Charting Nursing's Future

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Reports on Policies That Can Transform Patient Care

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Strengthening Public Health Nursing—Part I

Policies and Programs that Recognize Nursing's Role in Assuring the Public's Health

Throughout the last century, nurses have formed the backbone of the public health enterprise. Today, the ability of the public health system to meet current and projected needs is being seriously compromised by a growing shortage of nurses, an expanded, post-9/11 public health mandate, and economic constraints at the local, state, and federal levels.

This brief highlights nursing's unique contributions to assuring the public's health and vital importance in both prevention and emergency preparedness. It considers several workforce initiatives; profiles programs that attribute their success to nurse involvement; and presents promising state and federal policies. A second brief on public health nursing, *Charting Nursing's Future* 8, looks at efforts to strengthen nursing leadership and facilitate nurse license portability, and profiles nurse leaders in policymaking positions who are transforming public health.

Workforce Challenges in Public Health

158	The number of public health workers per 100,000 population in 2000, down from 219 in 1980
25	Percentage of the professional public health workforce composed of nurses
49.5	The average age of public health nurses
59	Percentage of local health departments anticipating difficulty hiring public health nurses
19	Estimated mean percentage of the local health department workforce eligible for retirement by 2010

Sources: *The Public Health Work Force Enumeration 2000,* Center for Health Policy, Columbia University School of Nursing, HRSA/ATPM Cooperative Agreement # U76 AH 00001-03. National Association of County and City Health Officials, *2005 National Profile of Local Health Departments Study* and *The Local Health Department Workforce: Findings from the 2005 National Profile of Local Health Departments Study.*

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The Value of Nursing

On the floor of the Astrodome in Houston, Texas, nurse Sherri Locke of Wichita, Kansas, attends to a mother and child evacuated from their home because of Hurricane Katrina. The Astrodome housed 16,000 evacuees in the wake of the 2005 disaster.

During emergencies and in their aftermath, public health nurses play central roles in setting up and managing shelters, assessing community health status, controlling infections, addressing the needs of special populations, caring for those with chronic conditions, and facilitating communication within multi-disciplinary response teams and with the community at large.

Photo: Stan Honda/AFP/Getty Images

Public health nurses have a broad scope of practice that encompasses the mental, physical, emotional, social, spiritual, and environmental aspects of health. Their training allows them to fulfill multiple roles within a complex enterprise dedicated to assessing community health, assuring access to preventive and medical care, and developing policies that promote population health.

According to Marcia Stanhope, RN, DSN, FAAN, Endowed Chair of Community Health Nursing at the University of Kentucky, "Public health nursing focuses on populations. It is not about the setting where care is delivered. It is first and foremost a philosophy applied in any setting where populations exist." As coauthor with Jeanette Lancaster, RN, PhD, FAAN, of an authoritative textbook on public health nursing, Stanhope is a leading voice in defining a field that is evolving to meet 21st-century demands.

Nurses contribute to all facets of the public health mission—disease prevention, health protection, and health promotion—and they are essential to achieving long-term goals. While their colleagues in fields such as epidemiology or emergency response contribute specialized skills and knowledge to these endeavors, nurses are valued for their versatility. In addition to their clinical skills, they possess competencies in case management, infection control, and a range of public health interventions. High levels of public trust reinforce the ability of nurses to advocate for public health policies; communicate with vulnerable populations in times of crisis; and foster the community resiliency that is essential for disaster recovery.

Photo: Bryan Meltz, Emory University

A nursing student from Emory University in Atlanta, Georgia, leads a stress reduction workshop for a group of residents at the Gateway Center, a homeless service center. A collaboration between Gateway and the Nell Hodgson Woodruff School of Nursing allows students to complete both five-week clinical rotations and one-time projects that provide much-needed services, such as foot and hand care or blood pressure screenings. "The experience is transformative for many students," says nursing instructor Monica Donohue, who coordinates the program. Service learning opportunities such as this can be a powerful motivator for students to pursue careers in public health despite the availability of more lucrative opportunities in nursing.

Distinguishing Public Health from Community-Based Nursing

Policymakers need to grasp the distinction between public health nursing, which focuses on population health, and community-based nursing, which the Quad Council of Public Health Nursing Organizations defines as "the provision or assurance of personal illness care to individuals and families in the community." Community-based nurses typically conduct routine checkups, care for the sick, and manage chronic conditions at government or privately funded community-based facilities. In contrast, public health nurses care for populations (see examples in box below).

During the 1980s, Medicaid reimbursement rules prompted many public health departments to enlarge their income streams by establishing outpatient clinics that offered medical care to the indigent. The nurses hired to staff these clinics provided many of the same clinical services as their community-based counterparts and often lacked specific training in public health. This generated confusion and debate, even among nurses, over the distinction between public health and community-based nursing.

In the 1990s, public health systems began a shift away from providing direct care to individuals in response to the Institute of Medicine's call for a renewed focus on population health. Public health nurses have embraced this development and worked to define competencies and enhance educational opportunities for their practice specialty. Nevertheless, the skills and responsibilities of today's public health nurses vary widely, and many public health departments continue to employ nurses to provide personal care to the uninsured.

Examples of Population-Focused Interventions Performed by Nurses

- Partnering with housing advocates to ensure adequate, accessible, and affordable housing
- Working with family day care providers to implement national standards for safe care
- Developing culturally and linguistically appropriate interventions to increase low immunization rates
- Investigating outbreaks of food-borne illness
- Collaborating with a community organization to promote the use of bicycle helmets
- Providing care in an emergency shelter following a severe storm and power outage
- Teaching business owners about preparing for an outbreak of pandemic influenza

Adapted from *The Public Health Nursing Shortage: A Threat to the Public's Health*, Quad Council of Public Health Nursing Organizations, February 2007.

Hurricanes Hone Florida's Response Skills

In the sunshine state, primary responsibility for staffing and logistics during disasters falls to the Office of Public Health Nursing (OPHN). OPHN responds to requests for teams of doctors, nurses, epidemiologists, and other medical personnel and arranges to get them to the sites where they are needed. Following the devastation of Hurricane Andrew in 1992, Florida enhanced its emergency response capability, but the system remained untested until the hurricane season of 2004, when four hurricanes inundated the state. In response, OPHN deployed hundreds of medical personnel, including over 500 public health nurses who took the lead in managing special needs shelters, assessing community health status, and monitoring disease outbreaks.

OPHN Director Sandra A. Schoenfisch, RN, PhD, says the first two storms were fraught with difficulties. "We were in constant motion, screening and preparing people for deployment. We also had to deal with well-meaning volunteers, some of whom could not be deployed because of obvious respiratory problems such as asthma."

By the time Hurricane Jeanne rolled around, the operation was running smoothly. OPHN knew the best personnel mix for their special needs shelters and how to screen and orient volunteers. "It was a classic example of learning by doing," says Schoenfisch.

The 2004 season also alerted Florida's Department of Health (DOH) to a need for additional training. Since that time, DOH has used federal funds to develop courses for its employees, community partners, and others on sheltering-in-place, psychological first aid, and managing chronic conditions in shelters.

Florida's public health teams put their freshly sharpened skills to work in Mississippi when Katrina hit in 2005. Today Schoenfisch worries that these skills may become rusty in the absence of challenging events.

A 2007 Homeland Security Presidential Directive on public health and medical preparedness[1] echoes her concerns. "The assumption that conventional public health and medical systems can function effectively in catastrophic health events has . . . proved to be incorrect in real-world situations." The directive argues that simply increasing the number of available health professionals is not enough. Preparedness requires carefully integrating and coordinating professional, governmental, private sector, and community resources at all levels. Pointing out that the scale of future disasters may dwarf events like Hurricane Katrina and approach the levels of disruption associated with the 1918 influenza epidemic, the directive charges the Department of Health and Human Services (HHS) with taking steps "to transform the national approach to health care in the context of a catastrophic health event." As HHS begins to standardize preparedness protocols, it has asked Florida's DOH and a number of its nurse leaders to weigh in.

"People think we're not as good as hospital nurses because we're willing to work for such poor salaries. They don't realize that it's a philosophical issue. When I got out of nursing school, I was pretty clear that I didn't want to be in tertiary care saving one person at a time. I wanted to focus on keeping communities healthy and helping them be better prepared to deal with crises."

Joy F. Reed, EdD, RN, head, Public Health Nursing and Professional Development, North Carolina Department of Health and Human Services

Photo: FEMA/Jocelyn Augustino

Federal Disaster Medical Assistance Teams set up this 1,000-bed shelter at Florida's Orange County Civic Center during the 2004 hurricane season. The U.S. Public Health Service deployed more than 500 officers to supplement Florida's public health workforce. The officer who oversaw the mobilization was a public health nurse.

[1] http://www.whitehouse.gov/news/releases/2007/10/20071018-10.html

Nursing's Pivotal Role in Home Visiting Programs

Many programs provide home visiting services to low-income mothers and babies, and one has been shown to have consistently positive outcomes in randomized controlled trials: the Nurse-Family Partnership (NFP). David Olds, PhD, director of the Prevention Research Center for Family and Child Health at the University of Colorado Denver, designed NFP in the 1970s with the goal of positively influencing children's lives by reaching out to their mothers during pregnancy and teaching them to parent during the baby's first two years of life. The program has been refined and tested over the course of the last three decades and has demonstrated positive impacts as far as 15 years out (see box below). In contrast, home visiting programs using paraprofessionals show little to no effects as few as two years after program completion.

Olds believes that the perception of nurses as caring, competent providers gives them great persuasive power. "The fact that they are trusted by the families leads to much greater engagement, which is crucial for the kinds of behavioral change necessary to produce the long-term effects we've seen in the program."

In response to criticism that the program was too costly, Olds ran a trial in the late 1990s to determine if nurses were essential to his program's success or if the model could be implemented equally well by less costly paraprofessionals. Both groups received the same training, but their implementation of the model differed. Nurses completed more visits with their clients than did paraprofessionals, and they spent considerably more time on physical health issues during pregnancy and on parenting during infancy. Ten percent fewer nurse-visited families dropped out of the program, and paraprofessional-visited families were more likely to experience staff turnover.

Even at a cost of about $10,000 per family, the program has been shown to save taxpayers money. The Washington State Institute for Public Policy (WSIPP) looked at the impact of 31 prevention and early intervention programs on criminal behavior, substance abuse, educational outcomes, teen pregnancy, teenage suicide attempts, child abuse or neglect, and domestic violence. The WSIPP study documented more than $26,000 per family (2003 dollars) in savings associated with NFP, $11,000 more than the nearest competing program.

In 2007, Julia B. Isaacs, MPP, of the Brookings Institution, analyzed the WSIPP findings and additional research by the Rand Corporation. She concluded that NFP paid for itself based on government spending alone and provided additional private-sector savings associated with increased earnings and reduced child abuse and criminal activity. For the highest risk families, the benefit-cost ratio was more than 5 to 1. She recommends NFP as one of four cost-effective investments in children that "merit expanded federal funding even in a time of fiscal austerity." She calculates that a relatively modest $3 billion annual investment would provide sufficient funding to send public health nurses into the homes of all low-income first-time mothers in the United States.

In the meantime, local and state governments looking for evidence-based programs to combat child abuse or youth violence are moving ahead. Over 300 U.S. counties currently use NFP; Oklahoma has made NFP available throughout the state; and Colorado, Pennsylvania, and Louisiana are working toward statewide implementation using a mix of state and federal funds.

The Value of Nursing

Nurse home visiting was pioneered by Lillian Wald, a young nurse working with immigrants on New York City's Lower East Side. She created the Henry Street Visiting Nurse Service in 1893 and is credited with coining the term "public health nurse."

A visiting nurse demonstrates baby care to a Lower East Side mother in 1925.

A visiting nurse from the Nurse-Family Partnership looks on as a mother reads to her baby in Aurora, Illinois, in 2008.

Photos: (left) Lewis W. Hine, New York Public Library; (right) Chris Strong, Nurse–Family Partnership

Selected Outcomes Observed Among NFP Participants in at Least One Randomized, Controlled Trial

Pregnancy

- 23% reduction in subsequent pregnancies 2 years after child's birth
- 79% reduction in preterm deliveries among women who smoked

Child Health and Development

- 48% less child abuse and neglect
- 67% reduction in behavioral and intellectual problems at child age 6
- 59% reduction in arrests at child age 15

Family Self-Sufficiency

- 61% fewer arrests of mothers 15 years after child's birth
- 46% increase in father presence in the household
- 20% reduction in welfare use

Source: Nurse–Family Partnership. Findings drawn from papers published in *Pediatrics* and the *Journal of the American Medical Association*. The Robert Wood Johnson Foundation is among NFP's funders.

Nurse Case Management Assures Successful Tuberculosis Therapy

In the United States, with rare exceptions, tuberculosis (TB) is a curable disease that has been effectively treated with antibiotic therapy since its introduction in 1947.

The therapy involves multiple drugs administered consecutively over the course of six to twelve months. To achieve a cure, this regimen must be followed to completion.

When multidrug-resistant TB appeared in the 1990s, the Centers for Disease Control and Prevention issued new TB treatment guidelines that called for directly observed therapy (DOT) to ensure treatment adherence. With DOT, health care workers watch to make sure patients take each dose of prescribed medicine. DOT boosted compliance rates, but researchers wondered why it was more successful in some communities than others.

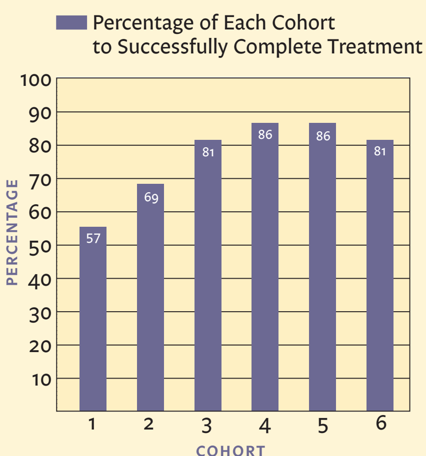
A 1994 study of TB patients in Newark, New Jersey, found that successful completion rates rose slightly with the introduction of DOT alone, but when nurse case managers were added to the protocol, completion rates rose dramatically (see figure 1).

Massachusetts mandated that public health departments use nurses to assess suspected TB cases and manage treatment in 1994. The state's treatment completion rates are among the nation's highest, between 93 and 95 percent. Janice Boutotte, PhD, RN, director of patient management services with the Massachusetts Division of Tuberculosis Prevention and Control, has studied which variables help people complete TB therapy. Her conclusion: the sophisticated assessment skills that nurses use to identify risk factors for nonadherence and to manage ongoing cases are key, whether or not DOT is prescribed.

Boutotte's research contributed to the development of a standard checklist now used in her state to assess which patients should receive DOT. Her criteria for recommending DOT include nonclinical barriers to treatment adherence such as limited English proficiency, multiple jobs, and family attitudes toward the diagnosis. Boutotte applauds the growing recognition that the administration of care is critical in shaping effective treatment plans, but she is concerned that government budget cuts may impact resources targeted for TB. A recent World Health Organization survey estimated a financing gap of $2.5 billion for worldwide TB control. "The cases that remain are more complex," adds Boutotte. "People are coming into the system later and sicker. We need to take a global approach to TB or soon we'll be battling extensively drug-resistant strains."

Figure 1

Impact of Case Management on TB Therapy Completion Rates



The New Jersey Medical School National Tuberculosis Center—Lattimore Clinic in Newark treated 334 tuberculosis patients from 1994–1996 using three strategies.

Cohort 1
Received self-administered therapy (SAT) with occasional selective directly observed therapy (DOT).

Cohort 2
Received DOT.

Cohorts 3–6
Received DOT with nurse case management.

Data source: B. Mangura, E. Napolitano, M. Passannante, M. Sarrel, R. McDonald, K. Galanowsky, L. Reichman, "Directly Observed Therapy (DOT) Is Not the Entire Answer: An Operational Cohort Analysis," *International Journal of Tuberculosis and Lung Disease* 6 (2002): 654-61.

Voices from the Field

TB Case Poses Multiple Challenges

"I received a referral on a nine-month-old boy with a recent diagnosis of meningitis secondary to active tuberculosis (TB). The child's parents were a young, Hispanic couple that did not speak English. The mother was pregnant and caring for two small children. The family had no telephone, and neither parent had a driver's license. I administered Mantoux tests for TB, and the entire family reacted positively.

I arranged an appointment at the local clinic, complete with transportation and interpreters. The father was found to have active, infectious TB. He was ordered not to return to his job at the meat-packing plant until the infection cleared. As a result he lost his insurance, so I assisted the family in applying for medical assistance and other services. We implemented DOT with the entire family, and I managed the case with support from fellow staff.

At the same time, I was involved with other public health nurses in advocating for the health of the man's coworkers and the overall community. The meat-packing plant employed over 1,000 people who spoke 12 different languages. It took time to convince the managers that exposure to TB was a serious problem and that they could cooperate with the public health office and not lose production. They eventually allowed us to offer free Mantoux tests during work time. Over 700 employees asked to be tested, with over 70 positive results.

Many of the infected employees lacked access to health care. We negotiated reduced clinic fees and secured community grant funds to pay for X-rays. The Minnesota Department of Health assisted us every step of the way and provided free medicines to all who needed them."

Joan Kindt, RN, BSN, PHN, former adult health supervisor, Nobles Rock Public Health Services, Minnesota

Shrinking Workforce for a Multifaceted Mission

The health challenges we face today underscore the need for an ample, well-trained, public health nursing workforce. An aging population, an epidemic of chronic disease that is killing 7 out of every 10 Americans, dense settlement in areas that are prone to natural disasters, the potential for pandemics and terrorist attacks, and other pressures "are hastening the need to refocus attention and resources away from traditional biomedical efforts towards those of population health," according to the Institute of Medicine in a 2002 report.

As one quarter of the professional public health workforce, nurses are essential to meeting this goal, yet a number of factors pose barriers to their recruitment and retention. Low salaries, bureaucratic hiring practices, and educational debt discourage new nurses from entering the field. A lack of clinical placements and exposure to public health in nursing schools further compounds recruitment problems. Meanwhile, an estimated 19 percent of public health workers will be eligible for retirement by 2010, leaving health departments shorthanded and the public vulnerable.

Quad Council Recommendations

Consensus is building around ways that public health departments can recruit newly minted and mid-career nurses, and retain those they already have. The Quad Council of Public Health Nursing Organizations recommends several strategies:

- Raise salaries and improve benefits for public health nurses;
- provide rewards and incentives for BSN and higher degrees;
- provide positive clinical experiences in public health for nursing students;
- capitalize on the autonomy of public health nursing.

"Public health should be hugely attractive to experienced nurses who are capable of handling the independence of public health nursing and looking for an attractive lifestyle alternative to hospital work routines."

Paul Jarris, MD, MBA, executive director, Association of State and Territorial Health Officials

The Challenge of Counting the Public Health Nursing Workforce

Three factors make it difficult to achieve an accurate count of the public health nursing workforce: confusion over the distinction between public health and community-based nurses (see p. 2); the wide range of settings in which they work; and the fact that job titles and educational preparation may not be aligned. Nevertheless, leading researchers in this area agree that *The Public Health Work Force Enumeration 2000*[2] authored by the Center for Public Health Policy at Columbia University School of Nursing provides the best available snapshot of the public health nursing workforce at the start of the 21st century. This study compiled data submitted by 57 states and territories, federal agencies, and voluntary associations that employ public health workers. Some of its key findings appear in the box on page 1 of this brief.

[2] http://www.nursing.columbia.edu/chphsr/pdf/enum2000.pdf

Federal Public Health Nursing: Career, Part-time, and Volunteer

The federal government's multi-layered approach to disaster response employs public health nurses at many levels.

The **U.S. Public Health Service (USPHS) Commissioned Officer Corps** employs 6,000 full-time public health professionals who are available to lead public health response efforts in the event of a healthcare emergency. Almost one quarter of these are nurses who may be called upon to staff shelters, assess communities, give immunizations, and triage patients in times of emergency. The Commissioned Corps has been charged with significantly increasing its nursing workforce by 2009 in order to better fulfill its mission. Although the USPHS offers a successful early commissioning program for nurses, it currently supports only a handful of students each year.

The **National Disaster Medical System (NDMS)** constitutes the next line of defense. This federally coordinated system employs teams of specially trained medical personnel to provide state-of-the-art medical care under challenging conditions. Nurses may volunteer to participate in **Disaster Medical Assistance Teams** designed as rapid response units, and in **National Nurse Response Teams** composed of 200 nurses each. Team members are paid as intermittent federal employees during deployments, allowing them to receive liability and workers' compensation protections outside their home states.

When additional assistance is needed, the federal government can also call on the **Medical Reserve Corps (MRC).** MRC units are not stand-alone entities, but instead provide supplemental, volunteer personnel to support the existing emergency and public health capabilities in their communities. Because they are community based and focused, MRC teams have been extremely successful in recruiting members. As of 2007, 48,000 nurses had joined the ranks.

Salary Increases, Career Ladders, and Educational Advancement

Across the country, budget constraints pose the most formidable barrier to adequate public health workforce staffing. Nurse salaries in public health agencies typically pale in comparison to those available in the private sector, and opportunities for advancement are limited. These realities hamper recruitment efforts, lead to unacceptably high turnover rates, and provide little incentive for nurses to obtain public health certification or further education. States are using a variety of approaches to tackle these problems.

Legislative Action in Georgia

From 1990 to 2007, Georgia witnessed dramatic population growth, from 6.4 million to over 9 million, while its public health nursing workforce decreased from 1,700 to 1,538. Very low salaries are blamed for this decline (see figure 2). At $31,474 in 2006, entry-level salaries were the lowest in the southeast region.

That year, advocates for Georgia's public health nurses took their case to the state legislature, sharing stories about how their work in TB control, teen pregnancy prevention, and management of chronic diseases saved lives and taxpayer dollars. They proposed a three-pronged approach to recruiting and retaining nurses: create a competitive salary structure; develop a career track; and provide tuition support, including service-cancelable loans.

Figure 2
Average 2006 Salaries for Georgia Nurses by Setting and Position

Work Setting	Staff Nurse	Nurse Manager
Public Health	$36,753	$51,173
Public Health (Fulton County)	$55,247	$69,897
Juvenile Justice	$46,379	$55,010
Mental Health	$42,101	$56,215
Private Sector Employment	$61,206	$83,040

Note: Fulton County, which includes Atlanta, has its own pay scale. The state sets wages for public health workers in other counties.
Source: Georgia Office of Public Health Nursing.

In 2007, the Georgia General Assembly responded by appropriating $6.1 million for salary increases, but the governor limited the raises to certain job classes. This led to a situation in which some newly hired nurses were earning more than their supervisors. To redress this imbalance, new legislation has been introduced to raise public health nurse salaries across the board.

A separate piece of legislation has been introduced to authorize the creation of a career track for nurses that would link promotion and compensation to years of experience, training in a variety of public health topics, and greater job responsibilities.

The Power of Persuasion in North Carolina

Joy F. Reed, EdD, RN, head of Public Health Nursing and Professional Development in North Carolina, believes retention problems begin with insufficient educational preparation. North Carolina requires nurses with associate degrees who enter public health to take an introductory course equivalent to that offered in most baccalaureate programs, but Reed sees serious flaws in the system. "About 200 people a year take the course, but it's the same small counties offering minimal salaries that continue to send their new hires. One of two things invariably happens: they either return to a hospital setting, or they go to a bigger county where they can get a better salary."

Reed's office did a survey and found that the cost of turnover for a public health nurse at any level was 75 percent of a year's salary. The cost argument has persuaded some local departments to upgrade positions and increase salaries. "They realize that they may be spending more in the short term, but in the long term, they'll be saving."

During her tenure, Reed has focused on increasing the percentage of baccalaureate and advanced degreed nurses in the system. Her office works with local health departments, encouraging them to provide compensatory time and, where possible, tuition support for their nurses to return to school.

Regulation Rules in New York

New York State's Department of Health is focusing its workforce efforts on educational preparation and career ladders. Last year, amendments to the state's Sanitary Code, which establishes minimum qualifications for the public health workforce, introduced a requirement that some newly hired public health nurses complete 15 hours of continuing education during their first year on the job. The revised code also established a new job category that gives public health nurses who are not ready to move into supervisory positions the prospect of a mid-level promotion based on experience.

The code requires public health nurses to hold a bachelor's degree in nursing, but local health departments may hire RNs with associate degrees or diplomas to work as community health nurses in their home health agencies. These nurses must complete a four-year degree for promotion to the rank of public health nurse.

It is likely that nurses with associate degrees will continue to be recruited into public health. Kristine M. Gebbie, RN, DrPH, director of the Center for Health Policy and Elizabeth Standish Gill Professor of Nursing at Columbia University, believes that "creating flexible educational opportunities for working nurses and strong career ladders that reward educational preparation will be key to achieving a highly competent workforce."

Promising Policies at the Federal Level

Invest in research that supports evidence-based public health practice.

Independent research studies that look at care variables have successfully demonstrated the benefits of employing nurses to manage and implement a number of key public health interventions. Their particular set of professional skills has proven exceptionally effective in such areas as maternal and child health and can be adapted to address a variety of urgent public health problems, from obesity to mental health. Expanded federal funding for research demonstrating the value of nursing interventions could further build the evidence base needed to target future public health expenditures on programs that work.

"It is critical that we strengthen the ties between those who practice and develop evidence-based public health initiatives and policymakers seeking to reform the health care system towards prevention."

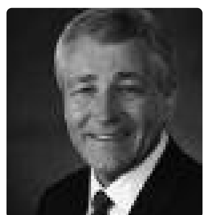
U.S. Senator Tom Harkin (D), Iowa

Provide financial aid to nurses willing to enter the public health workforce.

Nursing students typically leave school with a heavy debt burden and ample private sector opportunities, which discourage them from accepting poorly paid jobs in public health. Expansion and full funding of student loan programs that require service after graduation could help to attract candidates to public health nursing. A 2006 report by the American Public Health Association endorses those federal programs currently funded under Title VII of the Public Health Service Act, but states, "the lack of federal resources directed to these programs have limited their potential and reach."

Recognize the nursing shortage as a public health issue and renew investment in HRSA's financial aid programs.

The Health Resources and Services Administration (HRSA) Nursing Scholarship and Nursing Education Loan Repayment Programs provide financial assistance to nurses working at facilities, including public health departments, with critical shortages. Thousands of individuals request support each year, but due to limited funding, fewer than 4 percent of scholarship and 13 percent of loan applicants received aid in 2007.



"The ability of the public health system to respond to emerging infectious diseases, food-borne illnesses, or bioterrorism relies on a well-trained, adequately staffed public health workforce. The shortage of public health nurses is especially acute. Congress must address this problem before it becomes a crisis."

U.S. Senator Chuck Hagel (R), Nebraska

Increase funding for public health's core mission and for preparedness.

Adequate and stable federal funding is seen as essential to the success of both prevention and preparedness efforts. Short-term "crisis du jour" funding may inadvertently encourage cash-strapped state and local health departments to reduce spending on core programs and replace highly versatile nursing staff with specialized personnel skilled in better funded areas. Increased flexibility in spending federal funds to address local health priorities may avert these problems and increase the efficient use of limited federal resources as recommended by the Institute of Medicine's landmark report, *The Future of the Public's Health in the 21st Century*.

Assist states in developing a flexible response capability.

A federal system linking the state databases created by the Emergency System for Advanced Registration of Volunteer Health Professionals (ESAR-VHP) will speed volunteer credentialing in a disaster. The federal government might also consider establishing incentives that encourage states to adopt model legislation or join compacts that facilitate the ability of health professionals to work across state lines (see *Charting Nursing's Future* 8, p. 3).

Integrate Nursing Knowledge in CDC Initiatives

Recent collaborations between the Centers for Disease Control and Prevention (CDC) and public health nursing organizations can serve as a foundation for greater nurse involvement in formulating public health policy at the national level.

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