



Northwest Public Health

Spring/Summer 2010 Volume 27 Number 1

Building on Yesterday.



Ready for Tomorrow.

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Dr. Bryan Newsom and nurse Henrietta Mhyre immunize kindergarteners during a 1940 diphtheria campaign at West Woodland elementary school in Seattle, Washington. At far left, 2009 H1N1 vaccination clinic in Idaho.

Building on Yesterday. Ready for Tomorrow.

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50 Years Ago in Alaska
Ward B. Hurlburt

Kelwaq: Alerting the Community to Danger
Michael Bradley and Tara Melinkovich

Annotated Bibliography
Laura Larsson

Visit www.nwpublichealth.org to read more.

Fall/Winter 2008 & Fall/Winter 2009 issues of *Northwest Public Health* have been recognized for excellence by the Society for Technical Communications and Fall/Winter 2008 has also won an APEX Award for Excellence.





Taking Stock: Looking Back & Forward

In this issue of *Northwest Public Health* we stop to reflect, to look back at where we've been, and to think about future challenges. The timing is good for taking stock. This year the Northwest Center for Public Health Practice (NWCPHP) turns 20, and our Extended Degree Program observes 30 years of conferring MPH degrees on working professionals. The School itself marks its 40th anniversary—and I plan to step down as Dean of the School in September.

My first Dean's message for what was then *Washington Public Health* appeared in the Summer 1999 issue. I had been appointed Dean in February, and I had expanded the School's leadership team to include three part-time associate deans—Fred Connell for academic affairs, Dave Eaton for research, and Mark Oberle for public health practice. We were about to engage the entire School in a strategic planning process to guide us over the next decade, and we were actively extending our outreach to the practice community.

Since then we have appointed new chairs, Emily White succeeded Dave Eaton, and we created the Department of Global Health. We have a strong, productive leadership team; we continue to attract outstanding students to our School's excellent academic programs; we compete very successfully on the research front; and, thanks in large measure to NWCPHP initiatives, our collaborative relationships throughout the region are strong.

Through strategic planning we leveraged our strengths in the areas of public health genetics and genomics, public health informatics, global health, and nutrition. Of particular note among our new educational programs is our highly successful Community-Oriented Public Health Practice MPH program (COPHP), developed in response to the need expressed by local and state health departments for graduates trained in public health practice. COPHP educates our future workforce using problem-based learning and extensive student engagement with public health agencies.

As we look to the future, one of the more exciting developments in recent years, locally and nationally, is the increasing undergraduate demand for public health, nutrition, and global health. We hope eventually to offer an undergraduate degree in Global Public Health with options in Public Health, Nutrition, and Global Health—yet another way of helping to meet the need for new members of our public health workforce.

The two major challenges our School continues to face are resources in the form of space and state funds. If we were not scattered over nearly 20 locations throughout the city, we could better build on our sense of community and reinforce the shared sense of purpose that unites our diverse disciplines and invigorates the field of public health. And with adequate state funds, we could support our academic programs without using funds derived from our research grants—monies that should go toward building our research programs and helping junior faculty develop successful research proposals.

As a field, public health has faced numerous challenges over the past decade—some of them unknown in the 1990s. Responding to new and unforeseen challenges offers our field and our School exciting opportunities. The commitment and excellence of our faculty, students, and staff have built this School's reputation, and our partnership with the practice community has enhanced our mutual strengths. There's every reason to believe we will continue to be successful in the future.

A handwritten signature in dark ink, reading "Patricia W. Wahl". The signature is fluid and cursive, with the first name "Patricia" being more prominent than the last name "Wahl".

Patricia W. Wahl, Dean
UW School of Public Health

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The mission of the journal is to provide a forum for practitioners, teachers, researchers, and policy makers in public health to exchange ideas, describe innovations, and discuss current issues.

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Public Health: Constant & Changing

Throughout my own 25-year career in public health, the field has struggled with how to answer the question, “What is public health?” This issue’s reflections on the past 40 years of public health in the Pacific Northwest reveal a practical answer: Public health keeps the focus on the health of the population and the community, while the programs, methods, staffing, and priorities change to respond to evolving circumstances.

This theme is echoed in many of the articles in this issue: that the core activities, values, and goals of public health have remained constant, while the health problems, social and political circumstances, and resources have changed and evolved, in some cases in ways that couldn’t have been imagined by previous public health generations. Forty years ago the use of computers was rare and extremely expensive, telephones were tethered to wires, the World Trade Center towers were just being built and the US adult obesity rate was 14 percent. No one in this region was concerned about HIV, West Nile virus, SARS, or bioterrorism, and no one could imagine the current adult obesity rate of 34 percent. But then and now, there were valued public health programs to control tuberculosis, to improve childhood immunization, to promote healthy behaviors, and to fluoridate water—all important and unfinished work of the present day.

We are pleased to have columns in this anniversary issue reflecting the experience and thoughts of three leaders who have helped shape public health in our region and nationally—Bud Nicola, Kristine Gebbie, and Maxine Hayes. They take a long view of the field, reflecting on the past and identifying trends that will shape the future of public health. A two-generational viewpoint is provided by a young professional who has followed her mother into Public Health.

Peer-reviewed articles examine the evolution of public health laboratories, tribal rights, infant feeding practices, and environmental and occupational health. The cross-disciplinary nature of public health is evident in articles contributed by professors of economics, urban planning, and law.

The printed version of this journal is only the beginning of the exploration. Our Web site, nwpublichealth.org, contains additional peer-reviewed articles describing the evolution of public health in the region, particularly in the area of information technology. Librarian Laura Larsson has compiled an annotated bibliography that, as always, provides a valuable resource for those in our field.

One of the goals for this journal is to strengthen the connections among the public health practice and academic communities of the six Northwest states. With this issue, our Web site launches an interactive forum, where you can continue the conversation about the topics our authors raise. We look forward to hearing our readers’ viewpoints and examples of local implications of the issues raised in our articles and editorials. Please stay in touch.



Susan Allan, Editor-in-Chief
Director, Northwest Center for Public Health Practice
UW School of Public Health



From the Past to the Future, Public Health Responds & Leads

By Ray M. (Bud) Nicola

The movement of time is not a movement from the past to the future, but from the possible to the actual. Everything that grows or changes manufactures a past by realizing a future.

– G.L. Burr

Advances in public health, as laid out in this issue of *Northwest Public Health* and detailed a decade ago by the Centers for Disease Control and Prevention (CDC), have as their outcome a healthy population. The University of Washington School of Public Health, its Extended Degree Program and the Northwest Center for Public Health Practice, have all contributed to the mission of public health, which is to assure conditions in which people can be healthy, resulting in a healthier population.

Why should we look back at the history of public health organizations in the Northwest? I looked for an answer that a historian might give. In the words of the Irish historian Henry Glassie, “History tangles the past with the present in webs of fact. Its practice is to treat things that exist here and now as though they concerned the past and to use them in new compositions designed to equip people for their trip into the future.” He added, “It is history’s purpose to preserve things that prompt questions as much as to supply answers that inspire action.”

Consider the recent public health threat posed by H1N1 influenza. A historical event—the 1918 influenza pandemic – provided some of the most pertinent questions to ask in addressing H1N1. The history of the 1918 pandemic and laboratory archives provide us with questions that scientists could ask as they compare the 1918 organism with the characteristics of today’s virus. We looked at the periodicity of influenza since 1918 in order to make predictions about the risk of a future pandemic. We asked which of the 1918 public health interventions were most successful, which can provide clues about where we should put emphasis today. It is not surprising that the most important messages today still are “wash your hands” and “cover your cough.”

Some of my own memories reflect significant changes in population health. Public health has prevented or even eradicated some infectious diseases. Polio was endemic in Portland, Oregon, where I was born. I remember as a child standing in line at the local fire station to receive an injection of the Sabin polio vaccine in the late 1950s and then returning to that same fire station a few years later to receive the oral Salk polio vaccine. These mass vaccination clinics quickly snuffed out the widespread existence of the polio virus. We have contained the remaining wild polio virus to only four countries in the world and launched global efforts to extinguish this virus, much as public health workers rid the world of smallpox.

The general public frequently associates public health with infectious diseases and vaccinations, but our mission and the purview of public health organizations in US society is much larger. It includes promoting safe workplaces; preventing chronic illnesses such as

“Aye, the two things happen
at the one time.

Things get better.

And they get worse.”

– Hugh Nolan

heart disease and stroke by controlling contributing factors such as tobacco; encouraging motor vehicle safety, safe foods, healthier babies and mothers, proper disposal of sewage, garbage, and hazardous waste—and the list goes on. Our recent efforts to promote better public understanding of the broad mission of public health are exemplified by written and video versions of “A Day in the Life of Public Health.”

New threats are sure to arise. Again, I can present a personal memory of my early days as Health Officer at the Tacoma-Pierce County Health Department. Although the community had many infectious disease challenges, the biggest newspaper headlines were devoted to exposure to arsenic and cadmium from the ASARCO smelter in Tacoma and the contamination of drinking water aquifers from hydrocarbons—two challenges that were not anticipated in 1918.

There are times when the threat to public health is totally unanticipated. For example, when I was Health Officer at the Seattle-King County Health Department in the late 1990s, the Medical Examiner’s office discovered Tylenol capsules that had been filled with cyanide and put back on an unknown number of supermarket and pharmacy shelves. Public health workers spent long hours with the area’s merchants to remove potentially lethal products and protect the public.

Science has added to the skills and tools of public health workers. Sometimes, though, new technology can raise new issues. When I was working in Colorado at the Tri-County District Health Department in the late 1970s, the problem of migrating methane gas from landfills was discovered when a utilities worker was killed in an explosion near an old landfill. In the area of drinking water our ability to measure pollutants in parts per million and then parts per billion led to many more questions than answers. We discovered that there were very low levels of hazardous materials in drinking water and other pathways of human exposure, but there were no epidemiologic or toxicologic studies to determine how harmful these substances were to human health. The increase in the number of effective vaccines also cuts both ways—the vaccine makes it possible to control or eliminate a number of infectious diseases, but at the same time it has led to scientifically unfounded, yet vocal, public doubts about the dangers of multiple vaccines.

Demographers and public health systems researchers tell us that the public health workforce is graying and that agencies will soon be looking hard for new leaders and managers. The American Public Health Association estimates that nearly a quarter of the public health workforce—some 110,000 workers—will be eligible to retire in

ASARCO smelter in Tacoma, Washington, which exposed people to arsenic and cadmium.

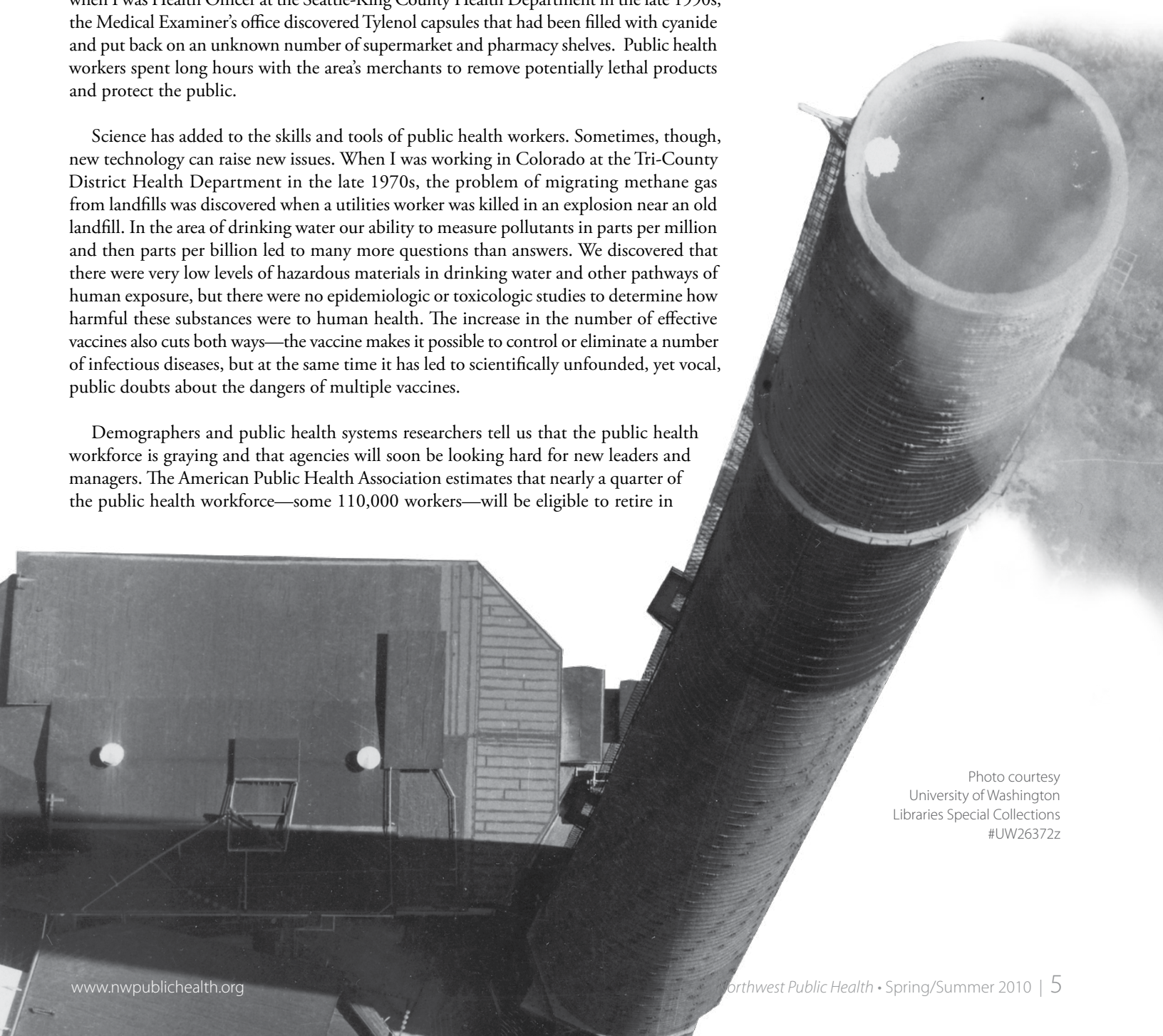


Photo courtesy
University of Washington
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the next five years. This trend and the exodus of retiring workers have been somewhat slowed by the current economic climate, but will heat up again as the economy recovers.

Our public health institutions have also been changing and improving. A hundred years ago, local boards of health, composed of the community's prominent physicians, were just forming to protect citizens from major infectious disease and environmental pollution. Minutes of old Seattle Board of Health meetings discuss typhoid outbreaks and a dead horse in Lake Union. These community volunteers were eventually replaced with trained public health professionals and federally funded community health programs.

The most recent movement among public health agencies is focused on quality improvement. In my days as Tacoma-Pierce County Health Officer in the early 1980s, we tested the American Public Health Association's new "Model Standards" for local public health agencies. This early work led to several of the National Association of County and City Health Officials' tools (APEX/PH, and MAPP), and the National Public Health Performance Standards at the CDC. Next year will be the inaugural year of a quality-improvement-based accreditation system for state and local governmental health departments, developed by the new Public Health Accreditation Board and funded by CDC and The Robert Wood Johnson Foundation. This change in the organizational culture of public health represents many years of work and inspires both fear and hope in the public health workforce—fear that health departments that are under-resourced will suffer from an accreditation system, but hope that an accreditation system will raise the performance and competency of all state and local public health departments—and lead to a focus of improved population health status across the nation.

New challenges will continue to arrive. Consider the human immunodeficiency virus (HIV), childhood obesity, Severe Acute Respiratory Syndrome (SARS), and climate change, among many recent developments. So we celebrate the longevity of the public health institutions in our communities that are devoted to making us all healthier, to protecting us from anticipated and unanticipated dangers, to preventing the development of disease and injuries, and to studying, teaching, and taking action.

I started with the comments of historians and will end with one. A comment of the Irish historian Hugh Nolan (quoted by Glassie) seems appropriate to the state of public health, "Aye, the two things happen at the one time. Things get better. And they get worse." ■

Author

Ray M.(Bud) Nicola, MD, MHSA, FACPM, is a senior consultant, a CDC assignee from the Office of State, Tribal, Local, and Territorial Support to the Northwest Center for Public Health Practice, an Affiliate Professor in the University of Washington Department of Health Services and faculty in its Community-Oriented Public Health Practice MPH Program. Dr. Nicola is a former director of Public Health – Seattle & King County and the Tacoma-Pierce County Health Department.

Polio vaccination billboards were part of the community awareness campaign surrounding polio. Below, workers create a billboard in downtown Atlanta, Georgia.



Photo courtesy CDC Public Health Image Library

Always Changing, Always the Same: Public Health Workforce

By Kristine M. Gebbie

The last third of the 20th century and this first decade of the 21st provide an intriguing window into the constantly evolving world of public health, and particularly the men and women who have made this their chosen profession. The title reflects a personal perspective about public health practice: the essentials remain the same, through constant changes.

In 1970, the United States had not yet written the first Healthy People 1990 objectives. The swine flu excitement (some would say debacle) was yet to come, “no shots/no school” slogans as yet unwritten, and the tobacco wars barely begun. The Women, Infant and Children Nutrition Program was only a pilot in 1972. The creation of the Environmental Protection Agency in July 1970 inaugurated a bifurcation that some saw as hurtful to public health as they knew it. The new range of financing for personal care moved many public health agencies into the Medicare home health care business or into Medicaid financing for services to poor mothers and children. “Electronic vital records” meant mainframe computer storage.

State and local public health agencies were, then as now, staffed by individuals who understood that action at a community or population level was a better investment in supporting long, healthy lives. Men coming into public health in that Vietnam era might well have chosen the US Public Health Service as a uniformed opportunity that didn’t involve guns. While women with associate degrees in nursing were more visible in hospitals, the bachelor’s degree was the norm for public health practice.

What are the changes since then? The workforce is about the same size, though the population is much larger. The workforce is more specialized: nurse midwives and nurse practitioners, hydrologists, chemists, informaticians, and legal experts. Public health laboratories have expanded in both range of issues and in technology, and have been through enormous fiscal struggles to find adequate sources of support while maintaining a population focus.

There is a continuous flow of newcomers, though new to public health does not always mean “new” to work, or to a health profession. Some seek public health work as a relief from the physical demands of caring for the sick or performing surgery. Some

stumble upon it, in a military assignment or an international mission. Some are pointed towards public health by career counselors or an inspiring faculty member. For some, “it was the job available at the time.”

Each new threat to the public’s health expands the circle of interest, as happened when HIV burst upon us. Some hired with grant funding early in the epidemic followed the population of their greatest concern to nongovernmental organizations or elsewhere. But more than a few found public health a congenial home, and sought continuing work, or promotion in other program areas. Many colleagues I now meet at emergency preparedness activities were first encountered in our work to combat HIV.

Professionalization in public health was already well-established by 1970: the American Public Health Association was preparing for its centenary, the American College of Preventive Medicine was nearing the quarter-century mark, and (in typical nursing fashion), four organizations represented public health nurses. One of the most remarkable changes evident in this new century is the emergence of the National Board of Public Health Examiners, an effort to put a stamp of “prepared” on graduates of schools of public health. Letters after the name signify the environmental health professional, the nurse, the physician, the dentist, the lawyer, but until the past couple of years there was nothing similar for the epidemiologist, biostatistician, public health leader for whom public health was the primary education.

With the help of the blossoming numbers of schools and programs in public health, and the network of public health training centers, becoming prepared to practice public health, and remaining up-to-date about emerging challenges has never been easier. Public health remains the same: advocating for and taking those steps that can allow a community to become or remain healthy. Public health keeps changing: new issues, new knowledge, new skills, new jobs that contribute to achieving that mission, over and over again, every day, in every community. ■



Author

Kristine M. Gebbie, DrPH, RN, is Joan Hansen Grabe Dean of the Hunter-Bellevue School of Nursing, in the City University of New York. She served as state health director in Washington and Oregon, and was the United States’ first national AIDS policy coordinator, or AIDS czar. She was a founding member of the National Board of Public Health Examiners.



Looking Backward Moving Forward

By Maxine Hayes

The 20-year anniversary of the Northwest Center for Public Health Practice coincides with my 20 years of service to the Washington State Department of Health. I am honored to have the opportunity to share the changes I've witnessed

nationally, regionally, and locally.

As I look back, I think of the Sankofa bird of West Africa. This mythical bird flies forward while looking backward, with an egg (symbolizing the future) in its mouth. Sankofa teaches us that we should gather the best from our past, so we can achieve our full potential as we move forward.

Looking back:

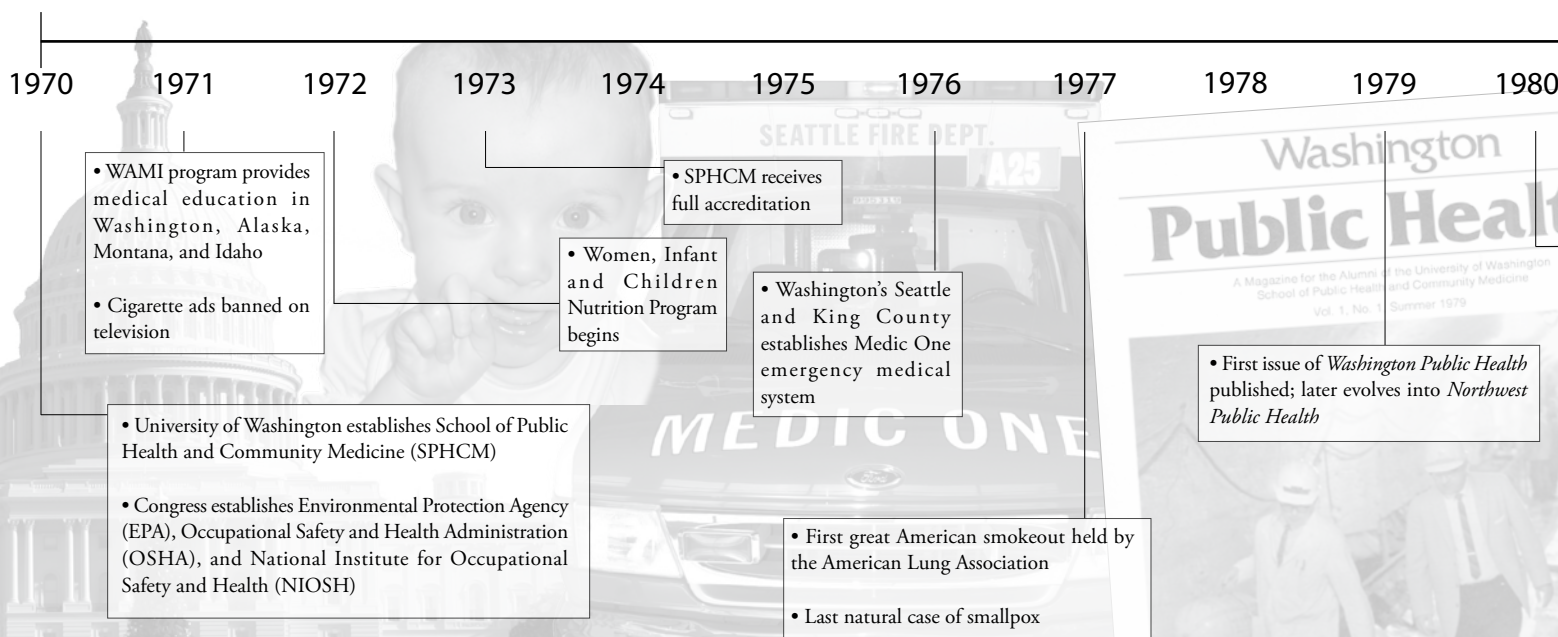
Twenty years ago the Institute of Medicine (IOM) publication, *The Future of Public Health*, was hot off the press. Washington was one of the study states in

this landmark report, which presented a scathing commentary that the nation had lost sight of its public health goals and allowed health systems to fall into disarray. As a result, public health's missions were revisited and clarified, and roles at all levels of government delineated.

Twenty years ago, we were all facing the HIV/AIDS epidemic. In Washington, the Department of Health was created, pulling it away from an overpowering welfare agency, Department of Social and Health Services. This was considered a positive response to the IOM report and to the threat of HIV/AIDs. Work began then, and continues now, to assure public health core capacity, and creating public health standards and accountability.

In 1993, Washington's emergency response to *E. coli* O157, the Jack in the Box incident, led the legislature to invest \$20 million in public health. This was called a down payment to the public health system, with a promise of more dedicated funds in the future. That promise has yet to be fulfilled.

Public Health. community. engagement. evolving



Perhaps the most profound change in our public health community came after the terrorist attacks of September 11, 2001. Terrorism and the threat of anthrax shifted the public health mission: from “assuring the health” to “assuring the health and safety” of the nation. With this added responsibility came the largest infusion of federal dollars in history to public health. States in our region began to improve the basic public health framework of communications, information technology, laboratory capacity, and epidemiology. Planning for biological threats became a top priority. Attention to pandemic influenza preparedness bolstered relationships with hospitals, laboratories, and clinical medicine—as well as our neighboring states and provinces.

The focus on pandemic influenza preparedness could not have been timelier, with the arrival of a new strain of H1N1 in April 2009. The successful response of the public health community, at all levels of government, including tribal nations, would not have been possible 20 years ago. Looking back, I am truly amazed at the progress we’ve made.

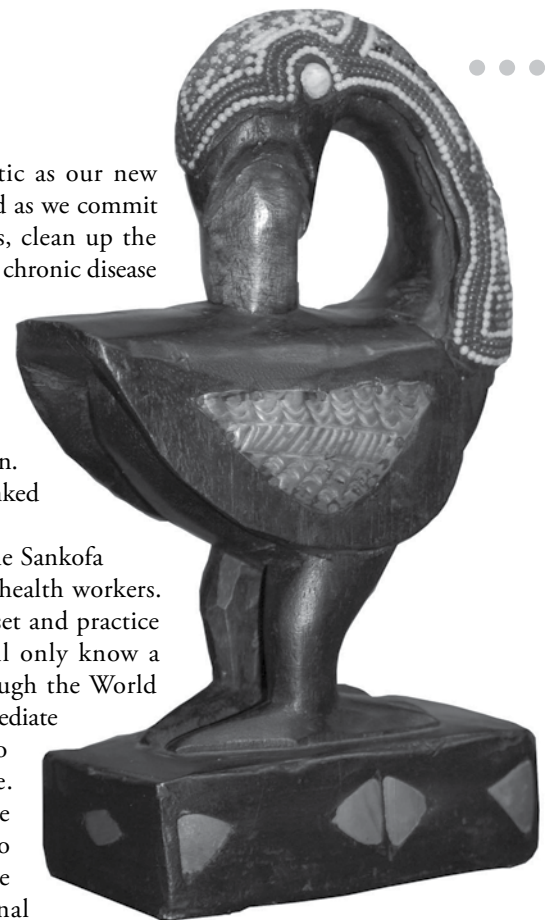
Looking forward:

The public health community has weathered one of the worst recessions in our nation’s history, and the erosion of public health capacity at the local level has been painful. Dr. Bill Foege, mentor and colleague, said the success of public health in the 21st century will depend on how well we forge

coalitions. I remain optimistic as our new health reform laws unfold, and as we commit to eliminate health inequities, clean up the environment, and decrease the chronic disease burden. Public health in the 21st century cannot afford to lose sight of the philosophy behind its creation: attending to the social context of disease prevention and health promotion. Social justice is inextricably linked to public health.

The egg in the mouth of the Sankofa bird represents future public health workers. They will have a global mindset and practice without borders, as they will only know a world that is connected through the World Wide Web. They will have immediate access to data and be able to make decisions in real time. They will draw heavily on the science of social epidemiology to influence policy in areas outside of the authority of traditional public health. They will build healthy communities and create environments in which everyone has a fair opportunity for health.

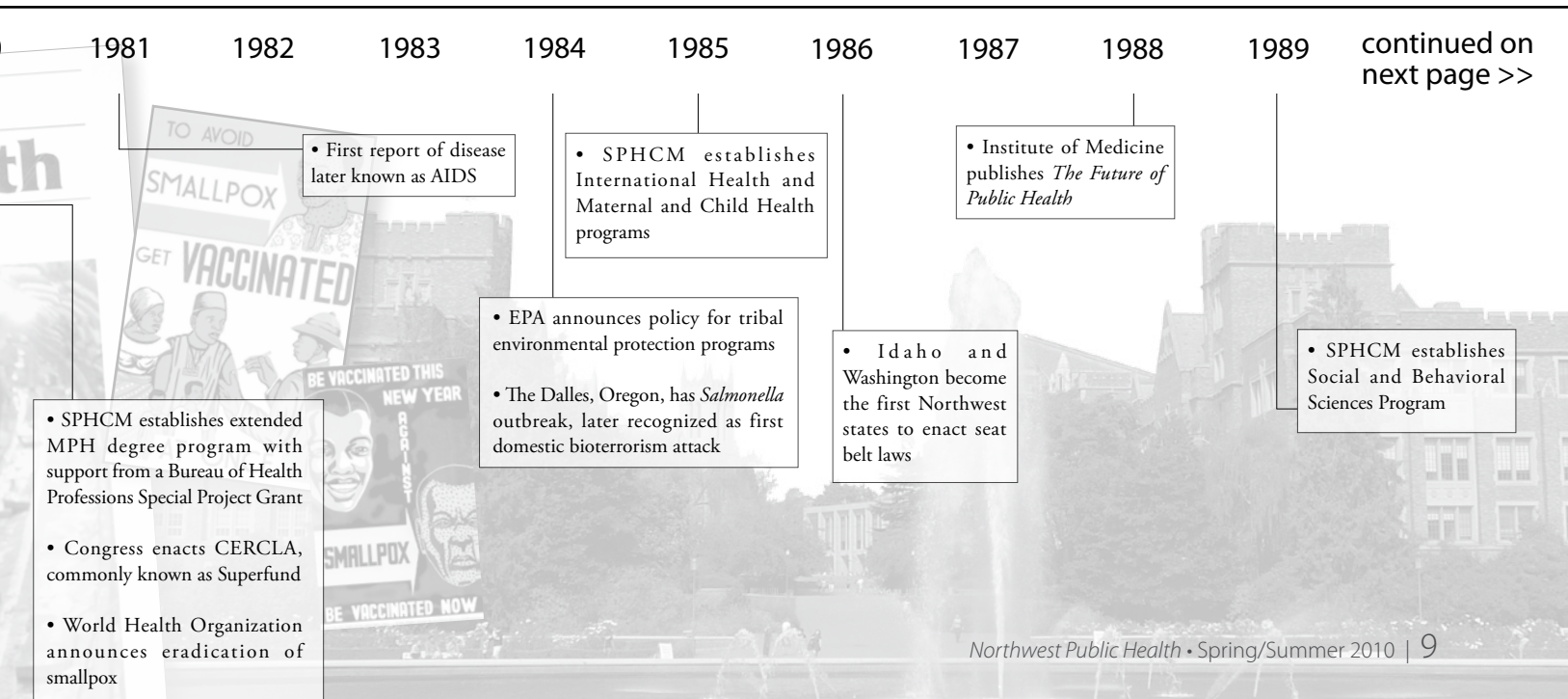
As my colleagues and I hand the public health torch to this new generation, may the history they get to write be as colorful and productive as ours has been. ■



Maxine Hayes

Sculpture of the Sankofa bird of West Africa.

g. world. communication. emergency response. changing.





The Evolution of Public Health Through TWO Careers

By Jill Marsden & Nicola Marsden-Haug,
mother & daughter

Our public health careers span more than 40 years. Looking back, one of the most striking differences between our experiences is the level of community awareness of public health issues.

Jill Marsden:

I first became involved with health issues when I emigrated to the US in 1966 and worked on surveys of migrant farm workers. I had read *The Grapes of Wrath* but never expected to find those conditions in the state of Washington in the late 1960s. The lack of access to health care and the exposure to environmental hazards appalled me and led me to work in the community clinic movement, and then into public health.

When Nicola was born, I was managing the King County Emergency Medical Services (EMS) Division. This was a new venture in King County and policy makers questioned whether it was an appropriate role for public health. However, area

residents were supportive and eagerly anticipated the expansion of paramedic services to their region. In the 1970s, EMS helped give public health visibility, but by and large the field was not in the spotlight. Vaccinations had brought smallpox, polio, and many other diseases under control, and while tuberculosis and sexually transmitted diseases were still issues, the general population did not feel particularly vulnerable.

I was concerned about access to health care for the uninsured and low income. I wanted to see public health take a leadership role in advocacy, planning, and mobilization of resources to increase access to care for these populations. Many in local government believed that this was a state or federal concern and not the business of local public health. After all,

Public Health. awareness. environment. equality.

1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000

- Northwest Center for Public Health Practice (NWCPPH) founded at the University of Washington with a grant from the US Health Resources and Services Administration (HRSA)

- Smoking banned on most airline flights

- First annual Summer Institute for Public Health Practice in Seattle

- Jack in the Box *E. coli* outbreak - hundreds ill, four children died

- Health Reform in Washington provides funding for public health, including training funds for NWCPPH

- Video "Public Health: The Invisible Safety Net - Infrastructure of American Health" distributed to all health departments in Washington

- President Clinton issues Executive Order 12898, focusing federal action on environmental justice

- University of Idaho establishes MPH program in Pocatello

- NWCPPH publishes "Welcome to Public Health! A Guidebook for Local Board of Health Members"

- Wyoming joins medical education program now known as WWAMI

- Bill & Melinda Gates foundation established

- Idaho MPH program moves to Boise

- Washington state launches Information Network for Public Health Officials

- NWCPPH delivers informatics training; begins a graduate certificate program; and launches Web site and e-mail lists for various public health communities

national health insurance was just around the corner in the mid 1970s.

Communicable disease remained largely out of the public eye until the 1980s. Immigration from Southeast Asia in the late 1970s brought federal funding for refugee screening programs and a greater focus on TB and communicable disease, but it was the recognition of AIDS in the 1980s that finally put public health in the spotlight.

Nicola Marsden-Haug:

By the time I was in elementary school, HIV/AIDS education was already being taught in classes. I recall growing up watching movies such as *Outbreak*, reading science fiction about genetics, and following news about *E. coli* O157:H7 linked to hamburgers at Jack in the Box. Public health, while not necessarily named as such in the media, was ever present in the public eye. To me, my mom's work in administration and policy was important, but wasn't nearly as exciting as the fast-paced, volatile world of infectious disease. I entered public health with the intention of working in outbreak investigation.

I was in graduate school and working at Walter Reed Army Institute of Research on September 11, 2001, and when the anthrax attacks occurred.

Bioterrorism preparedness, the area I was researching, was thrust into public health and caused an increased sense of vulnerability to communicable disease among the public. In 2003, people learned just how quickly diseases could spread while watching worldwide media coverage of Severe Acute Respiratory Syndrome (SARS) in China and Toronto. More recently, national foodborne outbreaks and recalls, such as peanut butter and tomatoes, have brought attention to food safety.

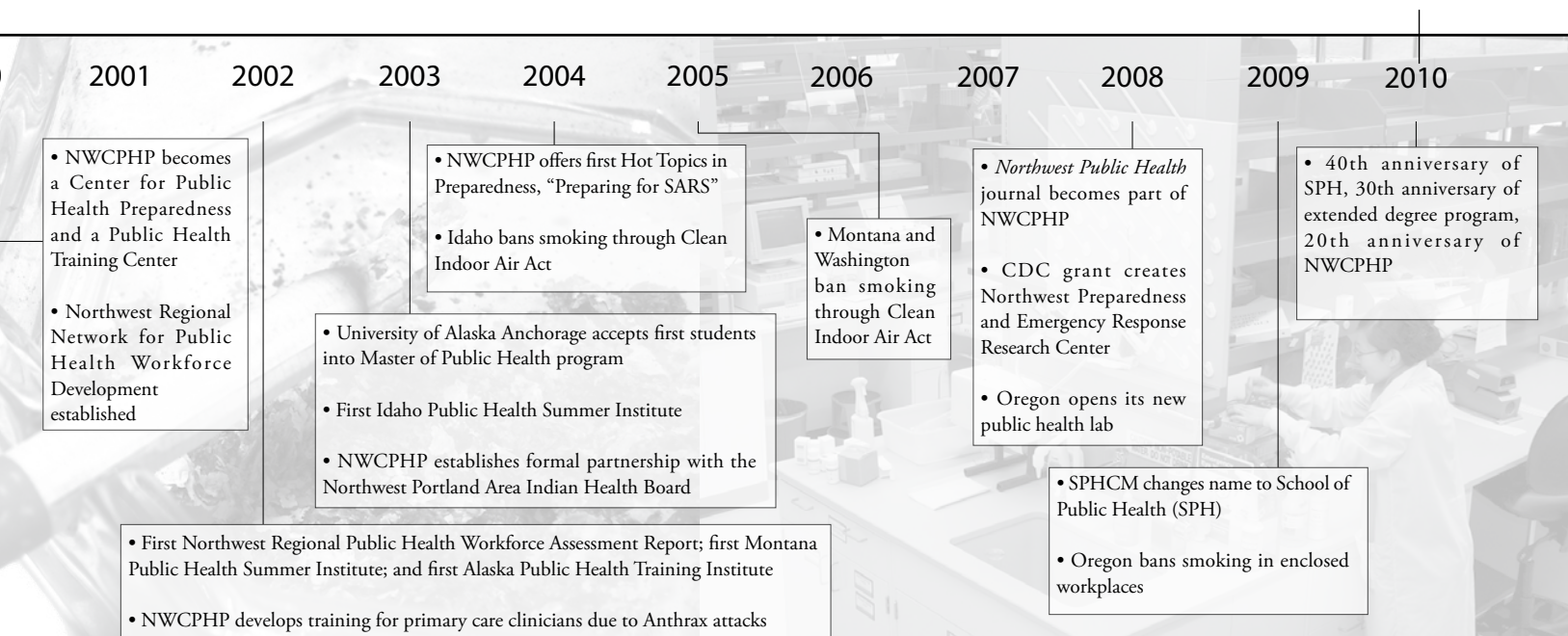
I work in an era where public interest in health issues is very strong. High profile organizations such as the Gates Foundation and PATH increase public awareness of these issues. Today, diseases such as pandemic H1N1 influenza and West Nile virus are in the news regularly. Consequently, the general public has a greater interest in diseases and, hopefully, a better understanding of risks and prevention.

Over the years, some issues have found themselves back in the spotlight, such as access to healthcare and insurance. Public health awareness has greatly increased during our careers, but funding for public health remains a product of federal policy. Money tends to follow the latest, most highly publicized "disease of the moment," leaving public health to scramble for adequate state and local revenue sources to maintain basic services. ■

Authors

Jill Marsden, earned a Master of Science in Public Health from the University of Washington in 1975. She works part time consulting on health policy and organizational planning. Her daughter, Nicola Marsden-Haug, completed a Master of Public Health at George Washington University in 2002, and is working for the Washington State Department of Health.

local. prevention. policy. infectious disease. partnership. health.



Populations and Population Change

Around the Region

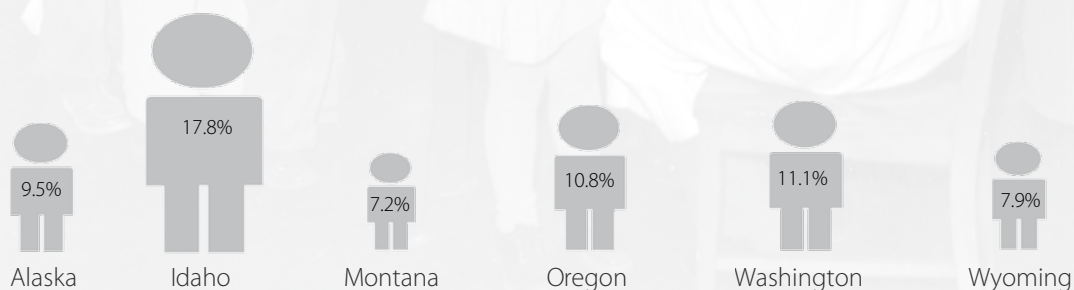
Compiled by Tiffany Myers

	Alaska	Idaho	Montana	Oregon	Washington	Wyoming	USA
Population, 2008 estimate	686,293	1,523,816	967,440	3,790,060	6,549,224	532,668	304,059,724
Population, percent change 2000-2008	9.5%	17.8%	7.2%	10.8%	11.1%	7.9%	8.0%
Persons under 5 years old, percent, 2008	7.6%	8.0%	6.3%	6.4%	6.6%	7.2%	6.9%
Persons over 65 years old, percent, 2008	7.3%	12.0%	14.2%	13.3%	12.0%	12.3%	12.8%
White persons, percent, 2008	70.6%	94.6%	90.5%	90.1%	84.3%	93.9%	79.8%
Black persons, percent, 2008	4.3%	0.9%	0.7%	2.0%	3.7%	1.3%	12.8%
American Indian & Alaska Native persons, percent, 2008	15.3%	1.5%	6.4%	1.4%	1.7%	2.5%	1.0%
Asian persons, percent, 2008	4.5%	1.1%	0.6%	3.6%	6.7%	0.7%	4.5%
Hispanic or Latino persons, percent, 2008	6.1%	10.2%	3.0%	11.0%	9.8%	7.7%	15.4%
Persons below poverty, percent, 2007	9.8%	12.1%	14.1%	13.0%	11.4%	9.5%	13.0%
Persons per square mile, 2000	1.1	15.6	6.2	35.6	88.6	5.1	79.6

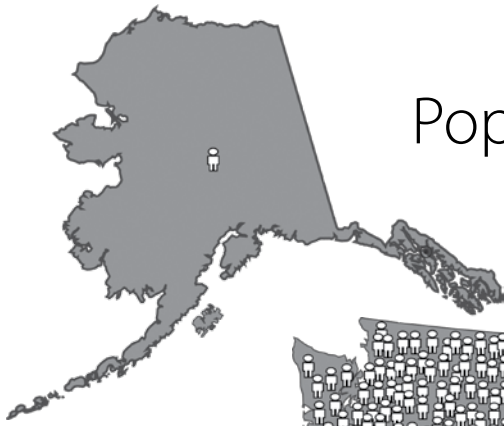
Source: US Census Bureau

Population percent change from 2000:

Relative size of person represents percent change in population from 2000 to 2008 population estimate.



Population per Square Mile from the 2000 Census



Alaska is not to scale. Population location on state not representative of actual population centers, but illustrates average population per square mile.

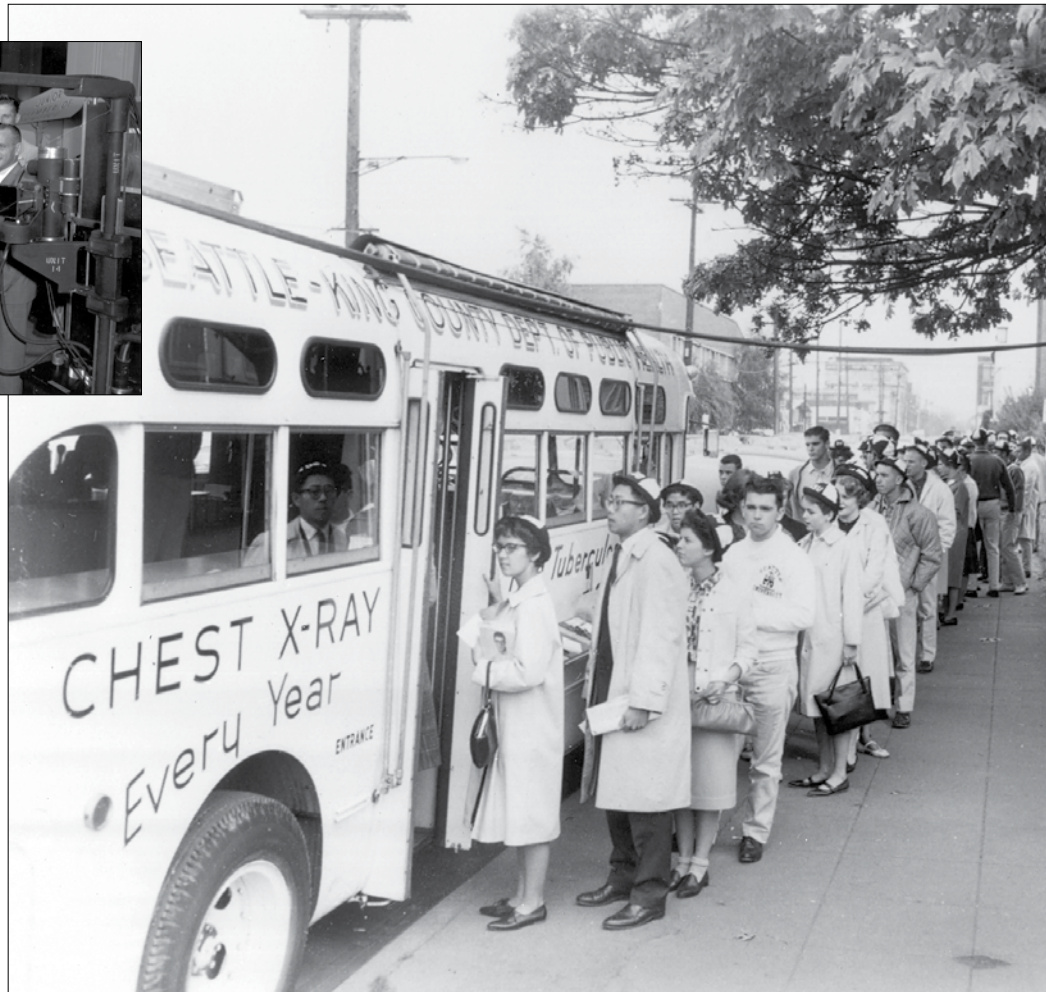


Alaska	1.1
Idaho	15.6
Montana	6.2
Oregon	35.6
Washington	88.6
Wyoming	5.1



Above, in 1948-49, King County, the University of Washington, and the US Public Health Service worked together to test everyone in King County for tuberculosis, using X-rays and skin tests. Courtesy the Museum of History and Industry.

At right, people line up at a mobile X-ray screening clinic for tuberculosis in Seattle in 1960. Courtesy Seattle - King County Department of Public Health.





Hard at Work:

Breastfeeding Changes Between 1992 & 2007

By Bidisha Mandal & Seungchul Lee

Mothers who return to work are less likely to breastfeed and will breastfeed for fewer weeks than mothers who do not return to work outside the home. Two national studies give us an opportunity to compare changes in breastfeeding behaviors between 1992 and 2007, and to present latest statistics from the northwest region on mother's choice of feeding practices as she combines employment with breastfeeding.

Two studies were conducted by the Food and Drug Administration and the Centers for Disease Control and

Prevention (CDC) in 1992-1993 and 2005-2007. They allow a comparison of breastfeeding practices over time. Results from the Infant Feeding Practices Study (IFPS) surveys I and II highlight the effects of new products, policies, and education. For example, state and federal laws have reduced the barriers that working women face in choosing to breastfeed and policies and recommendations about infant feeding have changed over the years, as have infant formulas.

In 1997, the American Academy of Pediatrics recommended that mothers breastfeed for 12 months, rather than the previously recommended 6 months, reflecting new research that associated breastfeeding with a reduced risk of many adverse health outcomes in both mothers (such as lower risk of premenopausal breast cancer) and infants (such as lower risk of diarrhea).

While it has been a national goal of the US Department of Health and Human Services to increase the proportion of mothers who breastfeed their babies to 75 percent by this year, more US mothers work and face difficulties in combining paid work with breastfeeding. States show considerable variations in breastfeeding laws. For instance, only 28 states and the District of Columbia exempt breastfeeding from public indecency laws, while only 24 states and the District of Columbia have laws related to breastfeeding in the workplace. So far, according to the National Conference of State

Legislatures, only five states have implemented or encouraged the development of breastfeeding awareness education campaigns or health programs.

Overall Trends

In both studies, mothers who thought they were not producing enough milk were the ones who stopped breastfeeding before their infants were 6 months. We found that, in the 2007 study, about 10 percent more mothers reported that they had trouble getting milk flow to start and about 14 percent more mothers reported that they thought milk production was not enough than in the earlier study. The more recent study also found that concern about leaving their infants and concern about having someone else feed them were less frequently cited as reasons to stop breastfeeding. (See the table online for detail).

Breastfeeding and Employment in the Northwest

The 2007 study included 179 mothers from the Northwestern states of Idaho, Montana, Oregon, Washington, and Wyoming. (Alaska was not part of the IFPS). Of these 179 mothers, only 46 (26 percent) concurrently breastfed and worked, compared with 32 percent in other states. However, working mothers in the Northwest states were more likely to breastfeed for longer duration after returning to work. This favorable outcome could possibly be related to supportive workplaces as reported by 45 to 63 percent of mothers from the Northwest, or to the

Authors

Bidisha Mandal, PhD, is Assistant Professor and Seungchul Lee is Graduate Research Assistant at the School of Economic Sciences, Washington State University. This study was supported by the Food and Drug Administration.

Above, Angela Garza and her baby, courtesy Texas Department of State Health Services WIC program. Opposite page, baby Rebekah Blackmer, photo courtesy Hsiao-Ying Lo.

fact that mothers from the Northwest reported a smaller contribution to the total household income. A lower contribution could indicate less time spent outside the home and more time with the infant. Among work accommodations and breastfeeding strategies used in the first month after return to work, a higher percentage of mothers in this region pumped and saved milk for their infants.

Conclusion

In 2007, 86.5 percent of mothers reported initiating breastfeeding, an increase of 10.5 percent from the 1992 study. The average duration of breastfeeding was 31.6 weeks, 7.5 weeks longer than observed in the first study. One limitation of the IFPS surveys is that their samples are not nationally representative of new mothers. The increase in breastfeeding between the two studies may indicate a greater availability of portable breast pumps, changes in breastfeeding laws, and greater support in some workplaces. Yet, the US remains below its Healthy People 2010 goal of 50 percent of women breastfeeding at 6 months and 25 percent of women breastfeeding at 1 year. Today, only 43 percent and 21 percent, respectively, do so. ■

Work accommodations for breastfeeding

	Northwest states %	Other states %
Accommodations in the first month after return to work		
Brings infant to work, breastfeeds during work day	40.9	38.8
Goes to infant to breastfeed during work day	4.5	7.9
Infant brought to mother to breastfeed during work day	4.5	2.5
Pumps milk and saves for infant	53.8	36.4
Neither pumps nor breastfeeds during the work day	18.2	10.5
Work characteristics		
Workplace is very supportive of breastfeeding: prenatal	45.4	33.8
Workplace is very supportive of breastfeeding: postnatal	63.2	51.9
Outcome		
Weeks of breastfeeding after return to paid work	31.3	26.1

Comparison of 46 women from the Northwest and 782 women from other states for 2005-2007.
This chart is simplified from a table that is online at www.nwpublichealth.org.

Despite progress, we
are below the Healthy
People 2010 goal.



Public Health Laboratories from Microscopes to Microarrays

By Michael Skeels

When I started working at the Montana state laboratory in 1977, culture media had recently replaced guinea pigs for tuberculosis testing. Like most public health laboratories (PHLs) of that era, we had no automated instruments or computers, so we kept manual records and reported our test results on paper. We relied heavily on microscopes to identify microorganisms, to perform immunofluorescence tests, and to observe cell cultures for viral growth. Our facility lacked biological safety cabinets and other basic features to protect our workers.

For statewide gonorrhea screening, Transgrow bottles were shipped hundreds of miles to Helena in luggage-size containers to keep them warm (in Montana). To control *Streptococcus* pharyngitis and its complications, thousands of throat swabs were mailed to us in silica gel envelopes. We were the only Montana laboratory capable of rubella immunity screening, and our highest volume test was syphilis serology for prenatal and premarital exams.

The Center (singular) for Disease Control provided the reference materials and reagents for many of our methods, as well as virtually all training for state PHL staff. We tested water for bacterial and chemical contamination under the newly adopted standards of the US Environmental Protection Agency (EPA). Montana newborns were screened for phenylketonuria and hypothyroidism by the Oregon state laboratory's regional program.

Fast-forward to 2010 at the new Oregon state laboratory. We find that the primary mission of PHLs remains basically the same—

to support disease control activities, environmental health, newborn screening, and laboratory improvement. We still enjoy using our microscopes, especially for immunofluorescence (rabies, syphilis), Gram stains, viral cultures, TB smears, and artistic endeavors such as parasitology. And, we still grow pure bacterial cultures on artificial media in the manner developed in 1880 by Robert Koch and his assistant, Julius Petri.

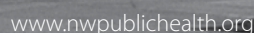
However, in most ways today's PHLs are very different from those of the 1970s. Molecular tests have replaced many conventional methods and high-throughput automation has greatly increased our operational efficiency. Web-enabled information systems and electronic reporting can now provide clients with instant access to results. Rapid response to public health threats and emergencies is now available 24/7/365. Quality management and laboratory safety are vastly improved. Our clinical laboratory partners now play an even stronger role in supporting the public health system. Also, many more PHLs now provide analytical chemistry to support environmental public health, emergency response, and biomonitoring activities. Here are a few of the trends and challenges that continue to shape PHL practice.

Newborn screening is on the verge of a similar revolution. We currently test infants' blood samples for the "biochemical derangement" that precedes the clinical onset of a metabolic, endocrine, or hematologic disorder. This approach has been highly effective since the 1960s for preventing disability and death in thousands of children. However, as new laboratory methods and clinical correlation data become available, we will begin screening for the specific DNA sequences associated with these disorders. Some state laboratories have already begun using DNA sequences to screen newborns for cystic

Information Management: Public health laboratories are essentially mining operations that process raw materials (samples) to extract information that can be used for decision-making in health care, epidemiology, environmental protection, and public policy. Our work is not finished until this information has been transmitted quickly and accurately to our clients via modern information systems with standardized messaging and Web portals. Unfortunately, while the scientific technologies in PHLs have generally kept pace, our information technologies have often lagged behind. There are gaps in our ability to exchange data with other electronic medical records systems and epidemiology databases. PHLs differ greatly in their ability to manage information electronically, and this remains a challenge

Author
Michael R. Skeels, PhD,
MPH, is director of the
Oregon State Public Health
Laboratory.

Below, Oregon's new state public health laboratory courtesy Michael Skeels.





Above, the old state public health laboratory in Oregon. Below, photos of the new state public health laboratory. All photos courtesy Michael Skeels.

kits are used routinely for common diseases (streptococcal pharyngitis, influenza), providing results within minutes at the point of care. These advances are welcome but they have created challenges for public health agencies that historically depended upon centralized PHLs to provide surveillance data and to confirm and type microbial isolates for epidemiology. We must

reconceptualize the laboratory component of the public health system as a network of public and private sector laboratories working as partners to assure the needed capacity.

Environmental Chemistry and Biomonitoring:

PHLs have long played a role in detecting and preventing human exposure to lead, mercury, pesticides, and many other chemicals, contributing to environmental protection and risk assessment. A new and important PHL activity is biomonitoring—testing human samples to assess the body burden of toxic environmental chemicals or their metabolites, including metals, endocrine disruptors, and other compounds contained in consumer products or generated by industrial processes. Biomonitoring has emerged as a significant new area of PHL activity that will expand during the next several years.

Quality Improvement and Regulation:

Medical laboratories in the US must be certified under the federal Clinical Laboratory Improvement Amendments (CLIA) if they test human samples for the purpose of diagnosis, treatment, or assessment of health. When first passed in 1967, CLIA only covered laboratories engaged in interstate commerce, which meant only a small percentage of all clinical and public health laboratories. Therefore, most medical laboratories in the US, including most PHLs, were unregulated until CLIA was amended in 1988, greatly broadening its scope to include all medical laboratories, regardless of their size or complexity. During the past 20 years, partly because of CLIA, PHLs have progressed from a narrow emphasis on analytical quality control—whether a given test is working correctly—to an integrated quality management approach that addresses pre- and

post-analytical processes and continuous system improvement. Ten PHLs, including the Washington and Oregon state laboratories, are also accredited by the College of American Pathologists, a non-governmental organization that accredits many of the nation's largest private medical laboratories. A parallel process exists for environmental laboratory certification by the EPA and the National Environmental Laboratory Accreditation Program (NELAP).

Emergency Preparedness: Throughout their history, PHLs have supported public health response efforts for natural disasters, disease outbreaks, environmental contamination, and other emergencies. Since the anthrax incident of 2001, PHLs have greatly enhanced their analytical capacity and responsiveness to all hazards, especially biological and chemical terrorism agents. Increased federal funding supports these efforts. National and state laboratory response networks have been created as collaborations between PHLs and clinical laboratories, establishing a new model of cooperation that represents the first-ever national laboratory system of this type. Also, new relationships have been developed with military, law enforcement, and hazardous materials agencies to assure a prompt and coordinated response to white powder incidents and many other threats

Funding: Thirty years ago, most PHLs relied on state revenues, with federal funds and fees augmenting the core budget. Today, many PHLs are heavily dependent on categorical federal funds and testing fees to provide the most basic essential services, with state funds providing only a small percentage of the total budget. This shift has affected every aspect of PHL work—the types of tests we do, technologies, staffing, and facilities—because our activities must now reflect federal priorities and fee-for-service revenue opportunities. Though this has

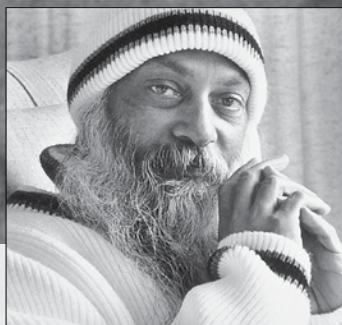


buffered PHLs against state funding reductions, it may not always serve the best interests of the state programs we support.

Fifteen years ago, I wrote in *Laboratory Medicine*:

Public health laboratories (PHLs) are vitally important to community health, providing a broad range of disease control, preventive health care, environmental monitoring, applied research, and laboratory improvement services. Local, state, and federal PHLs work together as a network to protect the public's health. The last decade has brought challenges to PHLs, including accelerating technology, shrinking funding, managed care, privatization, and a public health shift toward chronic disease prevention. The survival of PHLs will require adaptability and responsiveness to these trends, as well as increased emphasis on information systems, genetic screening, national health objectives, emerging infectious diseases, expanded environmental testing, and public and private partnerships.

PHLs have indeed survived, but I underestimated just how adaptable and responsive we would need to become. Organizational agility is a challenge within a governmental structure, especially for laboratories that must keep up with rapidly changing science and technologies, recruit and retain highly trained staff, and produce results in clinical real-time. Laboratories are expensive to operate and must continually prove their value to those they serve. To assure that PHLs remain viable, we must support the essential services of public health and our PHL leaders must be flexible and creative. This will mean building integrated partnerships with other laboratories, remaining service-oriented in everything we do, and committing ourselves to the highest standards of quality and scientific excellence. ■



An act of bioterrorism: Oregon, 1984

In September 1984, rural Oregon experienced America's first community bioterrorism attack, but health department investigators didn't realize it at the time. When more than 750 people became ill with a unique strain of *Salmonella* in Wasco County, health officials suspected accidental, rather than deliberate, contamination. Almost all of the ill people either worked in, or had eaten at, one of ten implicated restaurants in The Dalles, and they were clustered closely in time. Therefore, a contaminated food item served in these restaurants seemed like a plausible source of the *Salmonella*, although an exhaustive investigation did not reveal one.

What public health officials couldn't imagine is that followers of Bhagwan Shree Rajneesh, who had established a commune in the county, intentionally infected restaurant diners in The Dalles as part of a plot to take over county government. Many people in Wasco County suspected that commune members were responsible, and in February 1985, Congressman Jim Weaver gave a speech to this effect on the floor of the US House of Representatives.

However, it wasn't until October 1985, when, during an FBI/State Police raid of Rajneeshpuram to investigate many types of criminal activity, state laboratory director Michael Skeels discovered the smoking gun in the commune's medical laboratory—an open vial containing a strain of *Salmonella enterica* Typhimurium that CDC matched to the outbreak strain. The culture from this vial was genetically and biochemically identical to the isolates from more than 750 patients and blue cheese dressing from a salad bar. Commune members later testified that they had poured *Salmonella* cultures on salad bar foods to test a plan to incapacitate voters during an upcoming election, allowing Rajneesh candidates to win.

Skeels recalls, "The idea that someone had done this on purpose was considered by our epidemiologists, but it seemed too far-fetched. No group had claimed responsibility for the outbreak, there was no obvious motive, and central Oregon hardly seemed a likely setting for bioterrorism. We lost our innocence in this outbreak, and a similar epidemiologic pattern today would make us immediately consider intentional contamination."

Members of the commune were eventually convicted for a variety of crimes, including tampering with a consumer product, wiretapping, arson, immigration violations, and attempted murder. ■

At top, Bhagwan Shree Rajneesh courtesy Oregon Historical Society OrHi 98356. Underlay, one type of *Salmonella* bacteria as seen through a microscope courtesy CDC Public Health Image Library.



Environmental Justice in Indian Country

By Nicholas C. Zaferatos

Environmental justice means that potentially harmed communities have an opportunity to participate in decisions that affect their environment; it is achieved when all people enjoy the same degree of protection from environmental and health hazards and equitable access to decision making. The predominant concern in environmental justice focuses on the inequitable distribution of hazards in low-income or minority communities.

The past decade has focused national attention on the environmental pollution inequity that persists among the nations' poorest communities. President Clinton first issued Executive Order 12898 in 1994, focusing federal action on environmental justice concerns. The US Environmental Protection Agency (EPA) responded by developing the Environmental Justice Strategy to promote justice and equal protection under all environmental statutes and regulations without discrimination based on race, ethnicity, or socioeconomic status. Despite these efforts, poor communities continue to face adverse environmental conditions.

Environmental Justice in Indian Communities

For the more than 550 federally-recognized Native American communities in the United States, the struggle to attain environmental justice is more than a matter of enforcing national laws equitably; it is a federal trust duty honoring a promise that Native

sovereign status of tribal governments and bypassed tribal involvement in environmental management of their reservations. Eventually, the federal government established a "government-to-government" relationship with the tribes and, in November 1984, EPA published its agency policy for tribal environmental protection programs. This policy promises to work with tribes on a government-to-government basis, recognizes tribal governments as the primary authority for federal environmental programs on tribal lands, and pledges assistance to tribes in assuming regulatory responsibility for reservation lands.

Although tribes have made progress during the past two decades, they struggle to accomplish their environmental goals when pollution degradation is caused by non-Indian persons on non-Indian reservation lands. In such cases, delegated federal power can help address environmental violations.

The Swinomish Indian Reservation

The Swinomish Indian Reservation in Washington State provides an example. Before federal law regulated the disposal of petroleum byproducts, two refineries contracted with a firm that used a disposal pit on privately owned, non-federal trust land within the reservation, where neither the federal government nor the tribe had authority. In the 1950s and 1960s, such practices were common. The EPA studied the site in 1985 to see if it might qualify for Superfund

designation. However, the Superfund's enabling legislation, the 1980 Comprehensive

The lands, waters, and living things that make up the environment are integral components of the social, cultural, and spiritual life of Indian people.

American homelands would forever be sustainable. Tribes are sovereign nations that enjoy a unique legal and political status.

Tribal histories, beliefs, physical, and spiritual subsistence, and basic identity often depend on particular places, resources, and environmental conditions. The lands, waters, and living things that make up the environment are integral components of the social, cultural, and spiritual life of Indian people.

In the 1970s, when many federal environmental laws were enacted, Congress overlooked the

Environmental Response, Compensation, and Liability Act (CERCLA), excludes petroleum from its statutory provisions and addresses only hazardous substances.

When the tribe heard of the study in 1986, it informed EPA that the disposal site was near the tribe's sole-source public water supply, and reported that large quantities of caustic liquids in 55-gallon drums were believed to be buried on the site. Because of the threat to groundwater and to adjacent marine wetlands, the tribe asked to directly participate in

subsequent investigations.

At the tribe's request, EPA conducted a limited soils investigation in 1986, which found measurable amounts of petroleum products in the soils, but failed to assess groundwater contamination. The EPA report closed the case because of the "petroleum exemption rule." The tribe spent years trying to persuade EPA to conduct additional hazardous site analysis, which was finally done in 1996, when EPA agreed to test for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metal, and total petroleum hydrocarbons (TPHs).

The tribe, wanting additional tests, hired its own contractor in 1997 to locate buried drums. Using global positioning and geographic information systems (GIS) mapping, the tribe provided persuasive evidence of the existence of buried drums.

In 1998, EPA agreed to uncover the buried drums and sample for toxic materials, and to further investigate the possible contamination of ground water under CERCLA rules. EPA also agreed to expand the investigation of PCBs, chlorinated organics, and compounds in the groundwater. Between 1998 and 1999, EPA conducted an Integrated Site Assessment (ISA), and concluded that a federal clean up of the site should not be limited by the petroleum exclusion provision under CERCLA.

A case model for Indian environmental justice

The Swinomish experience differs from non-tribal environmental justice cases and serves as an example of Indian environmental justice because of EPA's dual responsibility for national environmental laws and its federal trust responsibility to correct past damages to reservation resources. Indian environmental justice must acknowledge tribal sovereignty and the fundamental tribal interest in reservation environmental management.

The remediation effort resulted in several environmental and political outcomes, including: the excavation and off-site disposal of 58,790 tons of hazardous materials; the attainment of tribally-determined environment standards for residual soil cleanup; federal assurances that potential off-site contaminant migration would not present a risk to human health and to the environment; and the expansion of the tribe's environmental management capacity to collaborate on a technically equal

basis with EPA during the cleanup process. The expanded tribal capacity later enabled the tribe to successfully manage the closure of a solid waste landfill site, clean up other abandoned reservation waste sites, and more fully participate in regional environmental management activities.

The Swinomish experience occurred during a decade before the framing of "environmental justice." Although the experience had not been characterized as an "environmental justice" case *per se*, it nevertheless serves as an exemplar of Indian environmental justice as it reflects a tribe's enduring struggle to remedy an environmental injustice. The experience helped inform EPA's own understanding of its responsibility as a trustee for the reservation environment, as it came to respect the crucial contributions of the tribe whose experience, growing expertise, and traditional knowledge proved instrumental to the clean up, restoration, and healing of the Swinomish homeland.

After nearly 20 years, the cooperative cleanup activities became a model of technical and political collaboration between the federal and tribal environmental agencies. The experience not only removed the environmental risk that threatened the long-term survival of the Swinomish People, but it also helped foster a meaningful partnership demonstrating how a tribe and EPA can more effectively work together to manage the reservation environment. ■

Author

Nicholas C. Zaferatos, PhD, AICP, is an Associate Professor of Urban Planning and Environmental Policy at Huxley College of the Environment, Western Washington University. He was General Manager and Director of Planning for the Swinomish Indian Tribal Community between 1980 and 1999.

Below and on page at left, superfund site excavation. At bottom, worker and a hazardous substance seeping from a disposal drum.



Photos Courtesy of Swinomish Indian Tribal Community, Office of Planning

Environmental & occupational health: from local to global

By Rebecca Morris-Chatta and Sharon L. Morris

The University of Washington's School of Public Health was established in 1970, a year of heightened environmental awareness. Twenty million Americans celebrated the first Earth Day on campuses and in cities throughout the country, calling for a healthy, sustainable environment. That same year federal laws established three new agencies with authority to conduct research and set standards to protect the environment and public health.

The federal statutes provided the framework for minimum standards to protect the residents of all states from toxic exposures at work and at home. Previously, the regulation of environmental and occupational health had been left largely to the states, where proponents of economic expansion were often more influential than advocates for air and water quality and human health.

The federal agencies created in 1970, among others, include the Environmental Protection Agency (EPA), formed to conduct research and develop regulations controlling emissions harmful to human

and environmental health; the Occupational Safety and Health Administration (OSHA), established to set and enforce occupational safety and health standards; and the National Institute for Occupational Safety and Health (NIOSH), charged with conducting research and developing training programs to protect worker health.

In the 1980s a new law, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or Superfund, was promulgated to address hazardous waste disposal and remediation.

In 1990, Amendments to the Clean Air Act required that newly constructed major air pollution

sources be designed so they would not further damage areas that already exceeded maximum allowed pollution levels. However, many existing industrial processes remain grandfathered in. We are still suffering from the persistence of those outdated technologies that have been maintained by companies reluctant to pay for upgrades that would better control emissions.

These federal statutes permit states to enact regulations at least as stringent as the federal laws and encourage states to make them more protective. In developing new environmental regulations, EPA is required to balance the interests of industry and public health. EPA, OSHA, and NIOSH are all required to work cooperatively with existing public health programs in each state.

The early environmental and occupational health exposure limits were set at levels thought to protect healthy male workers from effects of acute exposures. Researchers at the UW School of Public Health, Department of Environmental and Occupational Health Sciences, have since conducted studies revealing health effects from chronic and acute exposures to low doses of chemical and physical agents. They have demonstrated significant health effects from particulate air pollution and heavy metals that were previously considered nuisance pollutants. Their research has contributed to a larger body of work showing that existing standards are often insufficient to protect the health, not only of women, children, and susceptible individuals, but healthy males as well.

Despite new evidence, the translation of scientific discoveries into more protective regulations has been painfully slow. Industry representatives often demand a high degree of scientific certainty before they are willing to accept more stringent limits. While industries actively lobby Congress when new regulations are proposed, the public rarely participates in mass demonstrations supporting environmental health as they did on the first Earth Day, 40 years ago.

As a result, OSHA had found it difficult to update



Photo courtesy stock.xchng

Asbestos, one of the first substances tackled by OSHA and EPA, has been thoroughly studied, yet legal challenges continue.

most chemical exposure limits that it first adopted in 1971. It has established only about 450 permissible exposure limits (PELs), compared with more than 70,000 chemicals in commerce. Most of these PELs are at the levels set by consensus more than 50 years ago.

Asbestos is a well-known hazardous substance that has challenged the ability of both OSHA and EPA to develop standards that will adequately protect workers and the public. Asbestos, one of the first substances tackled by OSHA and EPA, has been thoroughly studied and both agencies have lowered maximum exposure limits. Yet the health effects of certain types of asbestos fibers are disputed by manufacturers, and exposures continue.

Michael Silverstein, MD, MPH, Clinical Professor of Environmental and Occupational Health Sciences at the University of Washington, believes there is sufficient evidence to ban the production and use of all forms of asbestos. Similarly, the World Health Organization has supported a worldwide ban on asbestos and 43 countries—not including the United States—have complied.

While the struggle continues to develop more protective environmental and occupational health standards at home, Americans also face environmental challenges on a global scale. We now recognize that today's air pollution in Szechwan can be next week's air pollution in Seattle. The rapid industrialization that introduced workplace and environmental hazards to the United States in the early 20th century is now being replicated in Asia. Many of our most hazardous processes have been exported to Asian countries, where workers and communities are exposed to uncontrolled air, ground, and water pollution.

Solid waste disposal has also become a worldwide problem. The World Bank projects that the Asia-Pacific urban waste stream will increase from today's 7.6 million tons per day to 1.8 billion tons per day by 2025. Because there are few restrictions on child labor, children are the current engine of waste recycling in many Asian nations, with youngsters scavenging acres of trash for usable materials. These children, and the adults who work with them, face high risks of being injured or contracting infectious diseases from their uncontrolled exposures.

While public health officials in other countries may recognize these problems, their governments often have neither the will nor the resources to control infectious and toxic exposures. Some

imports bring the problems home, as witnessed by *E. coli* outbreaks caused by contaminated greens from Mexico, pet deaths from melamine in pet food, and lead exposures from Chinese-made toys. Importing goods also increases carbon emissions during the transport process, adding to climate change. America's "not in my back yard, but I'll take some anyway" mentality carries environmental, if not financial costs.

There is increasing realization that environmental health is everyone's concern, with a shift toward preventing exposures, the core principle of public health. A recent NIOSH workshop, entitled Making Green Jobs Safe, focused on integrating worker safety and health into environmentally sensitive manufacturing, construction and energy processes. The United Nations has sponsored conferences on controlling global pollution by phasing out halogenated hydrocarbons and reducing emissions of greenhouse gases.

Environmental and occupational health concerns have shifted from a local to a global lens in the past 40 years. American public health professionals have an important role in assuring that the United States serves as a model for understanding and controlling these hazards at home and working to transfer this knowledge and technology worldwide. ■

Authors

Rebecca Morris-Chatta, JD, MPH, is a graduate of the UW School of Public Health. She has worked in local health departments in Washington and Pennsylvania and is an adjunct professor at the University of Pittsburgh School of Law, where she teaches Public Health Law. Sharon L. Morris served as the congressional liaison for NIOSH during its early years and was Assistant Chair for Outreach in the UW Department of Environmental and Occupational Health Sciences until she retired in 2005.

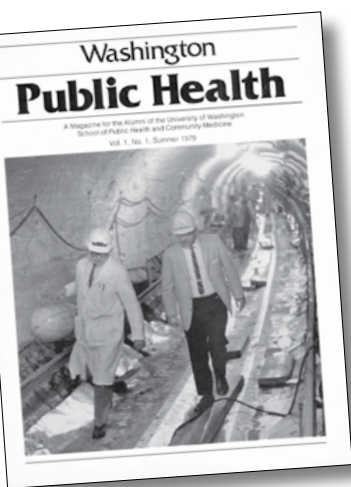


Photo courtesy Puget Sound Clean Air Agency archive

Before air pollution controls of the 1970s, auto wreckers burned old cars to rid the metal of upholstery, tires, and other nonmetallic scrap.

Northwest Public Health at 30: A journal connecting academia & practice

By Katherine J. Hall



First issue of Northwest Public Health, as Washington Public Health, a journal for the School of Public Health alumni, in 1979.

The journal *Northwest Public Health* has been connecting the academic and practice communities since 1979.

In the past decade as a regional, peer-reviewed journal—and two previous decades as *Washington Public Health*, a statewide magazine—the journal has had a distinguished history. It has earned regional and national awards, including the grand award for print magazines and journals in the 2007 APEX awards for publication excellence (for the fall/winter 2006 issue) and a regional award in 2010 from the Society for Technical Communication.

The magazine's original purpose was to communicate the School of Public Health's activities to its alumni, the community, schools of public health throughout the country, and the many groups interested in public health.

Its second issue, in 1980, celebrated the School's new Extended Degree Program, which allowed practicing professionals to continue their jobs while earning their degrees.

In its 1991 issue, the magazine announced the creation of the Northwest Center for Public Health Practice, which would focus on training, both in basic skills and on new technologies and emerging public health topics. In 1993, Washington Public Health became a joint publication of the UW and Washington's new Department of Health.

The 1995 issue celebrated the 25th anniversary of the UW School of Public Health and looked back on "25 Years of Challenges in Public Health." Dean Gil Omenn and State Health Officer Mimi Fields wrote:

During these 25 years, vaccines, antibiotics, sophisticated diagnostic/screening tests, and new technologies and therapies have created unprecedented opportunities not just to treat sick patients, but to conquer diseases and improve the health status of populations.

In 1999, the new dean, Patricia Wahl, unveiled her strategic planning initiative, which included the transition of *Washington Public Health* into a regional journal. It would be published twice a year. Its editorial board expanded to a more diverse representation from the academic and practice communities in the six-state region, and 33 peer reviewers were recruited.

In 2001, a new team of Aaron Katz and Judith Yarrow launched the inaugural issue of *Northwest Public Health*. The theme of the first issue was public health workforce development and used archival public health photos to recognize and honor the traditions and history of public health. The journal also went online with that issue, under the umbrella of the Health Sciences Library's *Healthlinks*.

In 2008, Susan Allan replaced Katz as editor-in-chief and the journal's administrative home moved to the Northwest Center for Public Health Practice. Katherine Hall replaced Yarrow as managing editor. Their first issue focused on climate change, reflecting seven years of new research and policies.

Today, the journal's purpose is defined as:

A biannual forum for practitioners, teachers, researchers, and policy makers in public health to exchange ideas, describe innovations, and discuss current issues.

With the addition of an interactive Web forum, the journal is evolving into a vehicle for two-way communication among the academic and practice communities. ■

Author

Katherine J. Hall, PhD, has been managing editor of *Northwest Public Health* since 2008. Her predecessors, Judith Yarrow and Sandy Marvinney, contributed to this article.

New UW Center to Expand Training in Public Health Practice

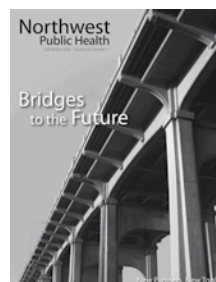
Charles D. Tresser
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Continuing education needs assessment questionnaires were sent to more than 2,000 public health practitioners in the five states to be served by the Center. The first summer institute will be held July 22 to August 2, 1991 at the University of Washington. The curriculum will focus on skill development in the basic disciplines of public health, including epidemiology and biostatistics. Special topic updates will cover public health law, community needs assessment, risk assessment and communication, public health administration, chronic disease health delivery, and other subjects. The Center is housed in the School's Department of Health Services and is a cooperative effort with other departments and UW faculty. Dr. Perrin, Ph.D., chair of the Department of Health Services, is the Center's director. An advisory committee of public health practitioners has been established to guide the Center's activities and schedules.

1988 report, *The Future of Public Health*, the National Academy of Sciences' Committee on Medicine (COM) severely criticized the current status of the public health system in the United States. The report called for a new public health system that would establish firm links with state and local public health systems so that significantly more resources may be devoted to public health.

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sph.washington.edu

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Find UW SPH research center Web sites at:
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Northwest Center for Public Health Practice

The Northwest Center for Public Health Practice (NWCPHP) assumed responsibility for publishing *Northwest Public Health* in 2008. NWCPHP was established in 1990 to coordinate outreach activities for the UW School of Public Health. Since 1990, NWCPHP has expanded significantly in response to community needs. NWCPHP promotes excellence in public health by linking academia and the practice community. NWCPHP provides training, research, and evaluation for state, local, and tribal public health in six Pacific Northwest states—Alaska, Idaho, Montana, Oregon, Washington, and Wyoming.

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