitioner, Nurse Anesthetist, or Certified Nurse-Midwife.

1. _____ Not interested
2. _____ Not sure
3. _____ Somewhat interested*
4. _____ Very interested*

* If you checked 3 or 4, please specify which field.

_____

V. A program that leads to a degree in Education, Social Work, Business Administration, Law, or Medicine (MD. or PA.).

1. _____ Not interested

2. _____ Not sure

3. _____ Somewhat interested*

4. _____ Very interested*

*If you checked 1 or 2, please specify which type of degree program.

Appendix C

Focus Group/ Interview Consent Form

Dear_____,

I am enrolled in the Doctoral Degree program at Johnson & Wales University and am presently working at the dissertation level. My research study involves conducting an educational needs assessment of currently employed registered nurses.

I am requesting your participation in a focus group/interview. Upon receipt of your permission, I will contact you regarding an appointment at your convenience. I look forward to this research being of value to your organization and employees. Thank you for your contribution and the opportunity to conduct my research.

Sincerely,

Roxie DeBlois

Your signature below acknowledges that you have agreed to participate in this study. It is with the expressed understanding that all data retrieved from this focus group/interview will remain confidential.

SIGNATURE_____ DATE_____

Appendix C

Focus Group/ Interview Questions

1. Are you familiar with the leadership competencies for public health professionals?
2. Of the eight domains, which do you feel are the most important? Why?
3. How would you rank these domains in order from most important to least important?
4. What is your need with regard to employees certified in nursing and public health?
5. Do you feel there is a need for a dual MSN/MPH program at a college or university in this state?
6. Are there any other training or educational programs you feel there is a need for? Why?
7. Is there a need for nurses with interdisciplinary graduate degrees? Which types of programs?
8. What would be your recommendations for best practice programs?