

*Public Health Nurses making a difference ...  
protecting and improving the health of communities*

# **Massachusetts Public Health Nurse Survey 2005-2006**

Nurses are the largest segment of the public health workforce. Data about public health nurses serving Massachusetts cities and towns is key to the future of public health.

The nursing shortage continues to grow nationally and in Massachusetts. The purpose of this report is to help policy makers understand crucial public health nursing trends so as to assure that each resident of the Commonwealth has equal access to local public health nursing services.

[www.maphn.org](http://www.maphn.org)

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## Massachusetts Public Health Nurse Survey 2005-2006

### Background and Methods

Nurses are the largest segment of the public health workforce.\* Data about public health nurses (PHNs) is key to understanding the current and future capacity of the public health infrastructure.

In 2005, a PHN survey was distributed statewide in tandem with a local public health capacity survey commissioned by the Coalition for Local Public Health (CLPH).\*\*

The CLPH Survey went to the city or town to learn about types of positions, budget allocations, full time equivalents, educational requirements and job responsibilities.

### Education

There are three educational paths to becoming a registered nurse; diploma, associate degree and baccalaureate. A Bachelor of Science in Nursing (BSN) is nationally recognized as the standard for a public health nurse because it includes public health nursing theory and practice.

Enrollment at all 3 levels of nursing preparation has been declining with baccalaureate graduates comprising an increasingly greater share of the total graduates.

Public health departments have found it difficult to recruit BSN nurses due to the intense recruitment efforts and incentives offered by other areas of the health care system.

Nationally 50% of the PHNs have a baccalaureate or higher degree.\* In Massachusetts 51% of the PHNs employed or contracted by municipalities

The PHN Survey went to the individual nurse to obtain information regarding; age, educational preparation, nursing and public health experience, participation in educational trainings on bioterrorism and all-hazards, and the utilization of nursing protocols, guidelines and the public health intervention model.

Some cities have more than one PHN and some nurses provide services to more than one town. A single PHN may cover 5 or more towns. A total of 225 PHNs representing 237 municipalities returned surveys. These 237 towns represent 83% of the total population of Massachusetts.

**The title 'public health nurse' designates a nursing professional with educational preparation in both public health and nursing sciences.**

APHA PHN Section

have a BSN or higher degree;  
 30% BSN Bachelor of Science  
 21% Masters (including MPH & NP)  
 12% Other bachelor degrees  
 15% Associate Degree  
 22% Diploma

**When half of the PHNs are at the recognized level of education and half are not it is essential that PHNs meet face to face with colleagues to learn about best practices, maximize knowledge and provide each other with support and guidance.**

PHN job responsibilities are changing and increasing. The forces of change are biological with emerging pathogens, new interventions based on research evidence, financial and/or system changes that impact access to care or the threats of bioterrorism and natural disasters.

**225 PHNs serving  
 237 municipalities returned surveys**

This PHN Survey Report and the survey tool are available for download at

[www.maphn.org](http://www.maphn.org)



\*2005 Association of State and Territorial Health Officials *Issue Brief: Public Health Workforce Shortage - Public Health Nurses*

\*\*Coalition for Local Public Health includes, Massachusetts Public Health Association, Massachusetts Environmental Health Association, Massachusetts Health Officers Association, Massachusetts Association of Health Boards and Massachusetts Association of Public Health Nurses

Most PHNs are the only nurse for their municipality and do not always have access to a public health nursing advisor/supervisor at the local or state level. MAPHN is committed to providing networking and educational opportunities by region and statewide. Every effort must be made to ensure PHNs attend these offerings so as to maintain their competency in public health and nursing practice.

Check the calendar at [www.maphn.org](http://www.maphn.org) for;

**Monthly Regional Chapter meetings  
 Annual Statewide Conference  
 Co-sponsored educational programs**

\*2003 Quad Council of Public Health Nursing Organizations *The Impact of the Nursing Shortage on Public Health Nursing*

## Massachusetts Public Health Nurse Survey 2005-2006

### Experience

Data on experience was reported in the following categories; prior practice settings, language fluency, number of years as a nurse, number of years in public health.

#### Prior practice experience

Areas of prior practice listed from more common to less were;

- infectious disease
- health education
- home health care
- acute care
- long term care
- school nursing
- women's health
- pediatrics
- diabetes
- administration
- obstetrics
- adolescence
- cardiology
- HIV/AIDS
- rehabilitation
- emergency/trauma
- addictions
- oncology
- hospice
- environmental
- faculty school of nursing
- international health
- parish nursing

The depth and span of experience reported by PHNs is remarkable, an invaluable clinical and public health knowledge resource.

#### Language fluency

The population in the state is increasing in diversity. Eliminating health disparities based on racial, cultural, social or behavioral factors is the role of public health. Assessing cultural competency was beyond the scope of this initial PHN Survey. However, the PHNs were asked to indicate language fluency.

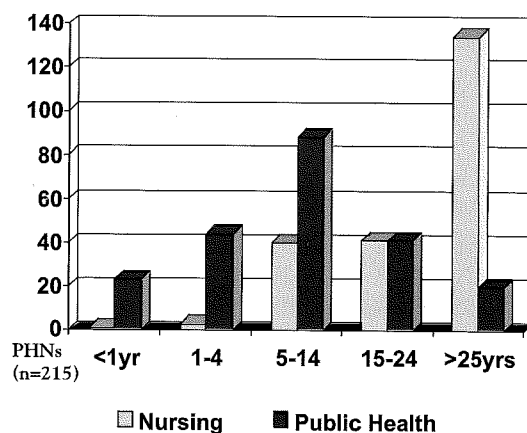
The number of PHNs reporting fluency in a language other than English was as follows: 21 Spanish, 12 French, 8 Haitian Creole, 3 Portuguese, 2 Chinese, 2 Sign Language, 1 Vietnamese, 1 Danish, 1 Tibetan, 1 Swahili, 1 Lithuanian, 1 Portuguese Creole

#### Years of Experience

The mean years of experience was 26 years for nursing and 10 years for public health. Nurses usually work in other fields of nursing prior to entering the field of public health.

The depth and span of experience reported by PHNs is remarkable, an invaluable clinical and public health knowledge resource for addressing the multiple health issues impacting communities.

#### Experience in Nursing and Public Health



## Healthy People 2010 – Leading Health Indicators

As a group, the Leading Health Indicators reflect major health concerns in the United States at the beginning of the 21st century. The indicators were selected on the basis of their ability to motivate action, the availability of data to measure progress, and their importance as public health issues. \*

\* <http://www.healthypeople.gov>

#### Physical Activity

Overweight and Obesity

Tobacco Use

Substance Abuse

Responsible Sexual Behavior

#### Mental Health

Injury and Violence

Environmental Quality

Immunization

Access to Health Care

## Scope of Practice

The *Public Health Nursing Leadership Guide and Resource Manual* (LGRM) was published and distributed in 2002 by MAPHN in association with the Massachusetts Department of Public Health.

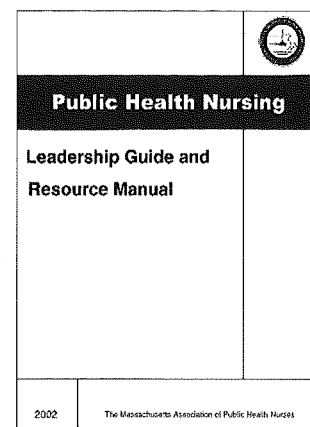
The LGRM was developed by PHNs to standardize practice across the state. This excellent reference is meant to serve multiple purposes.

1. Assist in orientation of new PHNs
2. Guide PHNs established in practice
3. Inform Boards of Health on PHN role
4. Link PHN practice and education
5. Institute standards of practice

The first section of LGRM has 6 narrative chapters; What is Public Health, Role of the PHN, Legal Matters, Scope and Standards of Care, Public Health Interventions and Preparedness.

The second section is a set of modules delineating how to conduct many of the responsibilities of PHNs. Each of the 30 practice modules includes; purpose, population, legal and financial considerations, planning, procedure, evaluation, health promotion/disease investigation and references.

Of nurses responding, 58% reported that they had a copy of the LGRM, with some regions at or above 70%.



An electronic copy is available.  
[www.maphn.org](http://www.maphn.org)

The goal of the LGRM is to assure leadership development, engage PHNs in the challenges of public health and provide guidelines for day-to-day practice.

## Public Health Intervention Model

The Public Health Intervention Model adopted by MAPHN and described in Chapter 5 of the LGRM describes the broad expanse of public health nursing. This practice model referred to as the intervention 'wheel' is also applicable to the roles and practice of other public health professionals.\*

PHNs were asked to review the list of interventions and indicate which ones they performed to impact the health of populations in their city or town.

**Interventions are actions taken on behalf of individuals and their families, communities or the systems that impact the health of a population.**

The 17 interventions are grouped in 5 color coded wedges. The outer ring of the wheel lists the interventions. The inner rings denote the levels of practice, individual/family, community and systems. The percent of PHNs referencing the 5

intervention groupings is as follows;

72% of PHNs referenced  
Surveillance  
Disease/Health Event Investigation  
Outreach  
Screening  
Case Finding

64% of PHNs referenced  
Referrals and Follow-up  
Case Management  
Delegated Functions

73% of PHNs referenced  
Health Teaching  
Counseling  
Consultation

**the intervention 'wheel' is also applicable to the roles and practice of other public health professionals**

The groupings most referenced by PHNs indicate their experience in health promotion and disease prevention. The groupings less referenced indicate areas for leadership development.

59% of PHNs referenced  
Collaboration  
Coalition Building  
Community Organizing

46% of PHNs referenced  
Advocacy  
Social Marketing  
Policy Development and Enforcement

In 2005 MAPHN teamed with the Massachusetts Association of Public Health, MPHA to offer advocacy training at regional chapter meetings.

\*Center for Public Health Nursing, *Population-based Public Health Nursing Resources and Tools*, [www.health.state.mn.us/divs/chs/phn](http://www.health.state.mn.us/divs/chs/phn)

## Massachusetts Public Health Nurse Survey 2005-2006

### Preparedness

In order to assess the skill and knowledge of PHNs in preparedness the following areas were surveyed; participation at training sessions, attendance at a Local Emergency Planning Committee (LEPC) and participation in an emergency preparedness exercise/drill in the past year.

#### Training Sessions

PHN participation for 13 topic specific trainings is at;

- 58% for incident command
- 58% for smallpox vaccination
- 50% for Mass Dispensing Site

Participation for the other 10 topics was below 50%; ranging from 47% risk

communication, 46% bioterrorism agents, 43% Health and Homeland Alert Network (HHAN), 36% BT planning template, 34% Strategic National Stockpile (SNS), 33% personal protective equipment, 23% weapons of mass destruction, 17% behavioral health disaster response, 15% dirty bombs and 11% rash surveillance.

#### Attendance at LEPC meetings

It is concerning that more than half of the PHNs, 56% had not participated in an LEPC meeting. PHNs are essential to local emergency planning efforts and need to be at the LEPC meetings along with police, fire and public safety.

#### Exercises and Drills

It is alarming that 62% of the PHNs had not participated in a drill or exercise. Participation in drills and exercises has been identified as a priority in Massachusetts for the CDC 2006 funding cycle. An 85% participation rate of PHNs in exercises and drills at the local, regional and state level is the goal of MAPHN. This will increase participation and assure a higher level of preparedness in cities and towns across the Commonwealth.

**PHNs are essential to local emergency planning efforts**

### Populations Served

Public health nursing is population-based. Approximately half of the PHNs reported working with pregnant women and children under the age of 1. Children 1-5 years of age, school-age and adolescents followed. Adults 19-49 and 50+ years were the most common population groups served. Less than 5% of the nurses surveyed served only a school-age population as a school nurse.

The number of PHNs per population varied greatly across the state, and was not consistently proportional to the health indicators for the municipality, such as higher rates of; injury and

violence, overweight/obesity, tobacco use, racial and ethnic health disparities, cancer mortality and youth substance abuse.

Some towns reported having less than \$1000/year budgeted for nursing services, at \$27/hr that would be about 36hrs/year, 3hrs/month. One annual flu clinic could use at a minimum, 20-25 hours in; ordering vaccine, planning, preparing, conducting, billing and documenting. Preliminary information confirms that residents of the Commonwealth do not have equal access to public health nursing services.

Innovations and collaborations in practice that have sustained access to PHN services need to be championed. The lack of access to PHN services can best be impacted through collaborative workforce planning, research and advocacy at the local, regional and statewide levels.

**Preliminary information confirms that residents of the Commonwealth do not have equal access to public health nursing services**

### Compensation

On the PHN Survey 87% of the nurses indicated an hourly rate by marking 1 of 6 categories starting at \$15/hour, increasing by \$5 increments to \$35/hour. **The mean for those reporting an hourly rate was \$27/hour.**

A total of 44% (85/192) of the PHNs indicated a rate between \$26-\$35/hour. When asked if their pay had changed, 76% reported it had increased, 24% reported the rate had stayed the same or declined.

Benefits most commonly reported were; travel expenses reimbursed or provided, tuition and/or continuing education fees reimbursed, liability insurance paid and membership dues in professional organizations reimbursed.

## Age Trends

The nursing shortage is evident in the hospital setting, and equally if not more so it impacts public health at the local level.

To construct an age profile of the PHN workforce the responders were asked to identify an age cohort. This question was very successful in obtaining age data. More than 95% of the PHNs identified an age cohort.

40 yrs average age of a worker 2004  
 46.8 yrs average age of a nurse 2004  
 51.7 yrs average age of a PHN 2005-2006\*

The CLPH Survey estimated that 20% of the PHN workforce will be eligible to retire in 2 years. The cohort age data from the PHN Survey suggests this rate would continue through 2010, 2015 and into 2020.

The Department of Health and Human Services' Health Resources and Services Administration (HRSA) gathers information from a sample of nurses every four years.\*\*

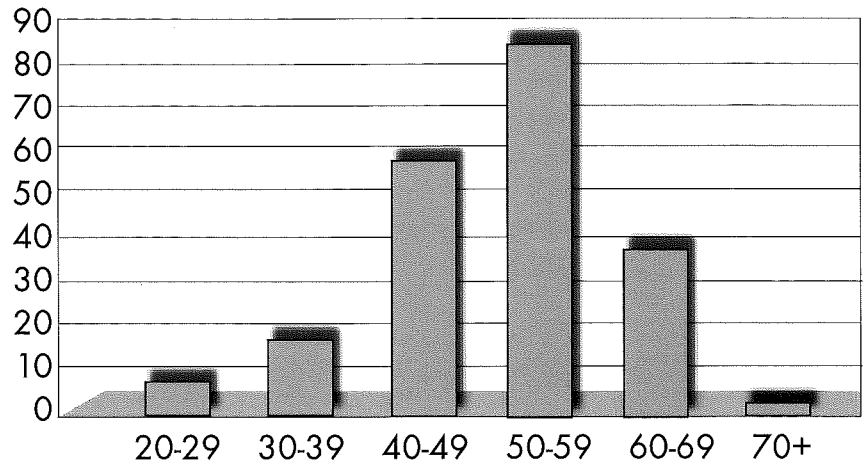
Preliminary results released in late 2005 shows that a shortage of RNs projected for 2007 is already evident.

The RN shortage, at 6% in 2000, is expected to grow relatively slowly until 2010, by which time it will reach 12% when demand will begin to exceed supply of new graduates.

The increasing age of the general population and the management of chronic illnesses are increasing the demand for nurses.

The RN shortage nationally is projected to reach 20% in 2015 and move to 29% in 2020. Massachusetts is projected to reach 21% in 2015 and 29.4% in 2020.

## PHN Age Cohorts (n=215)



Nurses less than 30 years old make up only 10% of the total nurses employed in 2000. The 20-29 year old cohort in the PHN Survey is even lower at 3% in 2005.

**20% of the PHN workforce will be eligible to retire in 2 years ... this rate is projected to continue over the next decade and into 2020**

The 60-69 year old cohort at 19% (40) in the PHN Survey will be eligible to retire in the next 5-10 years.

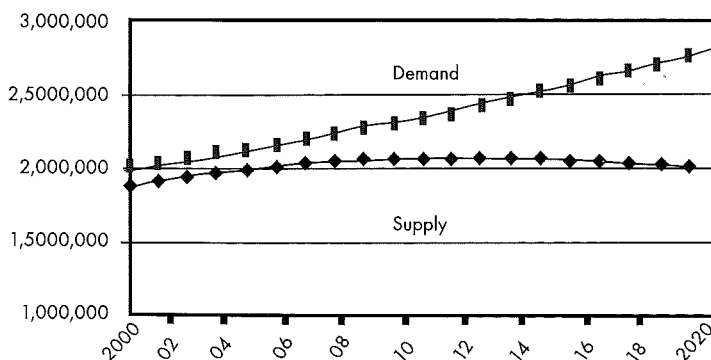
The 50-59 year old cohort at 41% (88) will retire between 2010 and 2020.

Nurses are the largest segment of the public health workforce, their exodus through retirement will intensify public health workforce capacity issues.

\* Avg age was calculated by taking the median age for the cohort, multiplying by the number in the cohort, adding the cohort totals and then dividing by the total number of responders.

\*\* Projected Supply, Demand and Shortages of Registered Nurses: 2000-2020, <http://bhpr.hrsa.gov/healthworkforce/reports/preliminaryfindings.htm>

**Chart 1: National Supply and Demand Projections for FTE Registered Nurses: 2000 to 2020**



Source: Bureau of Health Professions, RN Supply and Demand Projections



## Massachusetts Public Health Nurse Survey 2005-2006

### National Trends \*

In 2004, 60% of women were working and 73% of men compared to 83% of nurses.

In 2010, the demand for nurses will be greater than the supply, driving the projected shortage to 12%. In 2020, the shortage would reach 29%.

\* Projected Supply, Demand and Shortages of Registered Nurses: 2000-2020, <http://bhpr.hrsa.gov/healthworkforce/reports/rnpopulation/preliminaryfindings.htm>

\*\*Strategies to Reverse the New Nursing Shortage, AACN Position Statement 2001, <http://www.aacn.nche.edu/Publications/positions/tricshor tage.htm>

**Without measures to reverse the trends ... the nation is in danger of experiencing serious breakdowns in the health care system. \*\***

### Survey Findings

**Method:** The PHN survey tool was very successful in obtaining individual PHN workforce data.

**Education:** Over half the PHNs have achieved a baccalaureate (BSN) degree or higher degree.

**Experience:** The depth and span of experience reported by PHNs is remarkable.

**Compensation:** The average PHN salary is \$27/hour, range <\$15 to >\$35/hour.

**Scope of Practice:** A majority of PHNs, reported that they had the MAPHN Public Health Nursing Leadership Guide and Resource Manual (LGRM).

**Populations Served:** Preliminary data confirms that there are residents of the Commonwealth that do not have access to public health nursing services.

**Preparedness:** PHNs participation in specific trainings, LEPC meetings, exercises and drills needs to be increased.

#### Public Health Intervention Model:

Collaboration, coalition building, community organizing, advocacy, social marketing, policy development and enforcement are areas for leadership and competency development.

**Age:** The average age of the PHN workforce in Massachusetts is 51.7 years, 5 years older than the general nursing workforce. Approximately 10% of the PHN workforce will be eligible for retirement each year beginning in 2007 and predicted to continue into 2020.

### Recommendations

National trend data for nursing and the findings of the PHN Survey are a clear call for action to assure the future of public health and public health nursing in Massachusetts.

#### Lead in Workforce Development:

Engage policy makers, both public and private in improving competency at the local, regional and state levels.

Conduct a PHN Survey in 2009-2010, following the quadrennial National Survey of Registered Nurses in 2008.

Support the collection of workforce data in nursing and public health.

Maintain local and national alliances to advance public health nursing practice.

#### Assure Competency and Preparedness:

Utilize technologies to document outcomes and maximize workforce capacity.

Increase PHN attendance at educational, skill building and networking sessions.

Strongly advocate for educational funds at the state and national level for nursing and public health.

Link practice and education, build and sustain partnerships with schools of nursing and schools of public health.

#### Recruit and Retain Nurses:

Aggressively market careers in nursing and public health to diverse groups.

Align PHN compensation with education, experience and competency.

Support organizations working to ensure the health of the public through nursing practice. Visit ASTDN, [www.astdn.org](http://www.astdn.org)  
MARN, [www.marnonline.org](http://www.marnonline.org)  
MCN, [www.nursema.org](http://www.nursema.org)  
MNA, [www.massnurses.org](http://www.massnurses.org)  
MPHA, [www.mphaweb.org](http://www.mphaweb.org)

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The purpose of the Massachusetts Association of Public Health Nurses is to strengthen the leadership role of the public health nurse in the Commonwealth of Massachusetts.

As the official state organization for public health nurses the association:

- Provides a common voice on issues of public health nursing
- Maintains regional chapters
- Provides educational programs
- Advocates for public health nursing
- Enhances the health of Massachusetts residents

MAPHN acknowledges the Coalition for Local Public Health, the Massachusetts Department of Public Health and the Institute for Community Health whose support was instrumental in completing this survey of public health nurses in Massachusetts.

Thank you to each of the PHNs who strengthened the voice of public health nursing by submitting surveys.