

ASPH Policy Brief

Confronting the Public Health Workforce Crisis

EXECUTIVE SUMMARY

The current public health workforce is inadequate to meet the health needs of the U.S. and global population – and worsening worker shortages will reach crisis proportions in the coming years. Fewer workers, drawing on diminished resources to meet the needs of more people, mean Americans are likely to be at grave risk unless measures are taken immediately to rebuild the workforce.

In this paper, the Association of Schools of Public Health (ASPH), which represents the 41 Council on Education for Public Health (CEPH) accredited schools of public health in North America, offers recommendations for building a diverse public health workforce prepared to meet future challenges.

The Looming Workforce Crisis

- By 2020, the nation will be facing a shortfall of more than 250,000 public health workers, according to ASPH estimates. Shortages of public health physicians, public health nurses, epidemiologists, health care educators, and administrators are anticipated.
- The public health workforce is diminishing over time even as the U.S. population increases. In 2000, the total workforce was 448,000, or 50,000 less than in 1980.
- More than 100,000 government public health workers – approximately one-quarter of the current public sector workforce – will be eligible to retire by 2012.
- Over the next 11 years, schools of public health would have to train three times the current number of graduates to meet projected needs.

Key Recommendations for Action

- Increase federal funding to support public health professional education. Federal funds should be available to:
 - Provide financial support to students pursuing public health graduate training through loan repayment and forgiveness programs, training and service obligation grants, and fellowships.
 - Strengthen practice experiences for public health students.
 - Promote a more diverse public health workforce by offering financial incentives and training opportunities to underrepresented minorities and to students focused on reducing racial and ethnic health disparities.

- Build public health education capacity, enabling schools of public health to:
 - Enroll and train more graduate students.
 - Develop competencies and curriculum in emerging areas of public health practice.
 - Expand joint degrees and other opportunities for cross-disciplinary training.
 - Significantly increase public health research training in population health, primary prevention, and community-based and public health systems.
 - Expand undergraduate public health education.
 - Develop opportunities for the public health workforce to engage in lifelong learning through short courses, certificate programs, distance learning, and other opportunities.
- Provide grants to state health departments to promote worker training.
- Establish a U.S. Global Health Service to coordinate U.S. efforts to build a workforce prepared to meet international needs.
- Institutionalize a process for periodic enumeration of the public health workforce in order to identify current and future needs.

About ASPH: These recommendations reflect the consensus of the Association of Schools of Public Health (www.asph.org), which represents the 41 Council on Education for Public Health (CEPH) accredited schools of public health in North America. A critical national resource, the nation's Schools of Public Health educate the next generation of public health leaders; conduct cutting-edge research; and translate knowledge into public health policy and practice. They currently enroll 22,000 students, produce more than 7,300 graduates a year, and employ 9,600 faculty.

ASPH is committed to collaborating with the public health practice community, governmental agencies, academic medicine, non-profit organizations, and business groups. This policy paper is part of a series exploring the nation's public health priorities.

ASPH Policy Brief

Confronting the Public Health Workforce Crisis

Background

Dramatic public health advances in the 20th century have helped to increase the average lifespan of U.S. residents by more than 30 years and to improve quality of life around the world. Vaccinations, control of infectious diseases, safer workplaces, motor vehicle safety, an improved food supply, strategies to protect the health of mothers and babies, and the recognition of tobacco as a health hazard are among the great public health achievements of the past century, according to the Centers for Disease Control and Prevention.¹

The public health workforce has made all of this possible through practice, service, and research.²

These multidisciplinary professionals:

- Include clinicians and health program administrators, educators, planners, and policy analysts, occupational and environmental health specialists, and economists, epidemiologists, and biostatisticians.
- Work in diverse public and private settings, including public health agencies at every level of government, community-based service organizations, academic and research institutions, hospitals, health plans and medical groups, and private companies.
- Serve many functions, including health surveillance and protection, wellness promotion, planning and regulating, and organizing, delivering, and evaluating health services.

In an era of daunting public health challenges, when we face threats that know no geographic boundaries, adequately trained U.S. public health workforce must be prepared to:

- Confront emerging communicable diseases (e.g., Ebola virus and avian influenza).
- Meet environmental challenges (e.g., food insecurity and climate change).
- Tackle chronic disease (e.g., the myriad health consequences of tobacco use and obesity).
- Assist communities in preparing for emergencies (e.g., natural disasters and biological and chemical attacks).
- Advocate for policies designed to promote health (e.g., increasing access to care and reducing health disparities).
- Promote an emphasis on public education, and disease prevention and wellness.
- Conduct research and build evidence for interventions that work.

Given the increasing complexity of public health science, meeting these challenges means training many more specialists in the many sub-disciplines of public health. As well, the availability and capacity of a global public health workforce needs to be significantly expanded.

Forecast

While widely acknowledged, the extent of the public health workforce shortage remains imprecise, reflecting inconsistent enumeration and the absence of a systematic effort to assess national needs.^{3,4,5} Nonetheless, it is clear that public health professionals have been forced to do more with fewer people, and that needs are growing dramatically.

In 2000, there were 50,000 fewer public health employees than in 1980.^{6,7} Technological advances may to some extent mitigate the impact of the decrease in the public health workforce, but this trend clearly cannot continue without drastically compromising the public’s health.

The workforce ratio in 1980 – 220 public health workers for every 100,000 U.S. residents – may underestimate the ideal, but it provides a useful benchmark.³ Given population increases, a total of 600,000 public health workers would have been necessary in 2000 to maintain the workforce ratio that existed two decades earlier. Instead, we came up short by 150,000 people.

Going forward, the gap is even more alarming. In 2020, a public health workforce of more than 700,000 will be necessary to achieve the 220:100,000 ratio. That creates a need for some 250,000 more workers than are available today.

Public Health Workforce to U.S. Population Ratios

Year	U.S. Population⁸	Ratio of the Public Health Workforce to U.S. Population	Public Health Workforce
1980	226,542,199	220 per 100,000	500,000 ⁶
2000	281,421,906	158 per 100,000	448,254 ⁷
Projected Need			
2020	324,927,000	220 per 100,000	714,839

Many sources have documented current workforce shortfalls in specific fields:

- More than half the U.S. states responding to a survey by the Association of State and Territorial Health Officials reported a lack of qualified employees to fill emergency preparedness needs.⁹
- The Institute of Medicine reports a shortage of 10,000 public health physicians, or twice the number now in practice.¹⁰ Other reports have forecast shortages among public health nurses, epidemiologists, health care educators, and administrators.

Moreover, there are demonstrated racial and ethnic disparities, and significant geographic gaps, in the public health workforce. As the Sullivan Commission on Diversity in the Healthcare Workforce states:¹¹

“Today’s physicians, nurses, and dentists have too little resemblance to the diverse populations they serve, leaving many Americans feeling excluded by a system that seems distant and uncaring. The fact that the nation’s health professions have not kept pace with changing demographics may be an even greater cause of disparities in health access and outcomes than the persistent lack of health insurance for tens of millions of Americans.”

Public health workforce shortages are even more critical in much of the developing world. For example, sub-Saharan Africa has 11% of the world’s population and 24% of the global burden of disease – yet it commands less than 1% of the world’s health expenditures.¹²

The World Health Organization has said there is a “major mismatch” between population needs and the available public health workforce in terms of overall numbers, relevant training, practical competencies, and sufficient diversity to serve all individuals and communities.¹³

Retirement. By 2012, more than 100,000 U.S. public health workers in government – approximately one-quarter of an estimated 450,000-person workforce – will be eligible to retire.

Level	Percent Eligible to Retire by 2012	Percent of Total Workforce(6)	Total Workforce	Number Eligible to Retire
Federal	44 ¹⁴	19	450,000	37,620
State	29 ^{12, 15}	33	450,000	43,065
Local	19 ¹⁶	34	450,000	29,070
Total Eligible to Retire				109,755

The retirement status of public health professionals in the private sector is unavailable.

The Response

Recognizing the urgency of the need, ASPH recommends the following measures to expand the public health workforce:

Increase federal funding for public health education. Federal financial support for public health professional education has been steadily eroding since 1980, and is woefully inadequate, according to the Institute of Medicine.¹⁷

Public resources can be used to:

- **Attract students to public health graduate training** and retain them as they pursue their degrees. Mechanisms include training grants, loan repayment and forgiveness programs, service obligation grants, and fellowship programs. ASPH supports passage of the “Public Health Preparedness Workforce Development Act,” which would support educational loan repayment for students pursuing a degree in public health in exchange for service in a state, local, or tribal health department.¹⁸
- **Improve practice experiences for public health students**, which enhances their training while offering a resource to support the mission of health-related organizations. Opportunities exist to increase both the number and type of organizations that serve as sites for practice rotations.
- **Promote a more diverse public health workforce.** Studies show that increasing the number of health professionals from racial and ethnic groups with poor health indicators will help to reduce health disparities.
 - The National Institutes of Health should establish a loan forgiveness program and other financial incentives to attract underrepresented populations to public health.
 - The NIH Center for Minority Health and Health Disparities and other funding agencies should create opportunities for post-doctoral studies and other training targeted at minorities.
 - Targeted financial support should be available to all public health graduate students who focus on disparities.

Build capacity in schools of public health. Graduate education remains the gold-standard for training public health professionals. Forty accredited schools of public health train over 85 percent of public health graduates from accredited schools and programs (most of the rest graduate from public health programs within other schools, such as medical schools). To meet the predicted need for an additional 250,000 trained public health workers by 2020, schools of public health will need a threefold increase in the number of students they graduate over the next 11 years.

That means expanding capacity. Many public health schools now lack the resources to manage larger class sizes and states have cut their funds, forcing them to turn away qualified applicants. New federal resources for accredited public health schools are essential, as is enhanced student recruitment.

A number of new schools of public health are being formed, or are under consideration. This will increase the public health workforce, although new ventures are usually more expensive on a per-student basis than adding capacity as a marginal cost to existing school infrastructure.

Public health schools need funding to:

- **Expand their capacity to enroll and train degree-seeking graduate students.**
- **Develop competencies and curriculum in emerging areas of public health practice.**
- **Offer joint degrees and other opportunities for cross-disciplinary training.** Public health training can be combined with training in medicine, veterinary medicine, dentistry, nursing, law, business, public administration, public policy, and social work, among other fields. The interconnectedness of these fields is illustrated by the fact that 75% of emerging diseases are zoonotic (highlighting the link between veterinary medicine and public health).¹⁹ Support for greatly expanding HRSA training grants and graduate medical education are among the mechanisms to increase the number of students who pursue joint degrees.
- **Expand undergraduate public health education** in order to introduce more students to the field.
- **Promote training of the public health workforce through short courses, certificate programs, distance learning, and other opportunities for lifelong learning.** Targeted programs are needed to meet the needs of credentialed public health professionals, undertrained and noncredentialed public health workers, and other workers engaged in public health activities.
- **Significantly increase public health research training** in population health, primary prevention, and community-based and public health systems, among other areas. Particular emphasis should be placed on transdisciplinary research programs at the Agency for Healthcare Research and Quality, the Centers for Disease Control and Prevention, and the National Institutes of Health, which fund most research training at schools of public health.

Provide grants to state health departments to promote worker training. At present, most health departments have very limited training budgets, and federal funding in this arena has been waning. Grants to state health departments can be used to support working professionals who wish to pursue MPH degrees, public health certificates, and other training, and to promote credentialing.

Ensure that all primary, secondary, and post-secondary schools offer public health-related curricula. This is fundamental to giving all Americans a basic understanding of public health and the importance of prevention in health care.

Create a U.S. Global Health Service. Given the crippling shortages within the international public health workforce, the federal government should establish a U.S. Global Health Service that would serve as an umbrella organization for a Global Health Service Corps, health workforce needs assessment, fellowship and loan repayment programs, a twinning program, and an information clearinghouse.²⁰ These programs would be designed to strengthen the international expertise of the U.S. public health workforce, as well as to prepare workers from other countries to provide public health services.

Fund efforts to collect data about the public health workforce. The federal Health Resources and Services Administration (HRSA) last conducted an enumeration of the public health workforce in 2000; the enumeration prior to that was completed in 1980.^{6,7} Public health needs a legislative mandate to collect data regularly and to study workforce issues under the guidance of a federal agency.

Better demographic data about the workforce would help to identify shortages and surpluses, track trends over time, and forecast future needs. Improved public health enumeration data would also be useful in guiding student decisionmaking about which aspects of public health to pursue, ensuring a better balance between workforce supply and demand.

Effective public health depends on a workforce of sufficient size and training to meet both expected and unanticipated needs. A shortage of crisis proportions looms, and the opportunity to address it should be seized now.

References

- ¹ Ten Great Public Health Achievements – United States, 1900-1999. *Morbidity and Mortality Weekly Report* April 2, 1999;48 (12);241-3.
- ² Health Sciences Committee. Public Health Education and the University of California. Oakland, CA: University of California; 2004
- ³ Gebbie KM, Turnock BJ. The public health workforce 2006: New challenges. *Health Affairs* 2006;25(4):923-933.
- ⁴ Institute of Medicine, National Academy of Sciences. Who will keep the public healthy? Educating Public Health Professionals for the 21st Century. Washington, DC: National Academy Press; 2003
- ⁵ Rahn DA, Wartman SA. For the health-care workforce, a critical prognosis. *The Chronicle of Higher Education* 2007.
- ⁶ Health Resources and Services Administration. Public health personnel in the United States 1980: Second report to Congress. In: U.S. Department of Health and Human Services, editor. Washington, DC: U.S. Public Health Service; 1982.
- ⁷ National Center for Health Workforce Information and Analysis, Center for Health Policy at the Columbia University School of Nursing, Bureau of Health Professions. The Public Health Workforce Enumeration 2000. In: Health Resources and Services Administration, editor. Washington, DC: Health Resources and Services Administration; 2000.
- ⁸ U.S. Census Bureau 2008.
- ⁹ Association of State and Territorial Health Officials. State Public Health Employee Worker Shortage Report: A Civil Service Recruitment and Retention Crisis. Washington, DC; 2004.
- ¹⁰ Institute of Medicine, National Academy of Sciences. Training physicians for public health careers. Washington, DC; 2007.
- ¹¹ Sullivan Commission on Diversity in the Healthcare Workforce. Missing Persons: Minorities in the Health Professions. Washington, DC; 2004.
- ¹² World Health Organization. Taking Stock: Health Worker Shortages and the Response to AIDS; 2006.
- ¹³ World Health Organization. Working Together for Health: World Health Report 2006. Geneva, Switzerland; 2006.
- ¹⁴ Partnership for Public Service. Homeland Insecurity: Building the Expertise to Defend America from Bioterrorism. Washington, DC; 2003.
- ¹⁵ Association of State and Territorial Health Officials. ASTHO 2007 State Public Health Survey. In. Washington, DC; 2007.
- ¹⁶ National Association of County and City Health Officials. 2005 National Profile of Local Health Departments. Washington, DC; 2006.
- ¹⁷ Institute of Medicine, National Academy of Sciences. The Future of Public's Health in the 21st Century. Washington, DC: National Academy Press; 2003.
- ¹⁸ Unenacted bill: Public Health Preparedness Workforce Development Act of 2008, S.1882 and Public Health Preparedness Workforce Development Act of 2007, H.R. 5496 , 110th Cong. (2008).
- ¹⁹ Centers for Public Health Preparedness. Centers for Public Health Preparedness Collaborative Group Report on Veterinary Preparedness. Washington, DC: Association of Schools of Public Health; 2006.
- ²⁰ Institute of Medicine, National Academy of Sciences. Healers Abroad: Americans Responding to the Human Resource Crisis in HIV/AIDS. Washington, DC; 2005.