

Overview: Assuring the Public's Health: What Is "Public Health" and What Is the Role of the Law?

By Guthrie S. Birkhead

With the passage of the Patient Protection Affordable Care Act (ACA) in 2009, and its promise of near universal health insurance coverage, one might think that the future health of the public in the U.S. is assured. Indeed, the implementation of the ACA over the next 3 years will result in many more people having health insurance. The new law requires that health insurance covers not only the diagnosis and treatment of illness but also clinical preventive measures such as immunizations and cancer screenings without patient co-pays or deductibles that might impede access. Certainly for the readers of the *Health Law Journal*, the ACA represents a powerful demonstration of society's exercise of the law to improve health, notwithstanding that some of the law's provisions are undergoing legal challenges.

All the attention to the ACA, however, leaves open the question whether it alone, even if fully and successfully implemented, is sufficient to achieve the dramatic improvements in the health of the population that are necessary to bring the overall health status of the U.S. up to the level of other developed and even some developing nations.¹ Does health insurance assure access to health care? Is access to health care alone sufficient to assure good health? What are the most important underlying determinants of health, what are the most effective methods to address them, and whose responsibility is it to do so? The answers to these questions move the discussion of improving health into the realm of "public health," an arena of policy, law and action broader than the health care system itself. It is one where, as outlined in this commentary, many societal sectors and professional disciplines including the legal profession are critical components that must be engaged to make progress. Public health's breadth is well illustrated by the wide variety of topics contained in this issue of the *Journal*.

Defining Public Health

C.E.A. Winslow, one of the founders of the public health movement, wrote almost a century ago, in a definition that needs no updating, that public health is "the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals."² The Institute of Medicine (IOM) in its landmark 1988 report *The Future of Public Health*³ and an update to that report in 2003⁴ lays out the current framework that describes public health as the actions society takes "collectively to assure conditions in which people can be healthy." Both definitions underscore a basic theme of public health: the collective nature of the endeavor. Public health is not solely the domain of governmental health departments, but also of many sectors of society that make up the broader public health system.

Health departments have various necessary roles in this system to collect data, devise policy, enforce laws, and administer funds for public health programs. However, governmental action alone is often not sufficient to address the public's health. Other partners such as community groups, employers, academia, the media, and the medical care system must be involved.⁴ Similarly, many different disciplines are needed to address public health, not only physicians and nurses, but also statisticians, epidemiologists, information technology specialists, lawyers, health educators, social workers, and media and marketing professionals, both within and outside of government. The legal profession plays important roles to develop policy, translate it into statutes and regulations, and to enforce them.

Table 1.

Ten Great Public Health Achievements—United States, 1900-1999.

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| 1. Vaccination | 6. Safer and healthier foods |
| 2. Motor vehicle safety | 7. Healthier mothers and babies |
| 3. Safer workplaces | 8. Family planning |
| 4. Control of infectious diseases | 9. Fluoridation of drinking water |
| 5. Decline in deaths from coronary heart disease and stroke | 10. Recognition of tobacco use as a health hazard |

Source: CDC. Ten great public health achievements—United States, 1900-1999. *MMWR* 1999; 48:241-3.

Ten Public Health Achievements of the 20th Century

Examining the ten most important public health achievements of the 20th century proposed by the Centers for Disease Control and Prevention (CDC) illustrates how important legal actions are in assuring the public's health (Table 1).⁵ For example, childhood vaccinations are responsible for preventing tens of thousands of deaths and billions of dollars over the lifetime of each annual birth cohort. However, vaccines are effective only if used. High levels of population coverage are needed to provide "herd immunity" which can eliminate disease transmission. Legal mandates for vaccinations for children to attend school are the most effective means to attain sufficiently high vaccination levels to achieve herd immunity. They have resulted in the disruption of transmission of diseases like measles, which used to cause thousands of deaths and cases of brain damage a year, in the U.S.

The dramatic decline of infectious diseases from the leading causes of death in 1900 was due in large part to improvements in community sanitation that assured clean public water supplies, effective waste and sewage disposal, and safe food supplies. These were achieved through the application of public health statutes and legal enforcement. Control of infectious diseases like tuberculosis was made possible by the development of antibiotics but required public health actions like mandated reporting of tuberculosis cases and mandated directly observed therapy, with occasional resort to court orders to assure treatment, to achieve the current low levels of disease. Legal measures have also been important in the prevention and control of sexually transmitted diseases and HIV/AIDS. Most recently in New York State, a new statute requires the universal offering of HIV testing during primary care medical visits. This was in response to data that many people with HIV are unaware they are infected. Learning one's HIV status is important not only to promote access to treatment to prevent progression to AIDS but also to reduce transmission of HIV to others.

Other public health achievements show the interdisciplinary nature of public health along with the central role of legal action. Motor vehicles have been made safer by mandating seat belts and seat belt use, air bags and many other requirements. Workplace safety under the federal Occupational Safety and Health Act has prevented thousands of deaths and cases of disability. Child health has been dramatically improved by mandating folic acid supplementation of flour to prevent congenital malformations such as spina bifida, removal of lead from gasoline and testing of newborns for inborn errors of metabolism. Universal newborn testing for phenylketonuria (PKU) has eliminated one of the leading causes of mental retardation. Water fluoridation has resulted dramatically

improved dental health although its full potential has not yet been realized

The Central Role of Prevention

One hallmark of a public health approach to improving health is a focus on disease prevention. This distinguishes public health from health care, which is often focused on curative medical care. Prevention measures include vaccinations to prevent disease (primary prevention) or cancer screening to permit early detection and successful treatment of disease (secondary prevention). Modifying behaviors like diet and exercise can prevent heart disease, stroke, and cancer, the leading causes of death. Reducing exposure to environmental toxins (cigarette smoke being one of major importance) can prevent these same conditions. Prevention of smoking, an addictive behavior, is more effective than smoking cessation after the fact. Important legal approaches to prevention include high cigarette taxes that reduce smoking initiation by teenagers.

Public health has traditionally been dramatically underfunded compared to curative medicine in part because prevention is hard to sell to policy makers and funders. When prevention is successful, nothing happens, no one becomes ill, there are no headlines; prevention can be invisible. Also, the effects of prevention are often not felt for years. Heart disease takes many years to develop from factors such as poor diet and lack of exercise; cancer takes many years to develop from cigarette smoking. Recently there has been greater emphasis on using business tools like return-on-investment (ROI) analyses in public health to make a better business case for prevention. The Trust for America's Health has estimated that the effective application of evidence-based community prevention strategies such as access to fresh fruits and vegetables in farmers markets, restaurant menu calorie labeling, opening school gymnasium facilities to the public evening and weekends, smoking cessation assistance and increased cigarettes taxes would have a slightly negative ROI in 1-2 years of 0.96:1 but a significant positive ROI of 5.6:1 in 5 years and 6.2:1 in 10-20 years.⁶ ROI analysis was probably instrumental in getting clinical preventive services included in the ACA without co-pays or deductibles as well as community preventive such as menu calorie labeling in national chain restaurants. Similarly, the recent NYS Medicaid Redesign Team included some clinical and community preventive services such as coverage for home assessment of lead poisoning hazards and asthma triggers; lactation counseling to promote breastfeeding, expanded tobacco cessation counseling, and diet and exercise prevention counseling for pre-diabetics in its phase 1 and phase 2 recommendations with the expectation of health care savings in the future.⁷

Other elements of a public health approach include changing health behaviors through actions on a community or population level. Many health problems have their origin in unhealthy behaviors. It is estimated that behavioral factors may account for as much as half of premature mortality. The factors of genetics and environmental exposure are estimated to account for roughly 20% each, while access to health care may account for only 10% of premature mortality.⁸ Changing human behavior on an individual level is difficult, as anyone knows who has tried to improve their diet, eat less and increase exercise on an ongoing basis. Public health approaches attempt to make changes to the environment in which people live to make healthy behaviors automatic or the default choice. Examples include community designs that encourage walking and bicycle riding, removal of harmful trans fats from foods, and making healthy food choices readily available and affordable even in the poorest neighborhoods. Again, the multi-sectoral nature of public health and the importance of legal remedies are evident. The phrase “health in all policies” has been coined to suggest that the health impacts and potential benefits be considered in policy discussion in many sectors from community zoning requirements to transportation policy to community economic development. The phrase embodies a challenge to everyone working within and outside of public health, including the legal profession, to find innovative ways to consider public health thinking in their work.

A final principle underlying public health approaches is the recognition that socioeconomic factors, the so-called “social determinants of health,” are closely linked with health status. Socioeconomic status, includ-

ing educational attainment, housing status, and income, is a key factor in determining health status. Persons with low socioeconomic status have less ability to pursue a healthy lifestyle, tend to smoke more and to have poorer diets, experience more interpersonal violence, may have less access to preventive health care, and may experience higher levels of stress leading to disease. Actions to improve socioeconomic status can improve health. For example, provision of stable housing to homeless persons has been shown to improve health outcomes for persons with diabetes, HIV/AIDS and other chronic diseases. Improving socioeconomic status is not directly the public health department’s responsibility, but it is a necessary part of what the broader public health system and society must address to improve health.

The Role of Health Departments: Core Public Health Functions and Essential Services

In its 1988 report, the IOM laid out three core functions to describe the role of governmental public health departments as the coordinators of the broader public health system described above: assessment, policy development and assurance (3). In 1994, a national committee further developed these ideas by describing ten essential public health services (ES) that form a framework for understanding the responsibilities of public health departments (Table 2).⁹ The contributions of the legal profession to public health are most prominent in ES5 (develop policies and plans that support individual and community health efforts) and ES6 (enforce laws and regulations that protect health and ensure safety). In addition, the legal profession plays an important role in several other essential services.

Table 2.

The Ten Essential Services Public Health Services.

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| <ol style="list-style-type: none"> 1. Monitor health status to identify and solve community health problems. 2. Diagnose and investigate health problems and health hazards in the community. 3. Inform, educate, and empower people about health issues. 4. Mobilize community partnerships and action to identify and solve health problems. 5. Develop policies and plans that support individual and community health efforts. | <ol style="list-style-type: none"> 6. Enforce laws and regulations that protect health and ensure safety. 7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable. 8. Assure competent public and personal health care workforce. 9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services. 10. Research for new insights and innovative solutions to health problems. |
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Source: Public Health Functions Steering Committee, 1994. Available at <http://www.cdc.gov/nphpsp/essentialservices.html> (accessed 2/19/12).

Assessment of the health status of the population is one of the oldest legal powers and responsibilities of public health departments. Assessment occurs through data collection (ESs 1 and 2) of birth and death certificates and mandated reporting of identifiable health information of selected communicable diseases, cancers, and other conditions. This reporting is allowed through a public health exception in the Privacy Rule of the Health Insurance Portability and Accountability Act.¹⁰ Such data are held by health departments under strict confidentiality protections. State and local departments also take direct action based on these reports, for example, to detect the source and prevent the spread of communicable diseases. These public health program activities that utilize the data, including program evaluation, usually do not trigger Institutional Review Board (IRB) oversight. They are not considered to be research under the federal Office of Human Research Protection definition as an investigation “designed to develop or contribute to generalizable knowledge” (see <http://www.hhs.gov/ohrp/>). An IRB approval or waiver may be sought if the data are used for purposes not directly related to the conduct of the specific program.

A competent public health workforce, both in health departments and public health system partners, is a key to success (ES 8). For the legal profession, efforts are underway by the Centers for Disease Control and Prevention, the lead federal public health agency, to develop a public health law program (see <http://www2.cdcc.gov/phlp/>). A set of competencies for legal practitioners in public health have been proposed (see www.publichealthlaw.net).

Measuring the Health Status of New Yorkers and Determining Public Health Priorities

Determining public health priorities should be based on an examination of the major health problems facing the population. Mortality rates show that heart disease, cancer, chronic lower respiratory disease, stroke and pneumonia were the leading immediate causes of death recorded on death certificates. New York ranked 18th among states in the U.S. in a recent compilation of health statistics which included disease outcomes, health deter-

What Do You Think NY’s Public Health Priorities Should Be?

The State Health Department and the Public Health and Health Planning Council (PHHPC) are seeking public and stakeholder input on priorities for the next 5-year state health improvement plan: *The Prevention Agenda 2012-2017*.

An ad hoc committee of the PHHPC has developed proposed priorities and criteria to serve as a catalyst for comments. The proposed priorities are:

- Prevent Chronic Disease;
- Advance a Healthy Environment;
- Healthy Mothers, Babies and Children;
- Prevent Substance Abuse, Depression and Other Mental Illness, and
- Prevent HIV, STIs and Vaccine Preventable Diseases.

A set of slides with descriptions of the proposed priorities and other information about the project can be found at www.health.ny.gov/PreventionAgenda2013.

The Health Law Section and its members are encouraged to offer their views about these proposed priorities. If you would like to do so, please contact the project staff at prevention@health.state.ny.us. Please do so promptly.

minants and health disparity measures (see <http://americashealthrankings.org/ny>). New York ranks relatively poorly among states in cardiovascular deaths and diabetes. Not measured in that ranking, New York is one of the states most impacted by the HIV/AIDS epidemic.

Looking at risk factors for preventable deaths is another way to suggest prevention priorities. National estimates suggest that almost half of the deaths in 2000 were due to the following underlying causes: tobacco use (18.1%), poor diet and physical inactivity (16.6%), alcohol consumption (3.5%), microbial agents (3.1%), toxic agents (2.3%), motor vehicle crashes (1.8%), firearms (1.2%), sexual behaviors (0.8%), and illicit use of drugs (0.7%).¹¹ Since 2000, poor diet and physical inactivity have edged closer to tobacco use as the leading underlying cause of death. In addition, drug abuse, including prescription drug abuse, has emerged as a major concern on a par with motor vehicle deaths.

Examining health differences by racial, ethnic and gender groups, so-called “health disparities,” is another approach to focus public health efforts. In New York, Blacks and Hispanics have 4-5 times the rate of teen pregnancy and 9 and 6 times, respectively the prevalence of rate of HIV/AIDS as whites; Hispanic children age 2-4 in the WIC program have a prevalence of obesity 50% higher than whites; Black and Hispanic children under age 17 years have a rate of hospitalization for asthma 6 and 4.5 times higher, respectively, than White children; Black and Hispanic pregnant women are twice as likely to have late

or no prenatal care and experience higher rates of infant mortality; gay and bisexual men have much higher rates of syphilis and HIV infection compared to heterosexual men. Health disparities also may be geographically based. There may be less access to cancer screening services in rural areas. Social determinants of health likely underlie many of these differences and present a challenge to find solutions.

New York is also a major port of entry for travelers and immigrants entering the U.S. With international air travel, unusual infectious and tropical diseases can arrive in the U.S. in only a few hours. In 1999, New York was the site of the first cases of West Nile virus infections likely imported from the Middle East, whether by an infected person, animal or mosquito is not known. In 2009, New York City had the first large outbreak of the H1N1 influenza pandemic strain imported from Mexico. New York has also been the target of both man-made and naturally occurring disasters. This highlights that public health emergency response and preparedness, including legal preparedness to issue and enforce isolation and quarantine orders, are important functions for state and local health departments.

A set of current New York public health priorities for the period 2008-2012 are found in the "Prevention Agenda Towards the Healthiest State."¹² Ten priority areas for improving health include chronic diseases, healthy environment, maternal child health, infectious diseases, mental health and substance use, physical activity and nutrition, tobacco, injuries, community preparedness and access to health care. For each priority area, the Prevention Agenda website contains specific goals for provision of preventive services and reduction in disease as well as references on evidence-based interventions and list of partner organizations. Each county health department was asked to engage local partners in developing their community health assessment and municipal health service plans required under Article 6 of the NYS Public Health Law. Hospitals have a similar requirement to produce Community Service Plans every three years. A planning effort is now under way to develop the next 5-year plan for the period 2013-2017. Efforts will be made to reach out to many sectors, including the legal sector, to help establish the public health priorities for the next state health improvement plan.

Challenges and Opportunities in Public Health and the Role of the Law

New and innovative approaches, including legal ones, are needed to tackle the leading health issues affecting the population today. Reduction of smoking has been a major success, but tobacco use remains the leading cause of preventable premature mortality in the

population. Clean indoor air laws, high cigarette taxes, and smoking cessation education have brought smoking rates to their lowest level on record. Additional steps will probably be necessary to make significant additional reductions. The New York State Medicaid Redesign Team is in the process of greatly expanding Medicaid coverage for smoking cessation counseling.

Obesity and physical inactivity are fueling an epidemic of diabetes and may slow or reverse the downward trend of heart disease and stroke. Can the experience with tobacco control inform the policy and legal approaches to improving diet and physical activity? Some communities are already trying out possible solutions like transfat bans and menu calorie labeling in restaurants, or local zoning ordinances to guide healthy community development, or school food and physical activity policies. Which of these local policy and legal initiatives will be successful and warrant scaling up to state or nationwide adoption only time will tell. This is an opportunity for legal professionals to get involved in their local communities.

Increased attention also needs to be given to addressing the social determinants of health and the obvious health disparities that exist in the population. Incorporating health concerns into discussions of education, housing and job programs may suggest new approaches that will help those efforts yield dual benefits.

Though not mentioned in this paper, significant challenges and opportunities are presented by the movement to develop electronic health records and to link them together. There is an obvious potential to improve the understanding of the population's health and health care by aggregation and analysis of these data, but the confidentiality and security of the data must be maintained.

Finally, the federal government has left to the states the decision about which clinical preventive services to cover without co-pays or deductibles in the health insurance exchange programs under the ACA. An understanding of the value and return on investment of these preventive services should help in assuring that these services are covered.

These are indeed interesting times with many challenges but also with many opportunities. An understanding of public health principles suggests new ways to approach improving health. The law has an important role to play.

Endnotes

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