



The Public Health Landscape: Challenges and Opportunities

BY KATHLEEN KEARNS

ZANZIBAR, TANZANIA • PHOTO BY ELENA LEBETKIN

“The landscape of public health is complex and rapidly changing. The challenges are unprecedented. But this landscape also reveals a spirit of global solidarity, and a strong desire for fairness in health. And this gives us an occasion for unprecedented optimism as well.”

—Dr. Margaret Chan, Director-General of the World Health Organization (WHO)

From a speech given in Singapore on April 3, 2007: www.who.int/dg/speeches/2007/030407_whd2007/en/print.html

Thirty years ago, most public health professionals had declared victory over infectious diseases and were waging war against the chronic conditions they believed were the biggest health threats of the future. The language of health often took on the semantics of war as the U.S. fought the “war on cancer” and communities organized themselves to tackle cardiovascular diseases.

“My professors in the 1970s proclaimed that infectious diseases were behind us, and the future of public health would be wrapped up in chronic diseases,” says Dr. Barbara K. Rimer, dean of the UNC Gillings School of Global Public Health. “We were wrong! The old problems have not gone away. In fact, they’re back with a vengeance, along with some calamitous new ones, like AIDS. So we face the challenges of the old, new and

emerging. We must bring safe water to over one billion people around the world and stop the obesity epidemic in its tracks, provide malaria-preventing nets to millions of people and increase access to cancer screening, break down disparities in health between people but find cost-effective ways to deliver services. It’s not a question of one or the other. The challenge of 21st century public health is to prevent where possible and treat when necessary, learn from the past but create new solutions based on the knowledge, tools and technologies available to us today, create new knowledge but apply evidence-based solutions, where possible, and to do this in our backyards and around the world. Perhaps never have the challenges been greater and the opportunity for impact more immense.”

Resurgence of tuberculosis in multi-drug-resistant form, along with outbreaks of measles and whooping cough, join newer infections, such as drug-resistant intestinal

“superbugs,” HIV/AIDS and Avian flu as major threats to health worldwide.

Disaster preparedness has been added to the list of resurgent public health challenges. Not only did the events of Sept. 11, 2001, and the subsequent anthrax attacks reveal the need for a new level of disaster preparedness and training; Hurricane Katrina exposed severe shortcomings in current preparedness planning for natural disasters.



Dr. Barbara K. Rimer

“The whole picture has shifted quite dramatically,” Rimer says. “As Marcel Proust reminded us, we must see the landscape with new eyes. The world is smaller, and many of the distinctions between chronic and infectious diseases are overly simplistic.”

In North Carolina, public health professionals face the challenge of the state’s low standing on many health indicators. “Whether you pick childhood obesity or infant mortality or years of life lost—for any measure you pick—we rank very poorly in national standings,” says N.C. State Health Director Leah M. Devlin, DDS, MPH. “And the U.S. doesn’t rank very well against other

developed countries. These poor health outcomes are very big challenges for us all.”

Public health leaders point to a wide range of pressing problems. They include, in no particular order:

Unprecedented challenges

OBESITY: “Today, over 1.6 billion individuals are overweight or obese, diabetes and heart disease rates are skyrocketing and quality of life is being diminished for many globally,” notes Dr. Barry Popkin, professor of nutrition in the UNC schools of public health and medicine and director of UNC’s Interdisciplinary Obesity Center. “Mexico’s obesity rate equals ours, and its diabetes rate soon will be above ours,” he adds. “Economically, the costs are great. For example by 2025, nine percent of China’s GNP will go toward obesity-related economic costs.”

TOBACCO USE: “The decline in tobacco

use in the United States is the greatest single public health success of the last half-century in terms of lives saved, yet it remains the single leading cause of avoidable premature death, not only in our society but increasingly in developing countries,” says Dr. Kenneth Warner, dean of University of Michigan’s School of Public Health.

SANITATION: Dr. Margaret Chan, WHO Director-General, has noted that sanitation has a vital role in promoting health, dignity and development, while lack of sanitation breeds disease and anchors huge numbers of people in poverty. About 1.1 billion people around the globe lack access to an improved water supply—approximately one in six people on earth. Additionally, 2.6 billion people worldwide—3 times the U.S. population—lack access to improved sanitation. The June 28, 2008, issue of *The Lancet* includes an editorial that calls for an immediate global action plan to expedite improvements in water, sanitation and hygiene and reflects on the new WHO report—*Safer water, better health*. The WHO report, published in June 2008, concludes that 9.1 percent of the global burden of disease could be prevented by improving water, sanitation and hygiene. In 32 worst-affected countries, this figure is 15 percent. (For more information, see www.thelancet.com/journals and www.sph.unc.edu/cph/weblinks.)

MENTAL ILLNESS: “Some of our mental health problems (in the U.S.) are due to the fact that, until this year, even people with good health insurance coverage were denied adequate coverage for mental health conditions,” says Dr. Patricia Wahl, dean of University of Washington’s School of Public Health. “The return of the military serving in Iraq with post-traumatic shock will further raise awareness of mental health issues in need of public health solutions.”



GENETICS: A host of legal, medical and ethical questions has arisen around the burgeoning availability of information about individuals' genetic makeup. "Rightly or wrongly, individuals accord their genomes a special status and consider it worthy of unique protections.



Dr. James P. Evans

As we move forward with attempts to use genetic information for the betterment of health, it will be a challenge to protect the individual's privacy while affording necessary access to it," says Dr. James

P. Evans, professor of genetics and medicine in UNC's School of Medicine and director of UNC's cancer and adult genetics clinics and the Bryson Program in Human Genetics. "The public health arena will be critically important as health care and genetics become further intertwined," Evans adds. "In fact, many of the major advances in risk prediction and genetically-guided treatment will have their most salient influences in the context of public health. Indeed, the emergence of genetic medicine, with its illumination of a myriad of relatively subtle genetic risks for common diseases shared by the entire population, could trigger a dramatic shift in the way we deliver health care in the U.S. The recognition that we all

have various disease predispositions and that we have the capacity to engage in truly preventive medicine because of genomic advances, will serve as further inducements to pursue broadly-pooled risk and universal access to medical care."

Double-edged sword of "progress"

These and other public health concerns exist in the context of—and often are caused or influenced by—worldwide developments, such as globalization and urbanization, both of which have had tremendous impact on health and on the profession of public health. Other problematic trends include:



Dr. Michael Klag

POPULATION GROWTH: The fundamental problem underlying issues like safe water, environmental pollution, food availability and climate change is population growth, says Dr. Michael Klag, dean of Johns Hopkins University's Bloomberg School of Public Health. "If we don't slow population growth, these problems will all get worse."

WIDENING HEALTH DISPARITIES: On every health indicator, there are enormous racial, cultural and geographical disparities in North Carolina, says Devlin, of the N.C. Division of Public Health. The challenge of equal access to health care is mirrored globally, notes Dr. Barry Bloom, dean of Harvard University's School of Public Health. "The fundamental issue I'm most concerned about, looking forward, are the increasing disparities in health within and between countries," he says. "I am concerned that at some point it may lead to a great deal of social disruption."

INADEQUATE EMPHASIS ON PREVENTION: Determining how to increase



Dr. Barry Bloom



LHASA, TIBET • PHOTO BY JEANETTE LAGER

investment in and commitment to health promotion and disease prevention is a longstanding public health conundrum. “Prevention is a far less costly approach,” Devlin notes. “The cost of health care in this country is over two trillion dollars, and by 2016, that will double.” Just one percent of that figure is spent on prevention. “We just can’t afford to keep going down the road we’re going.”

AGING POPULATIONS: Due to the success of past public health efforts, the population in the U.S. and around the world is rapidly aging, and that is creating unprecedented demands on health care systems. “We now have people working in their late 70s and early 80s, and very productively,” says U.S. Assistant Secretary for Health Joxel Garcia. “We have to help the people manage their diseases and have a good quality of life.”

POVERTY: Overcoming poverty is “absolutely critical and something we haven’t figured out how to do,” says University of Michigan’s Warner. “We’ve got loads of data that indicate that, when you look at health status and control for other factors, poverty still stands out independently as a tremendously important influence on health. That’s going to be a huge challenge for the future.”

CLIMATE CHANGE: Global warming has resulted in deadly heat waves, outbreaks of cholera and Rift Valley fever, and the spread of dengue fever in the southern United States, to cite just a few examples. Dr. James Merchant, former dean of the University of Iowa’s College of Public Health and now professor of occupational and environmental health at the college, predicts significant further impact—greater famine because of temperature rise, difficulties with crop production, challenges to water supplies, more frequent severe



Dr. Leah Devlin

storms and tidal waves. “The impacts are going to occur not only, but primarily, in areas around the equator where temperatures are higher, and these tend to be developing countries,” he notes.

Reasons for optimism

In the face of these multi-layered challenges, public health leaders have developed evidence-based strategies that have promise. Almost all agree that interdisciplinary partnerships are critical, as are alliances with sectors that traditionally have not been explicitly involved in public health.

“Effective public-private partnerships can bring communities and public health organizations into a better alignment of shared goals and shared efforts.”

Dr. Julie Gerberding • Director, Centers for Disease Control and Prevention

“We have to use the resources that we have in the most efficient and effective way that we can,” says Dr. Julie Gerberding, director of the national Centers for Disease Control and Prevention (CDC). “Partnership becomes very important when resources are tight. Effective public-private partnerships can bring communities and public health organizations into a better alignment of shared goals and shared efforts.”

“Businesses are probably the most aligned with public health in some sense,” she continues. Many provide health insurance to employees, so they recognize the high cost of health care for chronic disease. “It makes business sense to invest in wellness and health protection up front. They’ll have a healthier, happier, more productive workforce, but also healthier, happier families and ultimately a more healthful community.”

Public health leaders “have to realize we can’t do it by ourselves,” adds Garcia, the U.S. Assistant Secretary for Health. “We have to move away from the silo mentality and work as a system. We need to bring in the business sector, transportation, education. We have to

talk with police departments, fire departments, faith-based organizations and others. We also have to make our leaders aware that when public health is affected, the productivity of our nation is affected.”

Local public health departments play a critical role in convening the community and fostering collaboration among multiple sectors, says North Carolina’s Devlin. “The



Dr. Joxel Garcia

reality is that these issues are very complex, very important and are everybody’s shared responsibility. But someone’s got to convene (the various partners) and provide the leadership and the infrastructure so that the entire community can contribute to the ‘stone soup’ strategic to improve health.”

Policy changes are among the most powerful interventions to change behaviors and promote health, public health leaders point out. “We fought for years and years to encourage people to use their seatbelts, but we didn’t get a good usage rate until we passed a law,” Washington’s Wahl says. “In smoking, there was a lot of work in behavior change, but probably one of the most effective things is that there will be no smoking in public places and eating places (in her home state of Washington).” Similarly, encouraging children to drink milk and water instead of



Dr. Patricia Wahl

sodas “apparently did little good until we got the schools to remove soft drink machines.”

International agreement on policy change provides a promising model as well.



Dr. Ken Warner

Michigan’s Warner is encouraged by the WHO Framework Convention on Tobacco Control, a treaty put into effect in 2005 and ratified to date by more than 150 countries (al-

though not the United States). It established ways to reduce cigarette smuggling, banned tobacco advertising and sales to children, and called for higher prices, among other measures. “Since its inception, WHO has had the authority to mount global health treaties and had never used that authority until now,” Warner says. He sees the treaty as an example that the global community could follow to solve other problems as well.

Another strategy for improving public health—one pioneered in North Carolina and managed by our School’s North Carolina Institute for Public Health—is accrediting local health departments to ensure quality. “Some are talking about (more widespread) certifications and accreditation,” the U.S.’s Garcia says. “I think we have to use all of (these strategies) to empower our workforce. It doesn’t matter if it’s a state public health officer, a communicator in a federal agency, a policymaker or an epidemiologist, we need to empower all of them with processes that will allow them to be the best they can be.”

Even as new tools and strategies are considered, public health’s long-term emphasis on prevention is gaining new traction.

“Health is a very precious resource these days,” the CDC’s Gerberding says. “If we don’t do more to invest in protecting health, we will never be able to afford to restore it once we’ve lost it. Our system has got to change dramatically and put a much greater premium on investing in keeping people healthier and helping people who are at risk return to a state of lower risk and better health.

“We need to really help our citizens and our decision makers understand that we need



Public health leaders “have to realize we can’t do it by ourselves. We have to move away from the silo mentality and work as a system. We need to bring in the business sector, transportation, education.”

*Dr. Joxel Garcia • U.S. Assistant Secretary for Health
U.S. Department of Health and Human Services*



Dr. Julie Gerberding

a society where health is the default, where everyone has the opportunity to experience the wonderful things in life that good health can enable. And we need to regard that as a national priority just as we regard other strategic national investments like our Department of Homeland Security and our Department of Defense.”

Creating a more equitable world for health

Though the challenges facing public health may appear daunting, leaders like Margaret Chan at WHO are optimistic. “We see signs of a shared desire for a more equitable world for health opportunities and outcomes, and of shared responsibility in making this happen,” Chan said in an April 3, 2007, speech in Singapore. “It’s a time of unprecedented interest in health. Our cause is supported by a growing number of health initiatives, implementing agencies, public-private partnerships, foundations, funding agencies and rock stars.”

Other public health leaders point to the CDC’s tally of the great public health successes of the last century, which includes dramatic improvements in life expectancy and reduc-

tions in infant mortality. (See www.sph.unc.edu/cph/weblinks.)

“If someone had said to me in 1994 that today we would have a dozen countries around the world that do not allow smoking in any workplace, including all bars and restaurants, I’d have said you were crazy,” Michigan’s Warner says. “The fact is we do make progress. If you look at what we’ve achieved over the last century, the problems



Dr. Jim Curran

that confront us are big, but they’re not necessarily more intimidating than those that confronted us 100 years ago.”

Public health is an exciting, stimulating and rewarding career, summarizes Dr.

Jim Curran, dean of Emory University’s Rollins School of Public Health. “The mission itself is both challenging and noble—trying to improve the health of others—and it’s so interdisciplinary and diverse,” he says. “Its success depends on working with people from different intellectual backgrounds and cultural backgrounds from your own. There’s a lot of learning that must be done to succeed, and when you do succeed, not only do you achieve the noble mission, but the sum is always much, much greater than its parts.” ■